UNIVERSITY OF TECHNOLOGY SYDNEY

The Lived Experience of Lean Six Sigma Improvement Project Facilitators

by Alan Bruce Duncan Kenneth Skinner

Thesis submitted in fulfilment of the requirements for the degree of:

Doctor of Philosophy

under the supervision of:

Prof Renu Agarwal Principal Supervisor

Prof Carl Henrik Rhodes (Dean, UTS Business School) Co-Supervisor

Dr Moira Scerri Co-Supervisor

University of Technology Sydney

Business School

Certificate of Original Authorship Template

CERTIFICATE OF ORIGINAL AUTHORSHIP

I, Alan Bruce Duncan Kenneth Skinner, declare that this thesis is submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the Business Faculty here at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise referenced or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

This document has not been submitted for qualifications at any other academic institution.

This research is supported by the Australian Government Research Training Program.

Signature:

Production Note:

Signature removed prior to publication.

Date: 1 January 2023

Acknowledgments

To my Life Partner and Family

Throughout this long journey, confronted by illness and losing dear family members, my personal faith and the love of my life, Sandra Skinner, have sustained me. She has been a wonderful source of encouragement, prayers, and practical support in many ways. Her deep faith has been a model for me, helping me cope in difficult times. This year of completing my thesis was also our 50th wedding anniversary as well as hitting 70 years of age together. It's been a year of accomplishments!

'Grace was in all her steps. Heaven in her eye, in every gesture dignity and love'.

John Milton's Paradise Lost

I also want to thank my parents, David and Jenny, all my children, Bec, Andrew, Paul, Rachel and my extra children Paul, Fiona, Ruth, and Phil, for all their support. My brother Ken and partner Tomo have sheltered, fed, and entertained me over many years of travelling to UTS. Even my fourteen grandchildren have been a blessing to get me through to the end!

To Friends and Colleagues

Many friends have contributed by their encouragement, prayers, and interest along the way – cheering me on to finish!!

Many thanks to my poet laureate colleague Daniel Ionita for his long-standing friendship, support, and advice on the thesis. He has been on the journey of improving organisations using the principles of Lean Six Sigma and Business Excellence with me over many decades.

In the same vein, I thank Phill Chambers and Paul Marshall who have also worked with me over many years on improvement methodologies and have been a great support and sounding board for the ideas and direction of the thesis.

Thanks to all the folk who willingly gave of their time and energy to participate in the research.

To my Supervisory Team

You have been very patient with me over a long time, meeting with me, giving me feedback and direction and supporting me through all the doctoral assessment stages.

Dr John Chelliah (my initial supervisor) prompted me to think about Phenomenology given my research interest. His patience, advice and encouragement as a co-author led to an early journal publication.

Prof Carl, thank you for your education on Phenomenology and for feeding me lots of stimulating articles (including your own work) and introducing me to the ideas and work of Emmanuel Levinas and the notion of truly 'seeing the other'. Thanks also for your support with the Lean Six Sigma program.

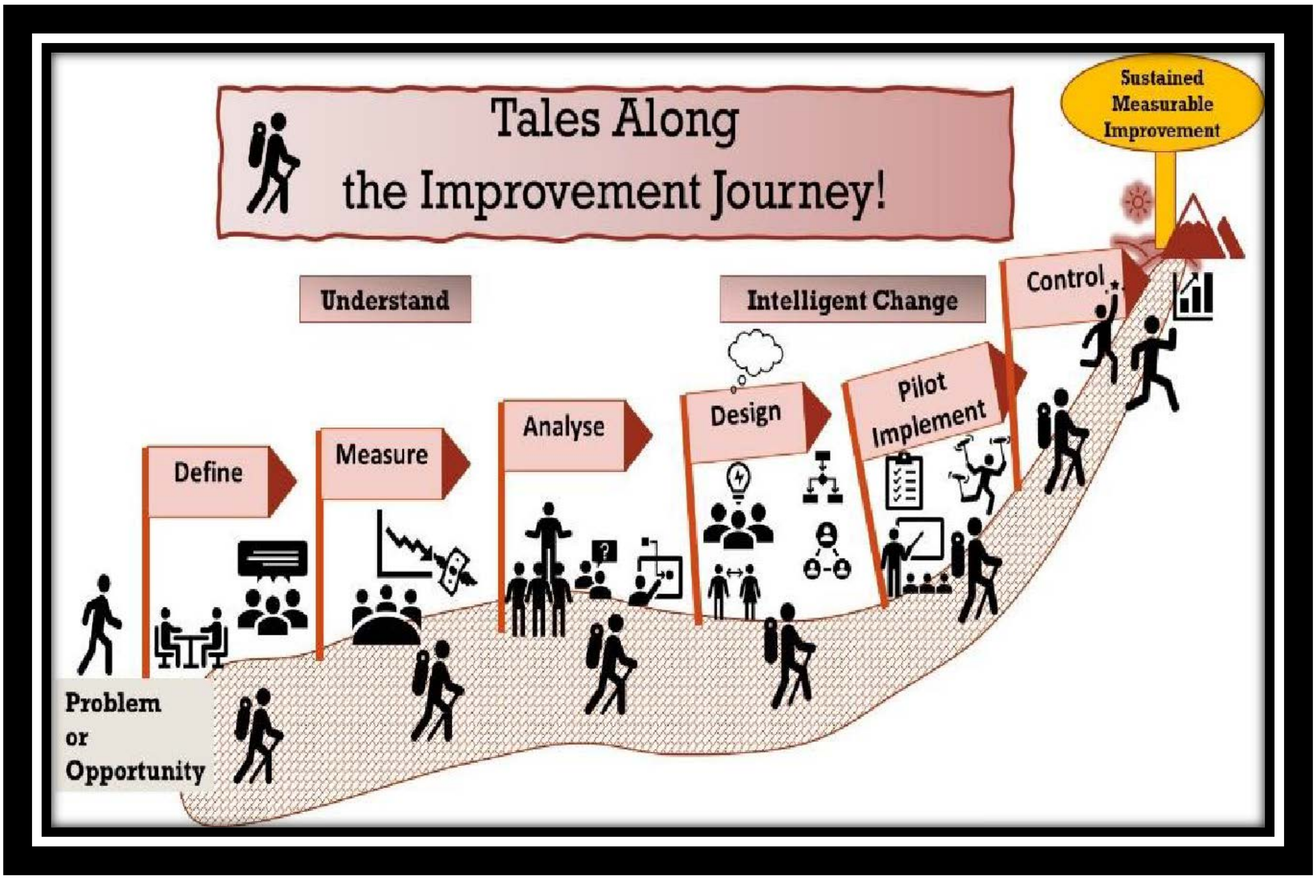
Dr Moira, many thanks for all your support and feedback with the thesis, including supporting my Lean Six Sigma efforts and work with Business Excellence Australia.

In particular, I want to thank my principal supervisor, Prof Renu. You have given direction in pursuing the thesis, challenged me on ideas and material, given me feedback to improve the work and showed immense patience and energy in your continuing support. You have done this during challenges you have faced. I am very grateful for all the practical support given over many years.

I also want to thank Dr Maruf Chowdhury for his independent feedback through the various doctoral assessments as well as his support for my work on the Lean Six Sigma program.

Acknowledgement of Professional Editorial Advice

Thanks to Samantha Hinderling (Academic Editor & Writer, ProfEdit) for her copyediting and proofreading support in the final stages of thesis preparation. Your help with the final polish is appreciated.


Tales Along
the Improvement Journey!
Sustained
Measurable
Improvement
Understand
Intelligent Change
Control
Pilot
Implement
Design
Analyse
Measure
Define
Problem
or
Opportunity

Contents

Table of Figures

List of Tables

List of Abbreviations

A3	Simple form of planning an improvement project on two A4 pages
CSF	Critical Success Factor
DFSS	Design for Six Sigma
DMADV	Define, Measure, Analyse, Design and Verify
DMAIC	Define, Measure, Analyse, Improve and Control
ED	Emergency Department
FMEA	Failure Modes and Effects Analysis
LSS	Lean Six Sigma
PDSA	Plan Do Study Act – a form of action learning for short phases of work in an improvement project
SME	Small to Medium-Sized Enterprises
TQM	Total Quality Management

Abstract

Organisational improvement under the guise of Lean Six Sigma (LSS) has developed into the most popular improvement methodology employed around the world. Since the 1970s, the increasingly widespread application of Total Quality Management and the Excellence Models has led to a focus on continuous improvement capability out of which the LSS methodology became de rigueur. To date, the dominant interests in the extant LSS literature have been to define LSS, report on results achieved, and discover the critical factors behind the successful organisational implementation of LSS. The rationalist orientation implies the simplistic notion that LSS is a recipe for successful outcomes. LSS research has focused on the organisational (macro) level and has not explored improvements at the project (micro) level. Little research has focused on the significant role of the facilitator, and no qualitative inquiry suited to observing the lived experience of teams engaged in improvement has been pursued with the same degree of vigour as the more rationalist topics of interest.

To respond to these gaps, this research aims to deepen the discovery of the subjective reality of improvement from the perspective of the facilitator through an inductive, reflective, and deep descriptive approach. The chosen study methodology is phenomenological inquiry, noting that phenomenological approaches can lack fidelity to the philosophy. Consequently, considerable care has been taken in the design of all aspects of this study to increase the validity of the research outcomes. Following the phenomenological tradition, the core research question is: 'What is the essence of the lived experience of improvement facilitators during the improvement journey?' The intent here is to illuminate the prereflective experience around three dimensions of the facilitator experience (personal, surrounding, and relational) with a focus on their relational experiences during improvement.

The design of the whole thesis as a phenomenological study is novel and unique in the LSS field. To explore prereflective experiences, interviews with facilitators were focused on the qualia of the experiences before interpretive reflections were discussed. Thirty-five facilitators who had completed training and projects and gained certification from UTS were invited to participate in the study. Thirteen (four women and nine men) agreed to participate in semi-structured interviews of approximately two hours each. Discussions were primarily organised around three key experiences from a completed project nominated by each facilitator. In addition, a personality inventory and project diary kept by each facilitator supplemented the phenomenological interview and analysis. Edited interview transcripts were created and approved by participants, and the collected data was thematically analysed to understand how facilitators were attracted to improvement (personal world) and the nature of their organisational contexts (surrounding world). Thirty-nine evocative accounts of facilitators' relational experiences, developed from the bulk of the raw transcripts, formed the basis for the thematic analysis of the relational world.

Four themes emerged from the descriptions of the facilitators' lived experiences, revealing deeply relational and affective phenomena underlying stakeholders' Define, Measure, Analyse, Improve and Control journey: i) relational experiences with senior stakeholders and their tendency to jump to solutions, which was the most dominant theme; ii) the process of improvement was characterised by conflict often driven by differing opinions, beliefs, or feelings of fear, blame or anxiety during interactions at different project stages; iii) experiences that drew stakeholders into forms of collaboration when undertaking measurement or developing ideas, which generated feelings of enjoyment, contribution, engagement, and achievement; and iv) experiences that engaged stakeholders in measurement, which provided them with opportunities for learning and collaboration. The range and qualia of experiences surfaced a deeper social reality that is more comprehensive and representative of improvement at the project level.

The personal, surrounding, and relational dimensions of the facilitators' experiences revealed new knowledge about their behaviours, interventions, thoughts, and feelings. These included: i) Agency and Communion traits in facilitators engender affinity for improvement activities, empathic attitudes, and strong intentionality towards project success; ii) the maturity and type of organisational contexts are not

associated with different facilitator experiences; iii) the formal allocation of the facilitator role and access to training are highly supportive structural influences; iv) the use of LSS techniques promotes facilitator efforts for relational and collective agency; v) facilitator interventions show a strong pathic orientation, engendering prosocial behaviour; and lastly vi) confronting organisational pathologies creates a therapeutic identity for facilitators. These findings are presented as a framework of interrelated social constructs that surface the system of influences on improvement facilitators and projects. Overall, these findings advance our understanding of the significance of the facilitator role.

The dynamic portrayed in lived experience is also reframed theoretically in a model based on the various lenses of agency theory. The perspective created is a dance of agentic forces that may inhibit or support the activity of an improvement project. Central within the interplay of agentic forces are facilitator stewardship and relational agency, which enable the collective agency of stakeholders to sustain improvement capability. Within this core dynamic, facilitators constantly balance intentional and relational agency as they seek to develop and sustain improvement capabilities. Paying attention to the different sources of influence and how they interact provides a more holistic, complete, and new understanding of improvement phenomena.

The research is limited by its focus on the role of the facilitator only and its focus on complex projects. Research on other roles, an intact team, or different project types can extend the findings from this study. Also, the propositions inherent in the models presented here prompt further theoretical development and suggest possible areas of research. The phenomenological approach used can be explored in research in other fields. Recommendations for curriculum inclusions in facilitator and sponsor training and coaching in improvement projects suggest a practice that strengthens forms of agency during improvement activity.

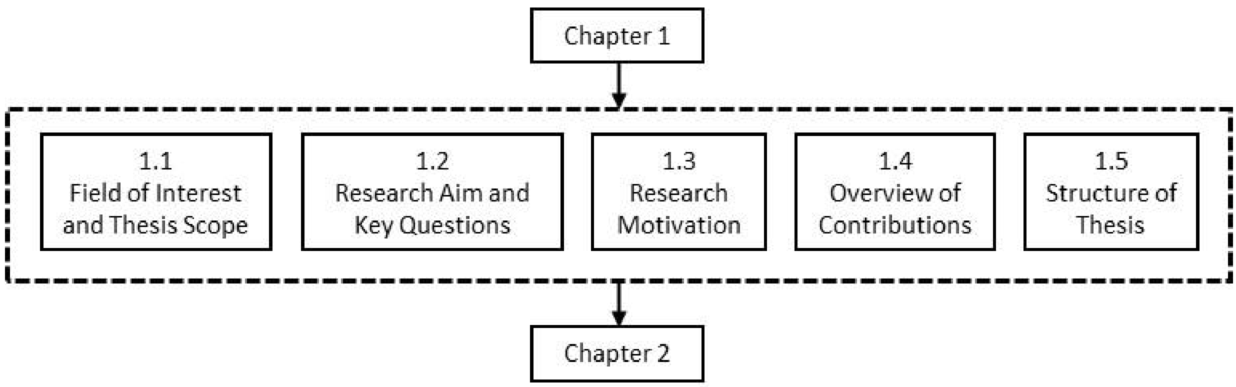
1.0 Introduction and Structure of the Thesis

Chapter Purpose and Structure

This chapter first defines the area of interest and then summarises the intent, objectives, design, and contributions of the study and the thesis structure in five sections as shown in Figure 1.1.

- Section 1.1 begins with an outline of the subject area and the specific scope of interest for the thesis. It then provides a summary of the rationale for the study and briefly discusses the choice of congruent research methodology.
- Based on the conceptual introduction, Section 1.2 defines the study's aim and research questions.
- The chapter concludes with my motivation for pursuing the study (1.3), a summary of the research contributions (1.4), and an outline of the structure and major contents of the thesis (1.5).

Figure 1.1: Outline of Chapter 1



1.1 Background to Field of Interest and Thesis Scope

1.1.1. Evolution of Interest in Continuous Improvement and Lean Six Sigma

Organisational improvement activities contribute to positive shifts in performance across the financial, customer, operations and workforce domains of the balanced scorecard (Kaplan & Norton 1996). The measurable benefits of applying the improvement methodology under the guise of Lean Six Sigma (LSS)[1] have been widely reported in organisational reports (Abbott & Munro 2004; Leon et al. 2012), the practitioner literature (Kota & Chetan 2013), and academic journals (Antony & Coronado 2002). As a result, LSS has developed into the most popular improvement methodology employed around the world since the 1980s (Laureani & Antony 2019, p. 55). The improvement activity could be termed Lean, Six Sigma or Kaizen, or Continuous Improvement (Breen, Trepp Jr & Gavin 2020; Kovach & Fredendall 2013; Tortorella, Viana & Fettermann 2015). However, the underlying principles, concepts, and practices follow LSS principles, tools, and methods.

Historically, the organisational improvement methodology sat within a broader philosophy articulated in the various worldwide models and frameworks for Organisational Excellence (Chelliah & Skinner 2016). Since the 1980s, Organisational Excellence frameworks, borne out of the Total Quality Management (TQM) and

[1] Lean, Six Sigma and Lean Six Sigma are used interchangeably and represent an integrated set of improvement concepts (see Chapter 2).

Organisational (Business) Excellence movement[2], have become a popular philosophy adopted around the world (Evans & Lindsay 2017). This philosophy strongly emphasises the importance of continuous improvement practices, with a focus on developing improvement models and frameworks for use in organisations. Over time, LSS has become the dominant improvement methodology (Antony 2011; Cherrafi et al. 2016). Attraction to the methodology has increased as the execution of continuous improvement as a widespread, structured capability within an organisation has been reported to achieve high-performance outcomes (Ebrahimi & Sadeghi 2013; McAdam et al. 2014; NIST 2015a).

1.1.2. Focus of the Research: Facilitator Experience of Complex Operational Improvements Using the DMAIC Methodology

The basic unit of improvement within an organisation is the team or teams of people that seek to improve their organisational performance (Arumugam, Antony & Linderman 2014). For small, less complex improvement activities, the intact team or teams are involved in carrying out the improvement (Singh & Singh 2012; Taylor et al. 2014). For larger more complex improvement projects, a cross-functional team is often established to complete the improvement project. The structure of the project group in such circumstances frequently involves a sponsor, other senior stakeholders, a project team leader, a project facilitator, and team members (Chow & Moseley 2017; Goffnett, Lepisto & Hayes 2016). The sponsor and senior stakeholders have line responsibility for the resources and processes under improvement. The team leader is likely to be a senior staff member or line manager involved in the processes. The improvement project facilitator is the internal consultant with the requisite knowledge of and skills for the improvement methodology. In many instances, team leader and facilitator are one role. Team members usually represent the various groups affected by the improvement work. Other roles may be involved, such as internal or external representatives of customer groups.

During the conduct of improvement projects, a variety of interactions or relational experiences occur as the allocated team applies tools and techniques whilst trying to adhere to an overall methodology. The improvement activity during the project is a dynamic process requiring a range of engagements between various stakeholders, such as agreement on the problem, participation in the analysis of causes, and abstraction of learning and decision making from qualitative and quantitative data (Leon et al. 2012). Improvement projects can also be considered as action learning or action research processes (Pedler 2007; Seddon & Caulkin 2007). Interactions and relationships between various stakeholders can impact and influence the conduct and outcomes of an improvement project (Savolainen & Haikonen 2007; Vince 2008).

It is in this context that the facilitator[3] acts as a specialist guide in the application of the principles, tactics, and tools of the improvement methodology. Frequently referred to as Green Belts or Black Belts (Garrido-López & Hillon 2020), facilitators, are expected to guide those involved in the application of the methodology in more complex situations to deliver improved results. Their skills in coaching people in the use of various analyses and measurement tools and techniques and facilitating interactions between the various stakeholder groups place them in a unique position whereby they can enable the success of the project as well as observe and diagnose the various activities and interactions that occur (Arumugam, Antony & Linderman 2014). Research on critical success factors identifies this role as a key contributor to the successful implementation of improvement projects (Jeyaraman & Teo 2010).

---

[2] TQM and Organisational Excellence are interchangeably used as labels representing the historical basis for LSS concepts (see Chapter 2).

[3] The term Improvement Facilitator is used to describe the role of the LSS coach in an improvement project team.

These improvement coaches/facilitators are careful to stay neutral, observing engagements and analysis work to determine when and how to aid a team member or the team. In this sense, they collect information about what occurs and what is experienced during an improvement project. Apart from the immediate project, organisations also rely on the facilitator to deploy and spread the competencies involved in building and sustaining a culture of improvement, innovation, and excellence (Aboelmaged 2010; Arumugam, Antony & Linderman 2014; Shaw et al. 2010).

Given the described context, this research focuses on the nature of facilitator involvement in more complex improvement projects. The specific context will be the improvement of existing operations using the basic LSS Define-Measure-Analyse-Improve-Control (DMAIC) model rather than methodologies associated with the design of new products and services or agile methodology. The application of the DMAIC model for existing processes is the most common form of improvement activity, prompting this focus.

1.1.3. Lack of Interpretive, Inductive Exploration of the Improvement Phenomena Within Organisations

A substantial amount of literature has been published over the last 60 years covering the field of organisational improvement, irrespective of labels such as Continuous Improvement, Lean, Kaizen, Six Sigma or Lean Six Sigma (Chiarini 2011; Stone 2012). An analysis of extant reviews of the LSS literature over that time shows a preoccupation with several themes. Reflecting the rationalist characteristic inherent in the methodology, much of the literature and research is dominated by an interest in such areas as methodology application, tools and techniques, results achieved, and factors affecting program implementation (Aboelmaged 2010; Tjahjono et al. 2010). As a result, the conceptual or methodological LSS literature suggests that completing an improvement project simply requires the rational application of the methodology to deliver the reported benefits as promoted in the literature. In addition, the LSS literature has been mostly oriented towards the organisational management of LSS programs (macro level) rather than exploring the project (micro) level as the base unit of operational improvement. (Arumugam, Antony & Linderman 2014). Dominated by this paradigm, LSS research has been characterised by quantitative surveys and descriptive case studies (de Freitas, Costa & Ferraz 2017; Sabry 2014). Researchers in the field rarely acknowledge the influence of the positivist paradigm taken in using survey research and case study methodology. Subsequently, research interests and analyses have largely remained at a broad procedural level by reporting on the characteristics in the application of the methodology, its viability in different industries, and the employment of practices and tools.

Organisational improvement is conducted in social settings or social systems within organisations where interpersonal relationships, critical conversations, expressions of power, social interactions, and collaborative learning and development of shared understandings occur. These are some of the key factors impacting the process of improvement, which attempts to deliver better performance from systems of work (Cho & Egan 2010). Although there are summaries within the literature of issues and challenges involved in completing improvement projects, particularly at the level of implementing LSS as a cultural change program (macro level), the rich dynamic detail of the improvement journey is not well known (Cherrafi et al. 2016; Prasanna & Vinodh 2013). Little is reported about the experiences of the people within the teams commissioned to apply the methodology and bring about measurable and sustained improvement. Lacking theoretical and philosophical foundations, the LSS literature has generated a simplistic and unrealistic sense that a procedural and rationalist view of organisational improvement will generally lead to results. Consequently, LSS research has ignored, been blinded to, or failed to observe and analyse the rich, dynamic reality of the experience of conducting improvement within organisations. Consequently, criticisms of the extant literature focus on the lack of theoretical development (Pepper & Spedding 2010) and the need for more interpretivist forms of research in the field (Hoss & Schwengber ten Caten 2013).

Despite reviews in the literature acknowledging the central role of improvement facilitators in coaching and guiding those involved in improvement work (Arumugam, Antony & Linderman 2014; Zu, Robbins & Fredendall 2010), there appear to be very few studies that specifically observe their experiences within an LSS improvement project. Facilitators are mentioned obliquely or casually in case studies or studies focusing on other issues in LSS research (Shaw et al. 2010). The little research that is reported focuses on facilitator training and their characteristics (Aboelmaged 2010). The experience of facilitating improvement is not raised as a significant theme within LSS literature reviews.

Across the world, organisations from all sectors and of different sizes have invested significant time and energy in training leaders, specialist facilitators (Yellow, Green and Black Belts) and staff in the LSS methodology (Arumugam, Antony & Linderman 2014; Sunder & Prashar 2020). Online and face-to-face training via consultants, tertiary institutions and in-house training and development services have proliferated to meet the ongoing demand for skill and knowledge development. The role of the facilitator has become professionalised with the introduction of requirements for certification, recruitment into roles, provision of significant salaries and the creation of professional associations. The review of the LSS literature in Chapter 2 (2.2.3 and 2.3.2.1) highlights the considerable effort that has been expended in establishing LSS capability and conducting improvement projects across all functional sections of an organisation, on a large variety of issues and contexts (Cudney et al. 2020; Henrique & Filho 2020; Vashishth, Chakraborty & Antony 2019). Within these contexts, facilitators play a fundamental role in influencing and coaching stakeholders to address issues and deliver improved performance across all aspects of the scorecard. This study seeks to inform such widespread investment in LSS practice, illustrating the potential significance of the research, as summarised at the end of Chapter 1 and elaborated in Chapter 7.

The broad aim and specific lines of inquiry for this research emerged out of my experience in improvement project work and the growing understanding that developed from my immersion in the extant literature where I saw key gaps in how improvement activities in organisations were characterised. The need for a greater focus on the micro level of improvement, the lack of a comprehensive theoretical framework based on a deep understanding of the nature of improvement, and the need for a more interpretivist lens with which to examine the dynamic and messy nature of the improvement experience shaped this research. Given the lack of grassroots understanding of the lived experience of improvement in LSS research, the conclusion here was to make use of a more inductive, reflective, deeply descriptive theory-building approach on which to base the inquiry into the phenomena of organisational improvement.

Since research on the key role of the improvement facilitator is limited, the choice was made to focus on the experience of the facilitator during an improvement project. More so than any other role, facilitators are involved in all aspects of an improvement project and so have a greater range of experience of the various activities and social interactions that take place on the improvement journey.

1.1.4. Phenomenological Inquiry as the Research Methodology

After examining alternative qualitative methodologies (see Chapter 3), the philosophical basis for phenomenological inquiry, together with its related forms of research, seemed best suited to explore the phenomena of 'lived experience' of improvement (Ataro 2020, pp. 19, 20, 22). The potential for the approach to generate a rich, contextually situated, and inside-out understanding of the experiences shaping improvement from the facilitator's perspective made it a good choice for the basis of the research design. Thus, the subjective reality of the improvement phenomenon was investigated through the inductive logic of phenomenological inquiry.

As a result of exploring the literature on phenomenology and its application in research (Chapters 3 and 4), I became particularly interested in the work of van Manen (1990); (2016) and how it could aid my understanding of the philosophy and the fidelity with which it should be applied in research. His book

Phenomenology of Practice encourages the use of the phenomenological methodology to reflect on professional practice as a means of gaining insight into the experience of carrying out professional tasks. This explication of applying phenomenology as a heuristic form of inquiry into practice resonated with my interest in understanding more deeply the improvement phenomena for the practice of facilitation (van Manen 2016, pp. 223-4).

Van Manen's (2016, p. 330) work particularly influenced my conception of the focus of phenomenological inquiry and the various traditions within the philosophy. He argues for fidelity in the application of phenomenology, influencing the way research questions are posed and the role of the research. He emphasises gathering the prereflective experiences of the phenomena under study rather than interpretations or opinions. This had implications for the interview research method used for gathering the experiences and the way the analysis of experiences was conducted and presented in writing. Van Manen's work is the major influence on the research method described in Chapter 4. Given van Manen's interest in the meaning structures of experience, his methodology more closely follows the hermeneutic phenomenology tradition, which I adopted in the research.

In seeking to address criticisms of phenomenologically based research, care was taken to design a research method involving a semi-structured interview process with phenomenological and hermeneutic elements. The findings from the interpretive phenomenological analysis contribute to the body of knowledge on the essence of improvement from the facilitator's perspective. The perspective and methods used will be explored in greater detail in the chapters on phenomenology (Chapter 3) and the research method (Chapter 4).

The application of phenomenology to the research design also influenced the phrasing of the research questions below. Rather than the research questions influencing the content of the facilitator's experience of improvement, I used language that was content-neutral but pointed to different dimensions (personal, surrounding, and relational) of the facilitator's 'lived experience' (Correia 2014). In this sense, I did not want to pre-empt specific aspects of the experience reported by facilitators by using content-based questions. It is the nature of the perceived prereflective experience of the improvement facilitator role during the conduct of an improvement project that is of interest in this research. The influence of phenomenological concepts on the articulation of the research inquiry ensured that the research took a holistic view of the facilitator experience.

The use of phenomenological research methods for the field has not been recommended in any LSS reviews, despite the criticised lack of theory in the research so far (Aboelmaged 2010). Given the philosophical and epistemological underpinning of Quality Management, Organisational Excellence, and therefore LSS, it is surprising that such an approach has not been advocated in more recent times. In fact, very few studies in LSS have mentioned phenomenology as an influence on the research method. As the literature review (Chapter 2) shows, analyses of these studies indicate no rigorous application of phenomenology. In each review, the term 'phenomenology' simply indicates the use of interviews in the research methodology.

1.2. Broad Aim and Questions

My argument is that a richer understanding of the experiential reality of improvement in an organisation's social settings is more likely through an interpretive paradigm involving phenomenological inquiry. Therefore, the aim of this thesis is "to explore the nature and spirit of the improvement phenomenon as it is lived in different organisational contexts and experienced in three dimensions from the perspective of the improvement facilitator".

The overarching research question is: what is the essence of the lived experience of improvement facilitators during the improvement journey?

Implicit in this overarching research question is the intent to illuminate the meaning structures of the prereflective experiences of improvement facilitators. Drawing on phenomenological concepts, three dimensions (personal, surrounding, and relational) of the lived experience of facilitators can be understood. These are reflected in the following subsidiary questions, the rationale for which is discussed in Chapters 3 and 4:

Subsidiary questions organised around the three dimensions of lived experience:

- **Personal World (the *Eigenwelt*)**
    - What experiences emerged within the personal world of facilitators that led them to be involved in the facilitation of improvement projects?
- **Surrounding World (the *Umwelt*)**
    - What did facilitators notice in their surrounding organisational context of the improvement project and in the project itself?
- **Relational – Social World (the *Mitwelt*)**
    - What experiences predominate in the relational world of facilitators whilst being involved in the improvement project?

1.3 Research Motivation

1.3.1. Relevance to my Interest and Work

I have a long-term interest (forty years approximately) in the field of Organisational Excellence and Improvement. This has involved management roles in a variety of organisations, such as Compaq and HP, consulting roles, and teaching roles within UTS and via my own consulting organisation. Through these experiences, I have developed a significant interest and experience in the dynamics of how organisational excellence and improvement programs and projects are executed and their impact on an organisation.

The lack of emphasis in the literature on critical reflection about the subjective realities during an improvement project prompted my desire to conduct an in-depth study of the improvement process using phenomenological inquiry.

1.3.2. Practical Relevance of the Research

Through my involvement in the field, particularly through teaching at UTS, I know many examples of completed improvement projects in organisations and have contacts likely to be interested in supporting the study. Therefore, gaining approval from people in organisations to participate in the research and creating a purposive convenience sample made for a relatively straightforward task, which is discussed in Chapter 5. This made the application of the methodology and the observation and collection of data a less onerous activity. Learning from the research has also enabled my own teaching and practice in the field.

1.4. Overview of Contributions

Various commentaries on the type and structure of contributions emerging from the research were examined to help define the contributions of this study (Ågerfalk & Karlsson 2020; Baker 2011; MacInnis 2011; Nicholsona et al. 2018; Presthus & Munkvold 2016; Salovaara 2020).

Improvement projects have so far not been explored with this level of fidelity to the epistemology of phenomenology. The inductive analysis has generated details and patterns about the lived experience that afford several contributions to the domain of LSS and Organisational Excellence at the project (micro) level.

The resulting outcomes provide a more realistic representation of the phenomena, with implications for LSS theory, further research, and directions for practice.

Figure 1.2: Contributions and Implications of Research

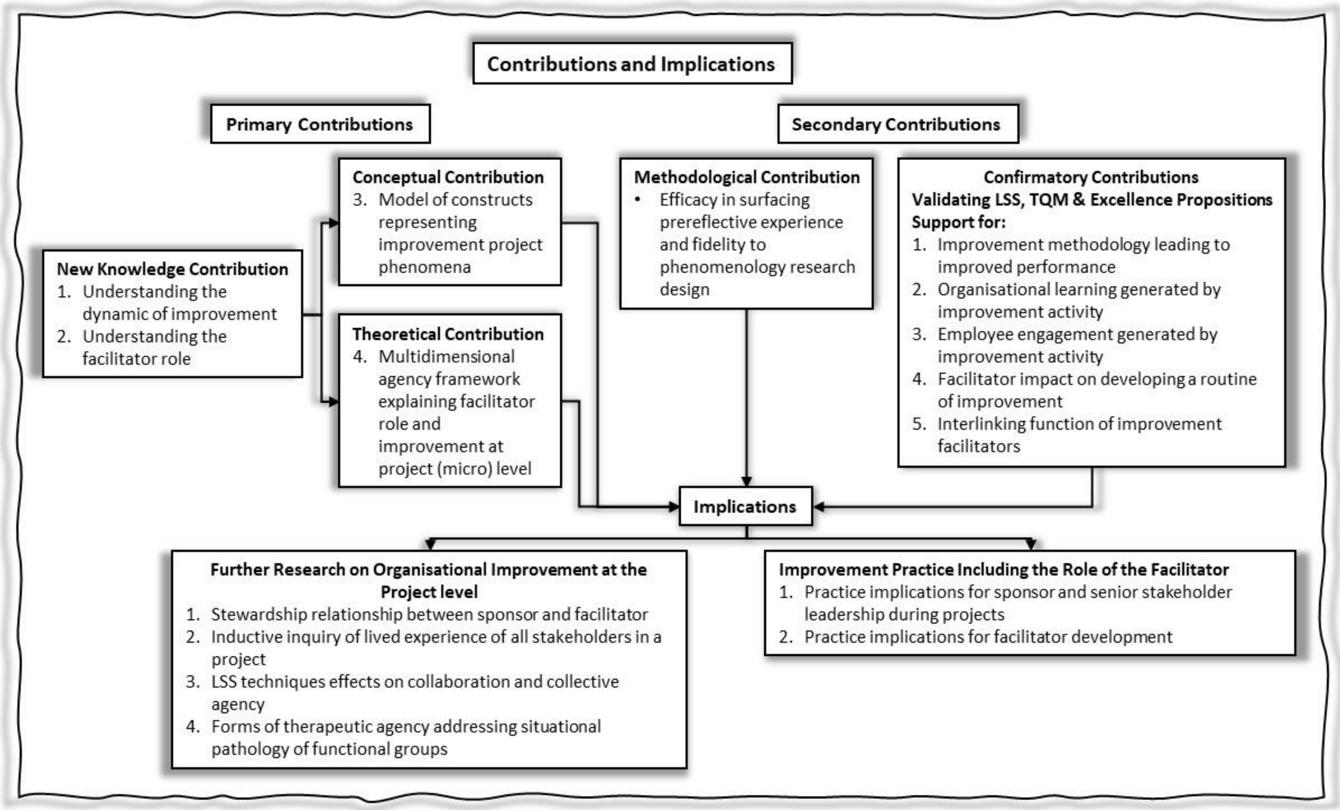


Figure 1.2 identifies four primary contributions and two forms of secondary contributions emerging from the research findings. The primary contributions are new knowledge about the improvement phenomena and conceptual and theoretical models representing relationships within such knowledge. The secondary contributions involve a methodological contribution and five confirmatory contributions validating existing aspects of Organisational Excellence and theoretical LSS propositions. The primary contributions and implications for research and practice, all summarised below, as well as the secondary contributions are discussed in greater detail in Chapter 7. Figure 1.2 also indicates the implications for research and practice. The implications, discussed in detail in Chapter 7, are summarised after proposing the contributions of this research.

1.4.1. Primary Contributions – New Knowledge and Conceptual and Theoretical Models Revising Narrow Representation of the Improvement Project Phenomena and the Facilitator Role

A major contribution of this research is the revelatory, phenomenologically based sensemaking of the nature of improvement at the micro level of a project, challenging the embedded rationalist, formulaic portrayal of improvement projects in the extant LSS literature. The experiential findings, analysed and summarised in Chapter 5 (Personal and Surrounding World) and Chapter 6 (Relational World), form the basis of these contributions.

1.4.1.1. Contribution to Understanding the Dynamic of Improvement

The exploration of the extant LSS literature in Chapter 2 draws attention to the narrow characterisation of improvement project work in procedural terms and based on DMAIC, which illustrates a gap in the knowledge about the micro level of LSS (Breen, Trepp Jr & Gavin 2020; Isa & Usmen 2015; Langley & Denis 2011; Madhani 2017; Willoughby, Chan & Strenger 2010).

Descriptions of facilitator observations and lived experiences reveal deeply relational and affective phenomena underlying the stakeholders' DMAIC journey. The most dominant relational experience involves senior stakeholders and in particular their inclination to jump to solutions during the Define phase. Noematic experiences of conflict characterise the lived process of improvement. Differences of opinion, fear, anxiety over likely blame, confusion, and ignorance about the LSS philosophy and approach are exposed during the interactions that take place while tasks such as planning, measurement, analysis, or solution development are undertaken. Experiences drawing stakeholders into collaboration and collective action when measuring or developing ideas for the first time generate feelings of enjoyment, contribution, engagement, and achievement. These findings challenge and expand the dominant representation of how improvement projects are experienced. The range and qualia of experiences surface an additional and deeper reality that is more comprehensive and representative of the phenomenon. This reality advances an understanding of improvement during projects and so addresses a major gap in the extant LSS domain.

1.4.1.2. Contribution to Understanding the Improvement Facilitator Role

The literature review in Chapter 2 concludes that the improvement facilitator role during improvement projects has been superficially explored, although the significance of the role has been acknowledged. In addition to surfacing knowledge about the micro level of the improvement journey, this study also contributes new knowledge about improvement facilitators' behaviours, interventions, thoughts, and feelings. Personal world experiences reveal macro personality traits of Agency and Communion, explaining facilitators' underlying affinity for improvement activity. Surrounding world analyses show that a formal allocation of the facilitator role and access to training were two key structural influences for facilitators across all settings. Analyses of the work portfolios and relational experiences also highlight the influence of LSS techniques on facilitator efforts for relational and collective agency.

As facilitators contend with challenging situations, they show a strong pathic orientation that drives their intentionality for prosocial behaviour and project completion. Influenced by their use of LSS techniques, their training, and their personality traits, facilitators promote collective engagement and collaboration with sponsors and all relevant stakeholders. Throughout their active influencing process, they demonstrate a cycle of observation, self-awareness, and adaption of their mental model of LSS agency. The therapeutic impact a facilitator has on people and processes influences how their identity of the role develops. These findings identify new phenomena that advance our understanding of the significance of the improvement facilitator role during projects and so address a major gap in the extant LSS domain.

1.4.1.3. Conceptual Contribution – Model of Constructs Representing Improvement Project Phenomena

A further contribution is the development of an existential framework of constructs (see Figure 6.51, Chapter 6) based on the phenomenological reduction of the thematic patterns that emerge from the personal, surrounding, and relational worlds of experience. The model envisions and provides further definition to the reality of improvement based on the recorded experiences, which prompts a revision of the embedded rationalist paradigm in the extant LSS literature.

The conceptual framework attempts to capture or model the sources of influence within the milieu of an improvement project. **Antecedent constructs** in the model amplify understanding of background influences on facilitator perceptions and behaviour. Facilitator temperament (particularly conscientiousness and emotional maturity) appears to create an affinity for adopting the LSS role, an ethic that influences intentionality to see and respond to issues. These traits are reflected in the facilitator interpretations of their interventions.

Contextual or moderating constructs in the model amplify understanding of organisational and functional influences on facilitator perceptions and behaviour as well as the existing situational pathology of the stakeholder group with which the facilitator must contend when beginning to work on a project. These contextual constructs influence what types of issues confront the facilitator and, therefore, possible support and interventions needed during engagements with stakeholders.

The **process constructs** primarily represent the **relational** interventions that facilitators bring to bear on the situations they face. Their responses are congruent with LSS principles and traits. Experiences surface the sacrificial effort made to enable dialogue and participation amongst stakeholders. This includes their frequent and patient teaching and coaching of stakeholders at all levels. A unique finding that emerged from examining facilitator experiences is the prosocial–therapeutic forms of intervention in addition to facilitating DMAIC tasks. Facilitator reflections revealed the influence of their personality traits, explaining their resilience, pathic orientation for stakeholders, and their self-reflection and learning. Facilitators made a conscious effort to balance collaboration and mutual action with the drive to complete the project.

Reported experiences revealed outcomes beyond traditional process measures of success. **Outcome constructs** reveal the potential for additional significant results dealing with changes in stakeholder perceptions, prosocial outcomes, and facilitator outcomes.

The model illustrates a network of natural and social constructs in relationships, indicating a web of interdependencies that helps surface the system of influences on improvement facilitators and the successful achievement (or not) of project outcomes. The constructs have explanatory value and practical application for further research and improvement of practice.

The construct model not only provides a parallel view of the critical success factors at the micro level of a project but also has implications for success factors at the organisational level. The model also indicates sources of agentic influences on facilitator behaviour in the context of improvement projects.

1.4.1.4. Theoretical Contribution – Multidimensional Agency Framework Explaining Facilitator Role and Improvement at Micro Level

Fidelity to the application of phenomenology in research methods involves the pursuit of 'the phenomenological attitude' or *epoché* – a suspension of judgement (Boeree 2006; van Manen 2016, p. 233). Epoché is advocated to avoid the bias of the researcher (including theoretical notions), which masks openness to the prereflective experience of research participants. Given the inductive nature of the approach, the idea is to allow the findings to prompt theoretical propositions. Therefore, the literature review (Chapter 2) does not focus on specific theories or phrase the focus of the research questions from a particular theoretical perspective.

In any case, the literature review (Chapter 2) draws attention to a criticism of the LSS domain concerning the lack of theoretical underpinnings behind the unstated or stated propositions in the field (Aboelmaged 2010, p. 290; Baker 2011, p. i32; Snee 2010, p. 24). When applied, theoretical frameworks have focused on explaining macro, organisational applications of LSS programs (Arumugam, Antony & Linderman 2014, p. 55; Snee 2010, pp. 19-20). A clear gap in the extant LSS domain has been the development and application of theoretical frames at the micro level of the project and the role of the facilitator (Arumugam, Antony & Linderman 2014, p. 43; Lloréns-Montes & Molina 2006, p. 491; McAdam & Hazlett 2010, p. 626).

The dynamic portrayed in lived experience descriptions and summarised in the constructs model embodies a variety of factors that influence the 'taking of action' by stakeholders and the central agentic role of the facilitator. The construct of agency involves the capacity to take or influence action intentionally toward a purpose, a capacity that is fundamentally human (Bandura 2002). It seemed logical then to examine various contributions to agency theory from different perspectives (economics, psychology, sociology, non-human) to gain further explanatory insights into the facilitator role and improvement work. As agency concepts were examined, various facilitator experiences were considered to see if the concept applied or needed to be adapted to the LSS project context. As a result, a model and explanations were built reflecting forms of agency and their practices as they emerged in facilitator experiences (Figure 7.12, Chapter 7).

Addressing the identified theoretical gap in the extant LSS literature, the model, its elaboration, and related propositions in Chapter 7 forms a significant contribution at the micro level of improvement projects in the form of a new multidisciplinary view of improvement phenomena as 'a plenum of agencies' (Cooren et al. 2006a, p. 541). This view shows an interplay of agencies that impacts the facilitator and the improvement experience for all stakeholders. Through this interplay of agencies, the improvement phenomena are reframed into interrelated core and supporting agentic forces that may inhibit or support the activity of an improvement project. Paying attention to the different sources of influence and how they interact provides a more holistic and complete understanding of improvement phenomena (Pickering 1995).

The key agentic characteristics of improvement emerging from the theoretical model (Figure 7.12) are summarised below. They reflect new perspectives on the improvement phenomena, which prompt further theoretical development, reveal possible areas of research, and orient practice to strengthen forms of agency during the improvement activity. The different forms of agency are summarised as follows:

Collective Agency

- Improvement projects are ideal for the exercise of collective agency because individuals seek desirable outcomes that can be achieved through interdependent (collective) efforts (Bandura 2018, p. 131). Such mutual agency is hampered by the barriers arising from the embedded, unilateral individual agency (Topal 2020) with its existing structural and power relations. Such social barriers resist the development of shared meaning and reciprocity amongst those involved to shift away from the norm (Välikangas & Carlsen 2020, p. 545).
- A facilitator's application of the macro DMAIC framework reflects a form of collective agency that is proactive and political by stimulating mutual inquiry, constructive conflict and dialogue, and engagement in the creation of an alternative to the situation (Välikangas & Carlsen 2020, p. 544). Each improvement project is a form of 'legitimised disruption' and the facilitator a kind of 'agent provocateur'. Using this construct of collective agency to view improvement projects constitutes a new way of framing the improvement journey that has not yet been proposed in the LSS field.

Agency and Personality

- Within such contexts, facilitators' intentionality and agency are influenced by their macro personality traits of Agency and Communion (Entringer, Gebauer & Paulhus 2021), generating an affinity for the principles of LSS encountered in training.

Structural and Non-Human Agency

- Senior stakeholders' deliberate and overt establishment of the facilitator role together with the provision of access to LSS training legitimates the facilitator's enactment of the defined role and gives expression to LSS and Organisational Excellence values, principles, and methodology within the social context (Abdelnour, Hasselbladh & Kallinikos (2017, pp. 1780, 4, 7).
- Consequently, the use of LSS tools and techniques reinforces a facilitator's temperament and conscious agency to be resilient, persevere, and engender collaboration and mutual action amongst stakeholders (Cooren et al. 2006a) supportive of collective agency.

Relational Agency – Prosocial Behaviour

- An additional, new, and significant insight gained through the application of the agency lens is that the frequent forms of relational agency exhibited by facilitators result in prosocial impacts within their projects. Facilitators frequently displayed a pathic orientation to stakeholders during interactions, prompting an ethic of care in their behaviour and attitudes towards others in the project (Sundet & Carlsen 2019). These relational agency practices supported facilitators' efforts to create collective agency and get stakeholders to collaborate over inquiry and mutual action.

Relational Agency – Therapeutic

- Another aspect of relational agency appears in experiential accounts termed 'therapeutic agency'. Pre-existing pathology of functional situations results in facilitators confronting relational or even individual dysfunction that goes beyond the bounds of the conduct of the project (Pasieczny 2017). Prosocial efforts through conversations, coaching, teaching, and other forms of positive reinforcement and reassuring behaviour generate a healing, enabling effect on the stakeholders involved into the future. The representation of facilitator behaviour as a form of relational agency is a unique theoretical contribution to the LSS field.

Relational Agency – Stewardship

- The central relationship between the facilitator and sponsor (senior stakeholders) has been superficially represented through the economic agency model (Bendickson et al. 2015, p. 176) expressed in the LSS literature (Lloréns-Montes & Molina 2006, p. 491). The application of the assumptions, problem constructs, and corresponding solutions do not fit the experiential phenomena, so they need to be adapted to the relational forms of agency consistent with facilitator accounts. Reported experiences demonstrate the reciprocity of the facilitator–sponsor relationship and facilitator collaborative and relational agency practices that are more congruent with the stewardship (Panda & Leepsa 2017) of the sponsor-facilitator relationship that impacts facilitator wellbeing. As a form of relational agency, the facilitator–sponsor relationship is better understood through the lens of **stewardship agency.**

Facilitator Self-Efficacy in Development of Agentic Self

- The examination of improvement phenomena from an agency perspective highlights that facilitators are not autonomous agents but function within a specific social system which exerts influence on facilitators' proclivities, plans, and behaviours. Their interpretative and affective experiences illustrate a 'continually evolving and actively monitored self-system', creating an effective sense of personal agency to facilitate improvement projects. Belief in their own capabilities (self-efficacy) increases from mastery experiences (Bandura 2018, p. 135). The articulation of a therapeutic identity, which emerges from their experiences (Kögler 2010, p. 257), reflects this developing agentic self for improvement projects and includes confidence in other agency modes (relational, collective).

1.4.2 Implications for Further Research on Organisational Improvement at the Project Level

Based on the contributions discussed earlier, several recommendations for further research are discussed in detail in Chapter 7. Four major lines of inquiry amongst those discussed in Chapter 7 are summarised below.

1. The leadership relationship between senior stakeholders (sponsor) and the facilitator is a critical area of inquiry at the micro level of a project. An inductive inquiry to understand the sponsor's experience of the relationship with the facilitator and the improvement journey will provide further knowledge that will enable the mutual and stewardship aspect of the relationship.
2. In a similar vein, the perspectives of team members could also be observed through inductive forms of inquiry. An extension of this approach would be to pursue the lived experience of all stakeholders involved in a project to understand and triangulate the qualia of experiences. This depth and breadth of observation will assist in exploring forms of collective and relational agency that emerge.

3. Collaboration and collective agency are core to the process of conducting an improvement project. Understanding the use of LSS techniques can be expanded to observe the effects on collaboration and collective agency in greater detail. Findings from such research will contribute to a greater understanding about agency for engagement, collaboration, and sustaining the capability of improvement.
4. The significant therapeutic effort by facilitators to address the pathology of functional groups whilst facilitating an improvement project is a significant area of inquiry that could deepen the understanding of the improvement phenomena. Interpretivist forms of research could identify major repeatable issues that emerge during improvement projects and the effects of interventions on the outcome of the situation. Experimental forms of research could examine the effectiveness of methods of intervention on different issues.

There is further opportunity for research in LSS to make greater use of interpretivist, inductive forms of inquiry drawing on the theory and philosophy that underpins LSS, TQM, and Organisational Excellence. As the lines of inquiry above suggest, such activity will promote a clearer theoretical foundation for research and practice in the field.

1.4.3 Implications for Improvement Practice Including the Role of the Facilitator

The research contributions prompt numerous suggestions about improvement facilitator and stakeholder practice in conducting improvement projects. Several recommendations are discussed in Chapter 7, including specific curriculum suggestions for inclusion in LSS training. The ideas presented are oriented towards developing collaboration and collective and relational agency and reflect the conclusions and discussion in the thesis. Two key sets of recommendations are outlined below, dealing with practice implications firstly for leaders or sponsors and secondly for facilitators.

- **Practice Implications for Sponsor and Senior Stakeholder Leadership During Projects**

  Leadership development that prompts support for the facilitator and the conduct of the project can include:

  - improvement facilitator and team selection processes that draw on personality assessment and orientation to collective agency
  - leadership skills in the structure, development, and assessment of improvement plans as a form of contract with the facilitator and team to avoid common issues like jumping to solutions
  - use of tools such as behaviour checklists or inventories to clarify the sponsor–facilitator relationship and raising leaders’ awareness of behaviours that support facilitators and their wellbeing.

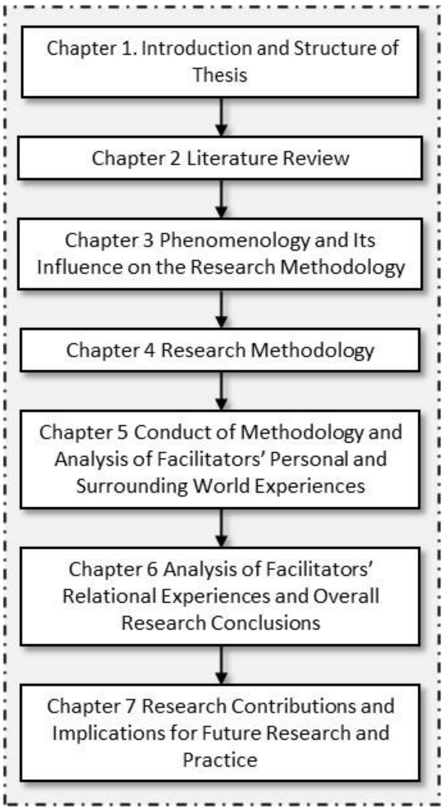
- **Practice Implications for Facilitator Development**
  1. Facilitator training needs to provide greater emphasis on framing the relationship with leaders from the perspective of stewardship agency and supporting behaviours. This includes engaging with sponsors over the nature of the relationship, care given to coaching on the use of the improvement charter as a process of contracting with sponsors, and the development of relational forms of agency.
  2. LSS development processes need to emphasise the philosophical basis for improvement methodology that situates the facilitator as an agent for collaboration and frames DMAIC as a process of collective agency for the sustained practice of the methodology.
  3. Facilitator self-awareness needs to be developed using models and instruments that provide feedback on personality, communication, and facilitation skills.

4. The traditional focus on methodology, analysis, and statistics needs to be balanced with learning that enables facilitators to be effective in their collective and relational agency roles. This can include:
    a. expanding awareness and skill in using LSS techniques to promote engagement and collaboration
    b. focusing on relational facilitation skills that develop dialogue amongst stakeholders and promote 'respectful engagement' (Sundet & Carlsen 2019) and 'sympathetic understanding' (Rhodes & Carlsen 2018, pp. 12-3) between stakeholders
    c. facilitators making use of models to deal with conflict, defensive routines, and the promotion of 'psychological safety' as part of key learning for their relational agency (Argyris 1976; Schwarz 2017; Senge 1990).

1.5 Structure of Thesis

The overall structure of the thesis involves seven chapters shown in Figure 1.3. A summary of the major ideas, arguments, or conclusions in each chapter is outlined below to indicate the flow of information and argument in the dissertation.

Figure 1.3: Chapter Structure of Thesis



Chapter 1 Introduction and Structure of Thesis

This chapter provides a summary of the dissertation. It defines the specific domain addressed in the study and summarises the rationale for the use of phenomenology as the basis for the research methodology, and the major findings in terms of research contributions.

Chapter 2 Literature Review

The literature review begins with the philosophical underpinnings of LSS. It also offers a summary defining the major relevant LSS constructs and narrows the scope of the research to the micro level of improvement projects. This chapter first defines the review methodology, followed by an analysis of the relevant literature and resulting conclusions about gaps in the extant LSS field. Gaps are identified around the lack of inductive inquiry into the conduct of improvement projects and the facilitator role, prompting the dissertation aim and key questions.

Chapter 3 Phenomenology and its Influence on the Research

The chapter explains the congruence between the research intent and the methodology which led to the choice of phenomenology as the epistemological basis for studying and interpreting lived experiences of improvement facilitators. Fidelity to the phenomenological method calls for an examination of phenomenological concepts and their influence on choices in the research methodology. The chapter concludes with a schema that acts as a design brief for the next chapter on the research methodology.

Chapter 4 Research Methodology

The chapter begins with the rationale for selecting the methodological framework proposed by van Manen (2016), guiding the planned design of the research methodology. This is followed by descriptions of the sample design and data collection methods. Emphasis is placed on the design of the semi-structured dialogue process as a means of capturing facilitators' prereflective experiences. The chapter concludes with plans for the analysis in combination with reflective writing and an assessment of the rigour of the methodology from a phenomenological perspective.

Chapter 5 Conduct of Methodology and Analysis of Facilitators' Personal and Surrounding World Experiences

Chapter 5 has three main sections. It begins with reporting on the conduct of the methodology, followed by the analysis of the facilitators' personal world experiences. It then analyses their surrounding world experiences. The chapter describes the results of thematic analyses of the introductory elements of the interviews, showing how facilitators became involved in improvement as well as their underlying temperaments (personal world). The thematic analysis of the facilitators' experiences of their working environments (surrounding world) and the analysis of their project portfolios reveal various structural characteristics that influence their experiences.

Chapter 6 Analysis of Facilitators' Relational–Social World Experiences and Overall Research Conclusions

This chapter provides a coherent account of the character of facilitators' experiences of their relational world, which was the prime area of inquiry for the research. The chapter closes with conclusions based on findings across all three worlds of experience as they relate to the research questions. This includes a model of constructs developed through the analyses of experiences, which provides a more realistic and comprehensive representation of the social dynamics involved in conducting an improvement project. The model proposes an explanatory view of factors impinging on the micro level of improvement projects.

Chapter 7 Research Contributions and Implications for Theory, Research, and Practice

This concluding chapter reflects on the findings generated from the research and proposes several primary and secondary contributions to the domain of LSS, TQM, and Organisational Excellence. A significant feature of the chapter is a theoretical formulation that reframes and models the improvement journey and the facilitator role as a confluence of agentic forces ('plenum of agencies') seen as an integrated whole. This reframing of the improvement journey extends notions of agency in the context of improvement and provides an explanatory theoretical model for the field of LSS. The chapter concludes with recommendations for research and practice in the field of improvement activity in organisations.

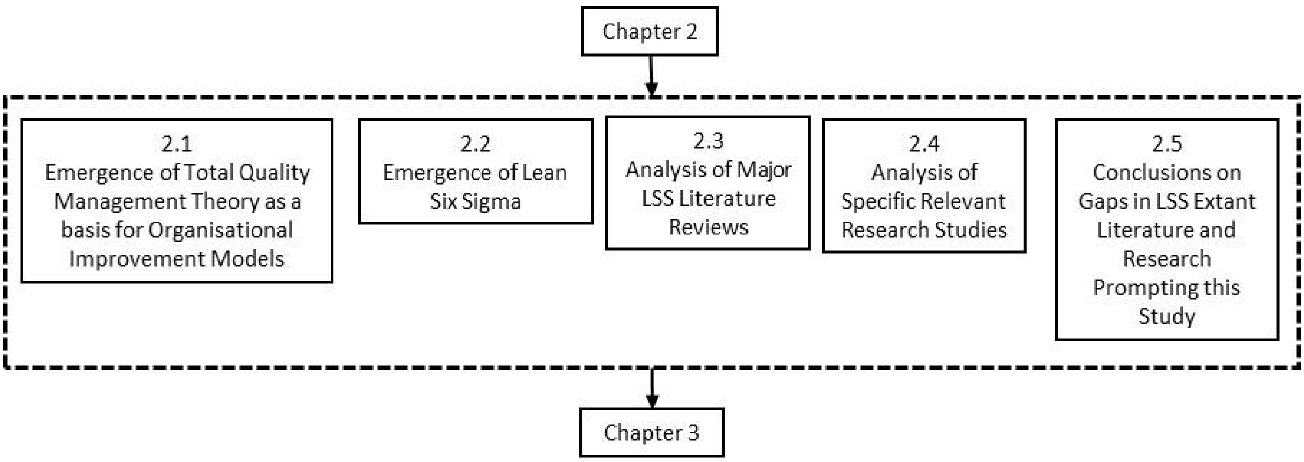
2.0 Literature Review

Chapter Purpose and Structure

The literature review serves various purposes in providing a rationale for this research. There are five major sections as outlined below and shown in Figure 2.1.

- A brief overview of how the emphasis on business improvement that emerged from the popularity of TQM has developed, including the philosophical influences on the major Quality theorists (2.1).
- The emergence of improvement models and LSS, the meanings or definitions associated with LSS, and a critique of the extant conceptual literature (2.2).
- An analysis and critique of the major reviews of the extant LSS literature (2.3).
- An analysis of the specific research that is relevant to the research questions. This focuses on discovering existing phenomenological research in the field and any qualitative research dealing with the experience of improvement and the role of the facilitator during improvement projects (2.4).
- Conclusions reached about the gaps found in the literature, justifying the overall aim of the research (2.5).

Figure 2.1: Outline of Chapter 2



The fundamental purpose of the literature review, particularly the research, is to illustrate that despite the relational and personal experiential nature of conducting improvement projects in organisations, very little qualitative research has explored the human side of improvement.

The brief review of the history behind the field of improvement illustrates the qualitative nature of improvement as conceptualised by the major theorists. These ideas sit in contrast to the demonstrated interest and focus of the extant research. The overview of the background to LSS is not merely to introduce the field but also to create a basis for comparing the experiences observed in this research with the so-called ideals of the founding theorists.

The research methodology is based on the phenomenological tradition. Fidelity to the tradition requires that the researcher brackets or puts aside preconceived theoretical notions and interests about the field to avoid bias in gathering prereflective experiences of the phenomena of interest. This process is termed 'epoché', and its application will be discussed in more detail in Chapter 3 on phenomenology and Chapter 4 on the research method. Consequently, the literature review will not discuss what are considered relevant theories related to improvement. However, applicable theories will be referenced when discussing the results of the research in the concluding chapter of the thesis.

2.1 Historical Review: Emergence of TQM as a Basis for Organisational Improvement Models

Awareness of the antecedent influences on the development of ideas on organisational improvement provides insights into the contemporary literature in the field. Conceptual and philosophical roots of organisational improvement also provide a basis for evaluating the extant conceptual and research literature on LSS. One argument that will be developed is the lack of linkage between what is advocated or discussed in the LSS literature and its conceptual or theoretical roots. This separation is reflected in the literature gaps that the proposed research seeks to address.

2.1.1 Influence of Quality Management Constructs on Improvement Methodology

The principles and practices underlying contemporary improvement methodologies such as LSS can be found in the philosophical influences and writings of Quality pioneers such as Walter Shewhart (1931), Edwards Deming (1982), and Joseph Juran (1999) (Best & Neuhauser 2006; Crainer 2000; Kiechel III 2012; Smith 2011; Tsutsui 1996; Zairi 2013). Along with the contributions of Japanese thinkers such as Kaoru Ishikawa, Noriaki Kano, Genichi Taguichi, Shigeo Shingo, and W.G. Ouchi (Evans & Lindsay 2014; Zairi 2013), TQM emerged as a holistic organisational philosophy from the mid-1950s onwards (Evans & Lindsay 2014; Juran 1993; Tsutsui 1996). There was a realisation that successfully delivering products and services of reliable quality with little waste required involving all staff to improve the organisation's systems of work (Feigenbaum 1956, p. 100). From the mid-1950s, key characteristics of a collaborative process of continuous improvement emerged (Blaga & Jozsef 2014; Tsutsui 1996, p. 318). The evolving approach, as observed by Juran (1993), Deming (1994), Tsutsui (1996), and others, can be summarised as follows:

Table 2.1: Characteristics of Evolving TQM Philosophy Influencing Improvement Methodology

• Engaged senior leadership in promoting ideas throughout the organisation (Deming 1994, p. 57; Juran 1993, pp. 43-4) • Business planning and strategy reflecting the pursuit of quality (Juran 1993, p. 44) • Priority given to understanding customer needs (Deming 1982).	• Engagement of staff (Tsutsui 1996, p. 318) • Deploying measurement of performance to understand the control of variation and cost of waste (Deming 1982) • Building improvement capability through learning, collaboration, and relentless continuous improvement (Blaga & Jozsef 2014).

These ideas became critical characteristics of continuous improvement programs and were the forerunners of Six Sigma and Lean concepts.

Deming was seen as the philosophy's major figurehead (Evans & Lindsay 2017; Tsutsui 1996; Zairi 2013). His ideas represent the constructs that were being promoted in the literature into the 1990s, helping define the Quality Management conceptual framework as well as the improvement methodology. He proposed a concept of 'Quality' in his texts, which were the genesis of the ideas for Six Sigma and Lean (Deming 1994, p. 2). Deming (1994, pp. 92-114) defined four interrelated principles, which he termed the 'system of profound knowledge'. Collectively these principles advocated the engagement of staff in continuous improvement through a process of collaborative reflection and learning about the system of work.

Together with Shewhart (1931), Deming (1994, p. 17) proposed the use of iterative learning cycles (Plan Do Study Act – PDSA cycles) to build knowledge for improvement (Hillmer & Karney 1997, pp. 176-7). Implying an understanding of the social dynamics of change, he wrote about driving out fear in organisations and removing barriers between groups (Deming 1982, pp. 59-65). Concerned with the attribution of blame towards staff (Langley et al. 2009, p. 84), Deming (1982, pp. 23-96, 97-148) exhorted leaders to release people to work on the system and not keep them prisoners of the system of work. Deming (1982, p.3) argued that a chain reaction would follow for an organisation pursuing the philosophy. Implicit in the idea is that the quality of what is being delivered in any part of the organisation is continuously improved. Also implicit is the rationale for 'lean thinking' in terms of the beneficial flow-on effects of reducing waste.

A major theme in the Quality literature is the focus on continuously improving the experience of customers (Hillmer & Karney 2001; Skinner 1998). Central to an organisation's ability to adapt and deliver sustainable high performance over time is its capacity to involve all staff in continuously improving their parts of the organisation in concert with others in interrelated functions (Chelliah & Skinner 2016, p. 87). In this sense, the Quality Management philosophy provides a rationale for building and sustaining a mature improvement capability.

The integral nature of the pursuit of learning and knowledge used to adapt and improve the organisation is inherent in the whole theoretical structure of TQM. Anderson, Rungtusanatham & Schroeder (1994, p. 497), recognising the epistemological emphasis on building knowledge, suggest that the philosophy can also be seen as a theory of organisational improvement.

As argued in the subsequent review of the literature, both practitioner (Brassard et al. 2002; MacInnes 2009) and academic literature (Aboelmaged 2010) rarely link the advocacy for using tools and techniques in improvement models and methodology to the foundational principles discussed above. The subsequent risk when implementing improvement models is that the application becomes rote and mechanical and fails.

2.1.2 Philosophical Influences on the Quality Theorists and Improvement Constructs

Understanding the philosophical influences on the Quality pioneers helps evaluate subsequent models, such as LSS, and informs what research questions and forms of research inquiry are proposed. A brief outline of these influences is discussed together with the implications for the research.

Several authors draw attention to the pragmatist philosophical influence on the epistemology behind Quality Management. Two of the pragmatist philosophers, C.I. Lewis (1883–1964) and the educationalist John Dewey (1859–1952), are seen as having a direct influence on Shewhart and Deming's thinking (Canard 2011; Lovitt 1997; Mauléon & Bergman 2009; Moen & Norman 2010; Peterson 1998; Towns 1997; Wilcox 2002, 2004).

In reaction to Cartesian thinking, pragmatist philosophy proposed a form of epistemology that was more 'pragmatic' than the prevailing emphasis on empiricism. The transformation of practical experience into meaning and learning was a substantive theme of the philosophy (Yorks & Kasl 2002). Key ideas are summarised here.

Table 2.2: Key Ideas from Pragmatist Philosophy on Gaining Meaning and Learning from Practical Experience

• Pragmatists see experience as impacting and modifying conceptual structures as meaning and significance emerge from reflection on the usefulness of applied ideas (Canard 2011, p. 3; Mauléon & Bergman 2009, pp. 162-3). Pragmatism is also concerned with common conceptual understanding between people (Peterson 1998). • If meaning can change as experience develops knowledge, then pragmatists see a world of probable truths (Cunningham 1994, p. 10; Towns 1997, pp. 6, 16; Wilcox 2002, 2004).	• Pragmatists argue that systematic revision from experience extends knowledge and builds theory which then provides a rational basis for prediction (Cunningham 1994, p. 10; Mauléon & Bergman 2009, pp. 166-7; Peterson 1998; Wilcox 2002). • Dewey, whose work particularly influenced Deming, emphasises the reconstruction of society, democracy, and education by focusing on cooperation, social responsibility, learning and thinking and reward structures (Towns 1997, p. 14).

Pragmatism and phenomenological philosophies are responses to the dominance of rationalist thinking. Whereas pragmatism was a response among American philosophers, phenomenological thinking was European in origin. Whilst there are differences in the philosophies, both are oriented towards the meaning of experience in everyday practice. In this sense, the choice of phenomenology as a basis for the research method is tied to an underlying character of the conduct of improvement activities.

2.1.3 Emergence and Structure of Organisational Excellence Models Emphasise Development of Improvement Capability

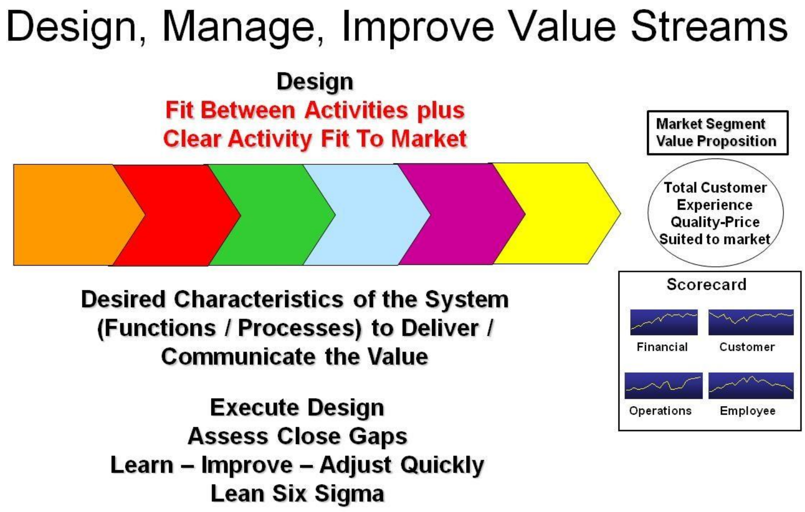
From the late 1980s onwards, communities of practitioners developed Quality Management frameworks together with award systems to help organisations understand and apply the philosophy (Evans & Lindsay 2014, p. 522). These frameworks embodied the core concepts of the Quality theorists and reflected the pragmatist philosophy (Anderson, Rungtusanatham & Schroeder 1994). It is estimated that 90 or more countries around the world have adopted such frameworks and conduct award programs to encourage the application of the philosophy (Fernando 2014). Since the 1990s, the term TQM has been gradually replaced by terms such as ‘Organisational Excellence’ or ‘Business Excellence’, in recognition of the frameworks defining a philosophy for excellence or sustained high performance.

Many of the specific principles defined in the Excellence frameworks reference the importance of learning and improvement including the engagement of staff in the process. All Excellence frameworks emphasised developing organisational improvement capability based on a methodology like LSS. Not all frameworks reference LSS directly, but the link is implied (NIST 2015b, p. 23). The overall structure of Excellence frameworks defines contextual factors affecting the effectiveness and sustainability of an organisation’s improvement capability (NIST 2015b).

Chelliah & Skinner (2016, p. 91) reframe the TQM or Organisational Excellence paradigm visually as shown in Figure 2.2. The philosophy encourages acquiring a deep understanding of market needs and designing the sequence of interdependent activities (‘the end-to-end value stream’) to deliver the needs in a dependable way without generating waste. There are always gaps between the ideal and actual operation. Improving the organisation by learning why issues are happening and then making changes that deliver a measurable improvement to close the gaps is an integral part of the whole philosophy. In this sense, continuous learning, change, and improvement are central to the paradigm. Organisations that can identify their strategic and operational priorities for improvement and carry them out are likely to sustain high levels of performance. This is the key role for any improvement methodology applied as a dynamic competency within an organisation that is striving for high performance or excellence.

Many of the reported benefits of applying the Excellence models are in part due to the execution of improvement programs such as those based on the LSS methodology (NIST 2015a, p. 2).

Figure 2.2: Graphical Summary of Intent of the TQM Philosophy (Chelliah & Skinner 2016, p. 91)



The promotion of the Excellence frameworks and the associated award programs post-1980s led to much greater global awareness of the beneficial effects of active improvement capability. This focus on improvement promoted the rise of numerous improvement methodologies, including the emergence of LSS as the dominant approach. Given the previous discussions, the improvement methodology within an organisation is best understood and implemented through its parent philosophy, embodied in the TQM and now Excellence frameworks (Chelliah & Skinner 2016, p. 91).

The overall structure of the Excellence frameworks defines the ideal contextual factors that affect the effectiveness and sustainability of the improvement capability within an organisation (NIST 2015b). Understanding the context in which the improvement experience is described is a key element of the phenomenological approach in this thesis. Existentialist phenomenologists advocate understanding the context or situations in which experience is lived since interpretation or meaning of the experience is associated with a given situation (Boeree 2006, p. 13). The Quality theorists and the Excellence frameworks advocate and define an ideal context in which improvement activities can flourish. Therefore, one of the key areas of inquiry involves understanding the nature of the context in which the improvement experience occurred through the eyes of the improvement facilitator. Hence, one of the research questions deals with the facilitator's experience of their surrounding world (the *Umwelt*) (Correia 2014, p. 176). The extent to which the facilitator's experience of the organisational context is consistent with the Excellence framework ideals is of interest and will be discussed in the concluding chapter of the research. An analysis of experiences of the improvement context provides insight into mediating factors in improvement activities that may lead to more considered practice.

2.2 Conceptual Review: Emergence of Lean Six Sigma in Practitioner and Academic Literature

2.2.1 Summary of Lean and Six Sigma Concepts

Various improvement models that integrated the Quality pioneers' principles and methods into coherent methodologies were published after the late 1980s (Conway Quality Inc 1987; Scholtes, Joiner & Streibel 1996; Tenner & DeToro 1992; Torki 1992). Two conceptual themes dealing with the notions of Six Sigma and Lean emerged. These terms were not part of the lexicon of improvement as used by Quality pioneers. Three notions for each of the two concepts discussed in the practitioner and academic literature are summarised in Table 2.3.

Table 2.3: Summary of Characteristics of Lean and Six Sigma

Characteristic	Six Sigma	Lean
History and Origin	Pioneered in Motorola, where the terms 'Process Sigma' and 'Six Sigma' were coined.	Based on Toyota Production System studied by the Massachusetts Institute of Technology (MIT), who coined the term 'Lean'.
• **Core Concepts**		
Core Idea	Improve predictability and capability of performance.	Reduce waste through the process to increase speed and reduce costs. Notions of value add and non-value add (waste), see Toyota Typology in Appendix 2.
Core Statistics	Process Sigma – proportion of natural variation in process performance against the requirements of customers. Six Sigma is equivalent to 99.997% of the performance meeting customer requirements.	Process cycle efficiency – proportion of value-add time to total end-to-end cycle time.
• **Methodology Characteristics**		
Methodology	DMAIC-specific techniques in a broad sequence of activity in each phase (Figure 3).	Kaizen or Rapid Improvement and Toyota A3 approaches.
Techniques	Includes process analyses, control charts, capability analyses, and cause & effect diagrams.	Includes Takt time, movement analysis, value stream analysis and some of the Six Sigma techniques.
Variations in Methodology	Simple to complex application of DMAIC based on problem complexity and methods. Design For Six Sigma for new product or service development.	Agile and lean product or service development methods.
Facilitator Role	Improvement project facilitator has significant role to guide a team in the application of the methodology (often called Green Belts or Black Belts).	Role of the facilitator also considered critical in guiding use of methodology.
• **Strategic View**		
As a Strategy or Management System	Whole of organisation approach for the implementation and governance of the methodology.	Strategic approach to implementing Lean across an entire value stream.

One notion deals with the core ideas represented by key measures, and another notion involves Six Sigma or Lean as a methodology. The literature then calls for a strategic approach to implementing the concepts. Core ideas for Six Sigma and Lean, the overall methodology, as well as analytical techniques illustrate the influence of the Quality pioneers and pragmatist philosophy. Many of the tools and techniques proposed by the Quality pioneers are described in Lean and Six Sigma methodology.

The two approaches differ in their focus on the conceptual aspects of work, which provide the basis of a complementary approach. For example, Lean provides a picture of all forms of waste through the value stream, whereas Six Sigma focuses on mistakes delivered to customers, which is one of the most damaging issues for an organisation.

Initially, the spread of ideas about Lean and Six Sigma prompted arguments as to what was the better approach (Laureani & Antony 2019, p. 54). It became apparent that the synergy of both Lean and Six Sigma methodologies offered organisations a more powerful toolset to successfully deliver improvement (Baracha & Kleinman 2018, pp. 83-4; Laureani & Antony 2018, p. 504; Sunder, Mahalingam & Krishna M 2020, pp. 512, 4). From 2000 onwards, LSS and the application of DMAIC grew in popularity as an integrated improvement methodology (Antony 2011; Chiarini 2011; Chow & Moseley 2017; Pepper & Spedding 2010, pp. 147, 51; Snee 2010). Through the adoption of LSS, great emphasis was placed on creating and applying improvement capability within an organisation as it aspired to higher levels of performance.

2.2.2. Variations in Lean and Six Sigma Methodology

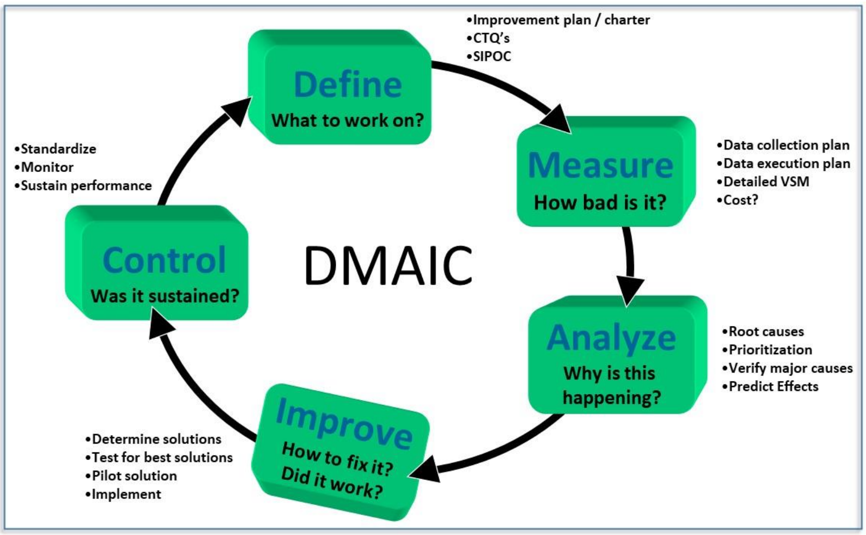
Over time, it became apparent that improvement activity within an organisation varies in complexity and focus. More complex problems, which are less frequent in the workplace, would require the disciplined application of the DMAIC methodology and more technical and statistical methods. Trying to apply the full methodology in all situations would produce frustration for those involved when a much simpler process could be applied. As a result, variations in approach were adopted (McCarty et al. 2005, pp. 200-1; Rath & Strong 2003, p. 139; Skinner 2012, p. 49).

DMAIC – Core Methodology

The structured improvement model of DMAIC, emerging from Six Sigma thinking, became the standard approach to the journey of improvement (Figure 2.3). The application was for more complex problems in existing processes and value streams that needed improvement. Nash, Poling & Ward (2006, p. 5) pointed out that the recognised synergy between Lean and Six Sigma methodologies has led to the use of DMAIC as the basic project methodology for Lean-dominated project improvement.

Many organisations have changed the language of the headings of phases and/or added a phase. Irrespective of the nomenclature, the labels used reflect the underlying acceptance of the DMAIC journey and show a great deal of commonality in what is meant by each of the phases. Practitioner texts advocate the use of specific tools and techniques related to a broad sequence of activity in each phase (Coronado & Antony 2002; Honda et al. 2018, p. 71; McCarty et al. 2005, p. 336; Rath & Strong 2003, p. 197).

Figure 2.3: Core Phased Model DMAIC (Chelliah & Skinner 2016, p. 89)



Appendix 1 provides a summary of the DMAIC phases. Implicit in the description of the activities and use of analytical techniques is the process of learning and gaining knowledge. The descriptions outline a structure for the likely events linked to the lived experience of improvement facilitators – the 'what' of their experiences. Facilitators are likely to organise their observations about their interactions, events, highlights, and challenges and their interpretations around such a structure. This outline also provides a basis for organising and analysing the actual experiences during an improvement project.

Whilst the use of tools and techniques emerging from the founding Quality theorists can be found in the methodology, there is a lack of emphasis on reflection and collaborative learning. Reference to the use of the learning cycle is almost absent in the pragmatist sense and as advocated by Deming and Shewhart (Brassard et al. 2002, pp. 20, 3; Pyzdek 2003, p. 245; Rath & Strong 2003, p. 7).

The full DMAIC methodology is used to tackle both simple and complex improvement projects. For complex projects, highly statistical and empirical tools and techniques are used as part of the DMAIC approach (Brue & Howes 2006, pp. 234-53; de Koning & de Mast 2006, p. 773; McCarty et al. 2005, pp. 365-7).

Kaizen and Rapid Improvement Approaches

Much improvement work in an organisation involves simple problems that can be improved quickly with simpler forms of analysis. The most consistent methodology associated with Lean is termed 'Kaizen' or 'Kaizen Event' or 'Rapid Improvement Events' (Breen, Trepp Jr & Gavin 2020, p. 635; Sua´rez-Barraza, Ramis-Pujol & Kerbache 2011, p. 289; Thirkell & Ashman 2014, p. 2959). The methodology emphasises rapid analysis and then moving to development and implementation of solutions. Here DMAIC is collapsed into a much simpler application for less complex projects by combining phases. The Toyota A3 approach is often used in conjunction with Kaizen (Tortorella, Viana & Fettermann 2015, p. 230) where the DMAIC journey of the project can be planned and recorded on two A4 pages (A3) and then posted so the visual progress and completion of the work can be seen (Tortorella, Viana & Fettermann 2015, p. 231).

Design for Six Sigma and Design Thinking

Design for Six Sigma (DFSS), emerging from Six Sigma thinking, is a more complex methodology and has a number of model variants (Gremyr & Fouquet 2012, p. 47). DFSS relies on more technical and advanced analytical tools and is mainly used in new product or new process development. The Design models in Six Sigma and their antecedents were focused on the same issues now occurring in discussions on design thinking (Beckman 2020; Finn Connell 2013; Sunder, Mahalingam & Krishna M 2020).

Agile and Lean Product Development

In a similar vein, Agile methodology and what is considered Lean product development have emerged from Lean thinking and have become popular in recent times. As the label implies, Agile methods involve planning and executing work in short iterations or cycles with an emphasis on collaboration and seeking feedback to then adapt or change direction quickly (Kupiainen, Mäntylä & Itkonen 2015, p. 144). A conceptual analysis of Agile principles and practices reflects a merging of Six Sigma and Lean ideas and is characteristic of high-performance collaborative teamwork advocated in the Excellence frameworks.

2.2.3. Improvement Facilitator Role in the DMAIC Journey

Both Lean and Six Sigma approaches emphasise the development of skilled facilitators to coach and guide the improvement activities within an organisation. General practice in conducting more complex LSS improvement projects involves a sponsor, a project team leader, and team members (Honda et al. 2018, p. 74). The improvement project facilitator guides the project team in applying the methodology in more complex situations (Taylor et al. 2014; Van Aken et al. 2010, p. 660). Improvement facilitators receive extensive training over several weeks and are often called Green Belts or Black Belts.

Their skills in guiding the learning process, coaching people in the use of various analysis and measurement tools and techniques and helping facilitate interactions between the various stakeholder groups places them in a unique position to enable the success of the project as well as observe and diagnose the various activities and interactions that occur. These Green or Black Belts take on the role of internal consultants and are attuned to staying neutral and observing engagements and analysis work to determine when and how to intervene to aid a team member or the team. In this sense, they are collectors of information about what occurs during an improvement project. Apart from the immediate project, this facilitation role is a principal means by which an organisation deploys and spreads the competencies involved in building and sustaining a culture of improvement, innovation, and excellence.

2.2.4. Form of Improvement Defining Scope of this Research Within LSS Domain

The review of related literature previously discussed establishes the philosophical and historical roots of the organisational improvement methodology under the guise of LSS. The major conceptual features embedded in the field have been discussed as well as the related methodologies and forms of application, including organisational roles involved in pursuing improvement in an organisation.

Having shown the breadth and depth of the forms of application in the LSS field, it is necessary to define the form of improvement application as a means of narrowing the scope of the research. Design- and Agile-based projects are not in the scope of this research. Similarly, simple and quick improvements carried out as A3 or Kaizen projects of short duration are not of interest in this research.

The focus of this research is on the nature of the experience of improvement facilitators during improvement projects when the full DMAIC methodology is used (whether the term DMAIC is used or not). In particular, the reported significant experiences of facilitators during their improvement journey are of interest. The DMAIC methodology provides a skeleton around which lived experiences of facilitators can be woven and linked giving both context and sequence to the story.

2.2.5. Summative Critique of the Practitioner and Extant Conceptual LSS Literature

Practitioner literature defining LSS concepts and the methodology rarely links advocated practices to the founding principles or base philosophical emphases of TQM or the Excellence frameworks (Aboelmaged 2010; MacInnes 2009). Mauléon & Bergman (2009, p. 169) and Lorino (2015, pp. 2-3) have argued that pragmatist influences (and I would argue the social constructionist influences as well) have been lost in the way the methodology has been advocated.

In general, the pragmatist emphasis on reflection and learning has not been carried through into both practitioner and academic LSS literature. As Table 2.3 shows, the literature defining LSS seems focused on describing the use of analytical techniques with little emphasis on collaborative learning (Brassard et al. 2002, pp. 20, 3; Pyzdek 2003, p. 245; Rath & Strong 2003, p. 7). Except for Moen & Norman (2010) and Langley et al. (2009), no reference is made to the use of the learning cycle (PDSA) as a means of enabling iterative learning in the pragmatist sense and as advocated by Deming and Shewhart (deMast & Lokkerbol 2012; Singh & Khanduja 2014).

Similarly, the practitioner or conceptual literature does not alert the reader to the likely relational dynamics or socio-political influences that may be encountered during an improvement project (Breen, Trepp Jr & Gavin 2020). Although stakeholder analysis is encouraged, there is no elaboration on the likely disruption to the improvement process because of interpersonal dynamics. In addition, the role of the facilitator seems narrowly defined within the bounds of an improvement project rather than an ongoing role to spread the underlying philosophy and methodology through the organisation by building capability and culture.

In the absence of a clear link to foundational principles and ideas, LSS methodology appears mechanistic, dominated by a focus on learning about and applying analytical tools to achieve operational and financial benefits. The lack of emphasis on the qualitative realities of the workplace has resulted in the absence of an explanatory rationale or methodological support in the LSS practitioner literature. Subsequently, analytical frameworks and facilitation techniques to enable critical reflection and learning are not referenced or emphasised. Given the pragmatist and social constructionist influences on Deming and Juran, a key part of the underlying philosophy is enabling teams to take on and apply the methodology themselves. These dimensions are rarely mentioned in the LSS methodology literature (Eckes 2003, p. 2).

This rationalist, mechanistic representation of LSS or improvement in practice does not reflect the lived experience of those involved in executing improvement projects. This gap prompted my interest in disclosing the phenomenology of improvement in teams from the perspective of improvement facilitators. The discussion of the LSS methodology provides a DMAIC skeleton around which lived experiences of facilitators can be woven and linked, giving both context and sequence to the story.

The previous discussion has focused on the conceptual practitioner literature to provide a structure for the focus of the research and to begin establishing a conceptual, theoretical, and research gap in the field. The next section examines whether a similar gap emerges in the research literature. The extent to which the same gaps are noted in such literature is of interest as a means of validating the key questions for the proposed research.

2.3 Analysis of Major LSS Literature Reviews

2.3.1 Purpose, Overview and Structure of Literature Search and Analyses

The following discussions examine reviews of academic literature and research on LSS as well as studies specific to the thesis aim. This more detailed analysis helps substantiate that the gaps identified in the conceptual LSS literature are also prevalent in the broader academic research literature.

The search approach involved:

- use of these major databases to find relevant literature:
    - Business Source Complete (EBSCO)
    - ProQuest Business
    - Science Direct (Elsevier)
- employing search terms Lean, Six Sigma, Lean Six Sigma, Organisational Improvement, Quality Improvement, Continuous Improvement, Process Improvement, Problem Solving, Kaizen, Action Research and Action Learning

- searching reference lists within articles to identify additional references. No specific timeframe was entered into the search terms.

The literature was categorised as:

- commentaries
- reviews of research on Lean Six Sigma literature and
- specific research studies relevant to the research focus.

Commentaries offering conceptual discussions about the methodology or historical analyses were not included in this section of the review as these perspectives have already been referenced in the preceding discussion. The literature review of the domain was completed in two broad stages.

Stage 1 – Analysis of Reviews of LSS Literature to Confirm Existence of Proposed Gaps

Understanding the extent to which the extant LSS literature showed an interest in the micro-level social dynamic of improvement was a key goal for this section of the review. This included the degree to which the academic literature has focused on the role of the facilitator in the context of an improvement project. As Albliwi et al. (2015, p. 668) highlighted, predominant lines of thought and inquiry across the LSS domain emerge through examining reviews of the LSS literature. Therefore, the first step in assessing whether the research activity in the field illustrated such a gap involved identifying and analysing reviews of research in the domain. This canvassing of the field was considered useful to validate the areas of inquiry I was interested in before proceeding with the thesis.

Stage 2 – Specific Review of Relevant Studies Involving Facilitators at Project Micro-Level

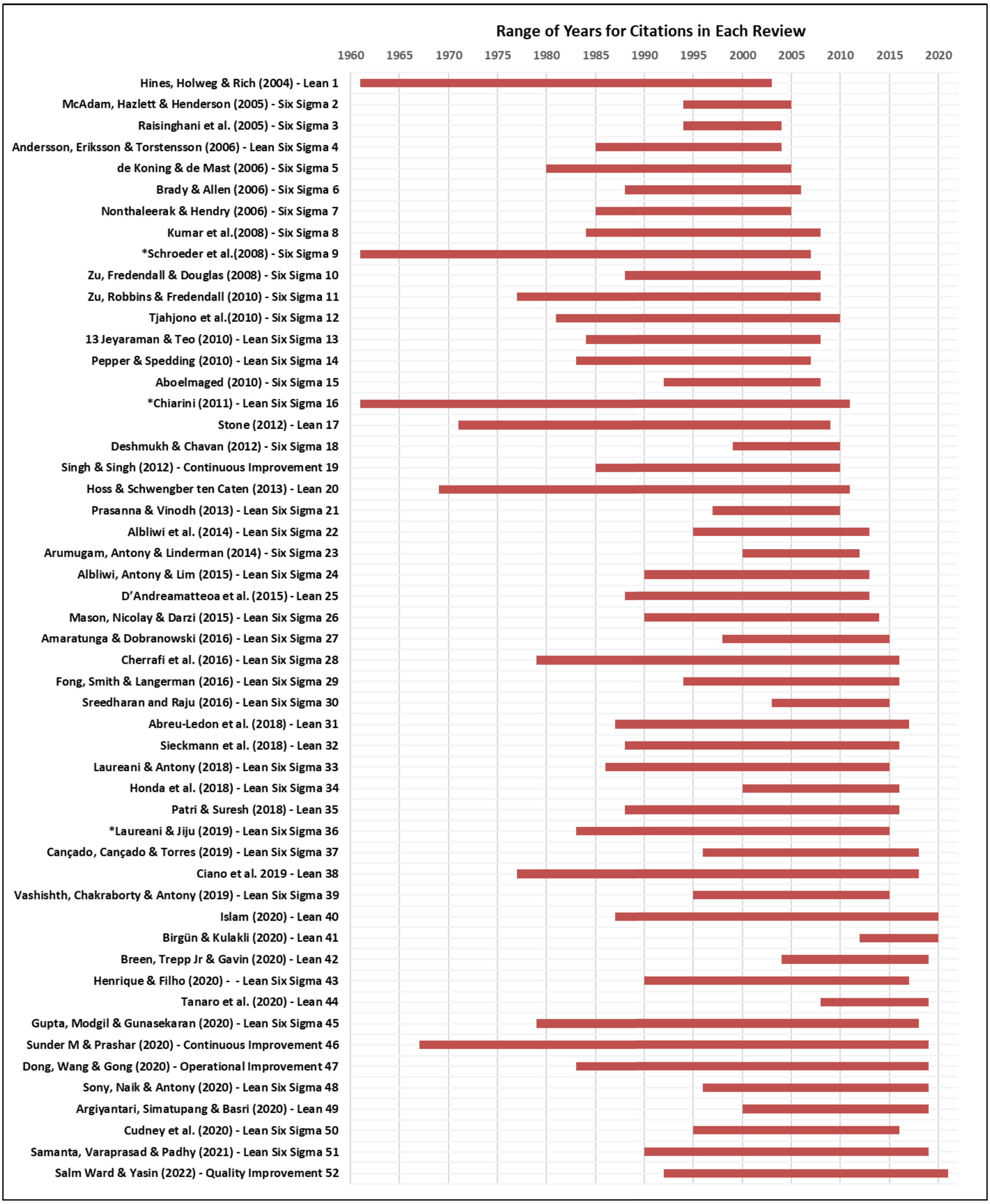
The conclusions from the analysis of LSS reviews prompted the second stage of the review. Specific relevant research studies related to the thesis aim were located and analysed more deeply to further substantiate the direction of this study.

2.3.2 Stage 1 – Characteristics of Analysed Reviews of LSS Literature

2.3.2.1 Overview of Characteristics of LSS Review Publications

A total of 52 reviews published between 2004 and 2022 and covering publications between 1960 and 2021 were found (see Figure 2.4). It is likely that some reviews related to the LSS domain were not identified and included in the analysis. Nonetheless, the reviews cover some sixty years of academic focus in the domain. Thematic analysis from this array of sources provides a reliable basis for conclusions on likely gaps of interest. Three reviews marked with an asterisk cite single references primarily by Shewhart in the 1930s. The four references were left out of the duration length for these reviews.

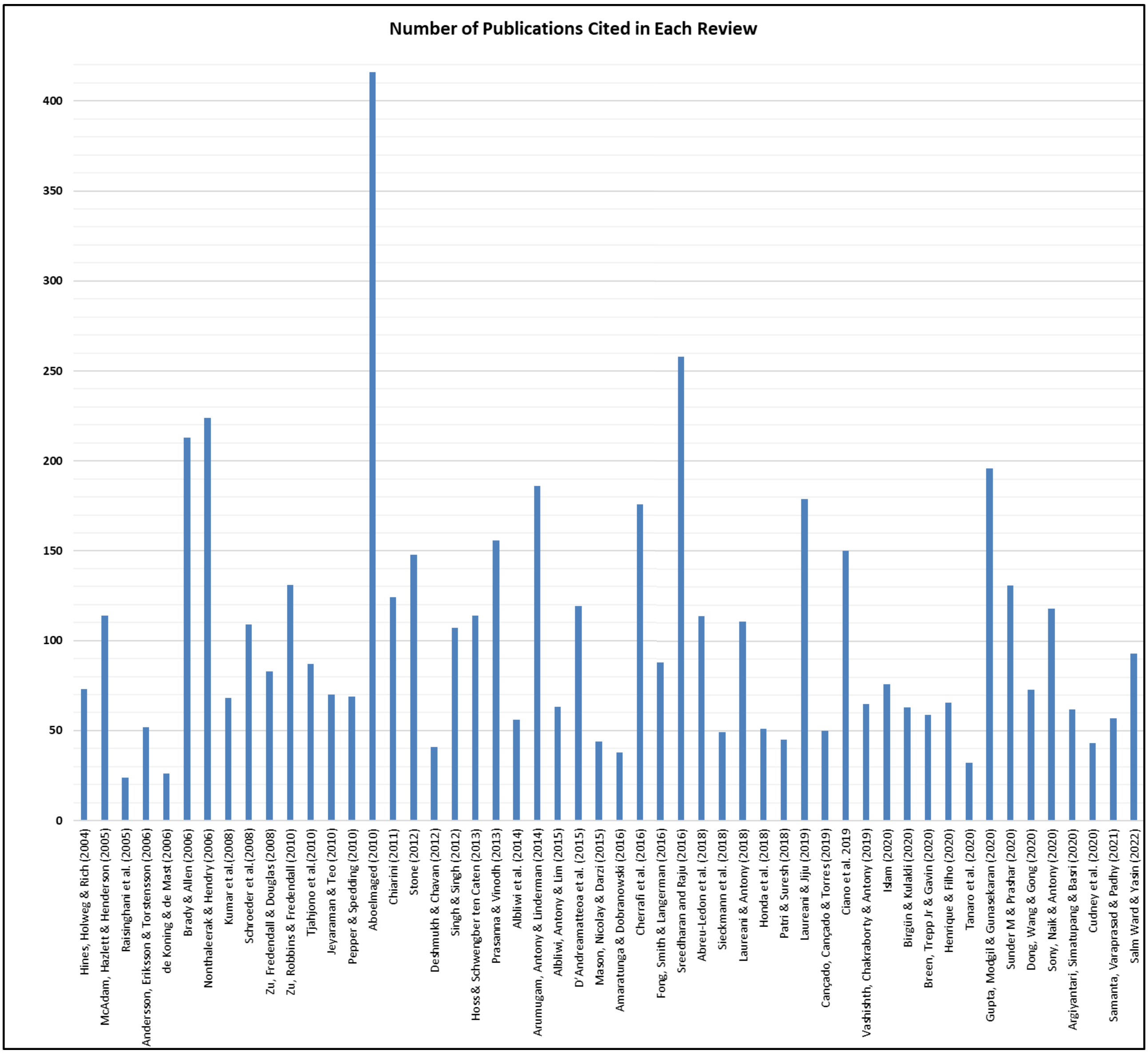
Figure 2.4: Published Reviews of Lean Six Sigma Literature



Pervasive Spread of Interest in Continuous Improvement and LSS Application

Figure 2.5 shows the volume of citations for each review. Many of the reviews are based on 50 to 100 citations. A few stand out as drawing on over 200 citations, with the review by Aboelmaged (2010) on Six Sigma with the largest number of citations. A raw count of the references cited for each of the reviews analysed shows more than 5300 publications were covered across all the reviews examined. A substantial proportion of them would be cited in multiple reviews, so the total number of citations would be less than the raw number. Nonetheless, a substantial amount of LSS literature has been generated over approximately 60 years. This substantive volume of publications is illustrated by several recent reviews that have employed bibliometric analyses investigating the domain as a whole or in specific industry sectors (Birgün & Kulakli 2020; Ciano et al. 2019; Tanaro et al. 2020). The review by Dong, Wang & Gong (2020, p. 59) initially identified 5633 papers on operational improvement over 17 years between 2000 and 2016.

Figure 2.5: Volume of Citations per Review



Both early and more recent reviews have observed that publications focused on Lean, Six Sigma or LSS grew in volume from 2000 onwards (Aboelmaged 2010, p. 271; Brady & Allen 2006, p. 340; Dong, Wang & Gong 2020, p. 54; McAdam, Hazlett & Henderson 2005, p. 152; Stone 2012, p. 118). This growing interest is also illustrated by reviews identifying multiple countries as the source of publication (Vashishth, Chakraborty & Antony 2019, p. 453), the number and variety of journals used (Henrique & Filho 2020, p. 432; Laureani & Antony 2019, p. 58), and the increase in application in service organisations (Sony, Naik & Antony 2020, p. 25). Additionally, industry-specific reviews also began to emerge post-2010, particularly in the healthcare sector as shown in Figure 2.6.

Figure 2.4 also shows the named focus for each review. The examination of these reviews (particularly the more recent reviews) revealed that the individual publications cited drew on both the application of Lean and Six Sigma, irrespective of the methodology focus implied by the title of the publication, which illustrates the integration of Lean and Six Sigma (Ciano et al. 2019, p. 5303; D'Andreamatteoa et al. 2015; Honda et al. 2018, p. 78; Pepper & Spedding 2010, pp. 149-50). Of the reviews, 75 per cent were linked to LSS, indicating that improvement is increasingly conceptualised as an integration of Lean and Six Sigma. The actual percentage integrating Lean and Six Sigma is higher as many of the reviews associated with Lean or Six Sigma refer to LSS within the publication. In the same vein, the three reviews using 'Improvement' (Quality or Continuous or Operational) in the title also are associated with LSS. As Nonthaleerak & Hendry (2006, pp. 126-8) and Honda et al. (2018, pp. 78-9) argue, the LSS integration and application is well established and so debating whether Lean or Six Sigma is more useful is no longer relevant. Recent reviews using bibliometric analyses also show the orientation towards LSS (Dong, Wang & Gong 2020, pp. 69-70).

Growing Systematic Application of Review Methodology

Early reviews of the LSS literature do not describe the search methodology used. Many later reviews, such as Arumugam, Antony & Linderman (2014), Mason, Nicolay & Darzi (2015), Cherrafi et al. (2016), Hoss & Schwengber ten Caten (2013), Vashishth, Chakraborty & Antony (2019), Laureani & Antony (2019), and Henrique & Filho (2020), describe a clear search methodology including their criteria, the publications found and discarded, the period covered, the journals used, and analysis methodology (Abreu-Ledon et al. 2018; Sreedharan & Raju 2016). A few recent reviews have applied quantitative (bibliometric) analyses using software to identify the frequency of terms used and their interrelationships. The analyses have been used to note a changing focus on topics or issues over time (Birgün & Kulakli 2020; Ciano et al. 2019; Dong, Wang & Gong 2020; Tanaro et al. 2020). Meta-analysis protocols (PRISMA) have also been used as part of the review methodology (Salm Ward & Yasin 2022, p. 2; Tanaro et al. 2020, p. 1579).

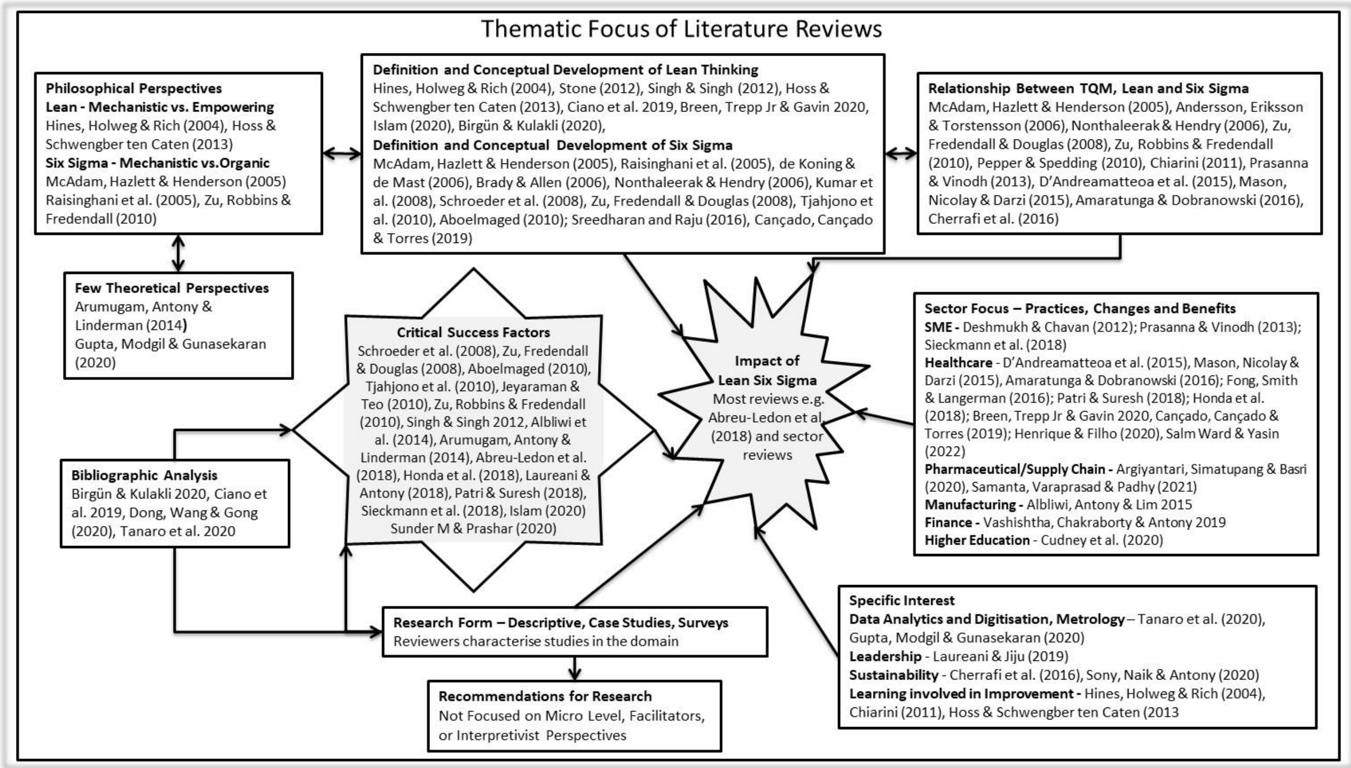
More recent reviews, particularly in the healthcare sector, are much more careful with their methodology to assess which studies to include in the review. Research studies are examined carefully against known criteria (e.g., SQUIRE 2 – (Goodman et al. 2016)), and studies are discarded or kept on this basis (Mason, Nicolay & Darzi 2015, p. 99). Reviews of this nature in the areas of surgery and radiology have recently appeared together with an acceleration of published research on LSS in healthcare (Fong, Smith & Langerman 2016; Laureani & Antony 2019). This focus on empirical and statistical rigour is understandable in the sector and exemplifies the dominant rationalist perspective.

Overview of Thematic Focus of Reviews

This overview of reviews published in the domain illustrates the increasing adoption of improvement methodology over time across many countries and industry sectors. Topics of interest represented by the major themes addressed by the reviewers indicate the orientation of academic thinking in the domain. Abstracting these macro themes was considered a broad form of analysis to identify the extent of interest in the micro level of improvement projects and the form of research applied in exploring such interest. At the same time, themes help identify research interest in the role of the facilitator.

The broad themes of the discussions in each review were identified at a high level of abstraction given the many specific points made in each review. The resulting high-level summary of the main themes across the publications is visualised in Figure 2.6. A critique of these themes follows in the next sections with the intent of discovering whether gaps exist to demonstrate the need for the intent of this research.

Figure 2.6: Conceptual Themes of Reviews



2.3.2.2 Reviews Dominated by Conceptual LSS Explication

The thematic elements at the top of Figure 2.6 indicate the dominance of the definitional and conceptual development of Lean, Six Sigma, or LSS. This is particularly the case for reviews between 2004 and 2008 where the writing was focused on defining the principles, concepts, and tools associated with the methodologies, as well as the historical development of the ideas. In more recent reviews, authors focused on the need to integrate the concepts of Lean and Six Sigma into a holistic approach to improvement (Amaratunga & Dobranowski 2016; Laureani & Antony 2018; Laureani & Antony 2019; Prasanna & Vinodh 2013).

Sector-specific or special interest reviews (see Figure 2.6) have increased and become a significant part of the contribution to the domain. The conceptual and methodological interest is still prevalent in these more recent reviews, which begin with conceptual outlines of Lean or Six Sigma or LSS with reference to historical contributions and the methodology and tools used (Ciano et al. 2019; Cudney et al. 2020; Henrique & Filho 2020; Laureani & Antony 2019; Patri & Suresh 2018; Samanta, Varaprasad & Padhy 2021). In such reviews, the interest in characteristics of techniques used or implementation at an organisational level in different sectors or contexts predominates (Breen, Trepp Jr & Gavin 2020; Fong, Smith & Langerman 2016; Honda et al. 2018). Aside from the reviews themselves, authors also classify a large proportion of the examined literature as being conceptual, irrespective of the specific interest of the review (Gupta, Modgil & Gunasekaran 2020, p. 954; Laureani & Antony 2019, p. 57; Sony, Naik & Antony 2020, p. 25). The presentation of conceptual outlines of LSS concepts and methodology as an introduction to papers and to meet journal requirements is understandable but becomes repetitive without advancing the LSS domain in some theoretical, conceptual, or practical direction

Opportunities to critique the conceptual representation of the underpinning principles and constructs are rare. Historically the focus is on the initiation of the terms Lean, Six Sigma, and LSS, referencing Toyota or Motorola. The ideas and underlying philosophy or principles behind LSS are insufficiently explored. As part of the conceptual discussion, reviewers have compared TQM, Lean, and Six Sigma and have opined on the philosophical and theoretical perspectives of the domain (Figure 2.6). A critique of these review discussions is considered separately in Section 2.3.2.5.

The long-term emphasis on defining the methodology and techniques associated with LSS implies an interest in the conduct of the improvement project or the micro level of improvement. However, review discussions are often oriented towards the implications for the organisation-wide implementation of an LSS program. Figure 2.6 illustrates how many reviews focus on the factors for successfully sustaining an improvement program rather than an interest in the factors influencing the micro level of improvement. A critique of this focus will be explored separately in the following section (2.3.2.4) as will the interest shown in the role of the facilitator during a project (2.3.2.7).

The central focus on methodology and tools has created a procedural and directional recipe for representing LSS (Garrido-López & Hillon 2020, p. 110). There is a pervading, rationalist sense that if the recipe is followed, then results (improvement) will occur. This formulaic approach is understandable as the process and tools are being explained to help understand the means of achieving results. However, the dominant interest in demonstrating results is the core characteristic of the review literature as shown in Figure 2.6 and discussed below.

2.3.2.3 Dominance of Reporting Benefits Reinforcing Rationalist Perspective in Reviews

The literature reviews are focused on reporting the benefits of applying LSS, particularly in financial and operational terms, which contributes to the popularity of LSS (Hoss & Schwengber ten Caten 2013, p. 3273; McAdam et al. 2014, p. 95). To illustrate this focus, analyses of benefits reported across all 52 reviews were conducted. Relevant citations stating benefits were organised into balanced scorecard categories (Kaplan & Norton 1996). Given the disparate, specific nature of the forms of improvement cited in the reviews, abstracted concepts were used to represent categories of improvement within the broad scorecard categories. An overall model summarising this analysis and representing the interrelationship of benefits cited in the reviews is shown in Figure 2.7. When viewing these reported benefits as an interrelated set, the rationalist attraction of LSS is understandable given that the benefits are seen to have multiple effects across various organisational systems. The analysis illustrates the dominating focus on the benefits of LSS.

Earlier reviews, when discussing benefits, simply cited a reference without providing any analysis of the source article (de Koning & de Mast 2006; Hines, Holweg & Rich 2004; Raisinghani et al. 2005). Absent is a critical orientation, such as reporting the research context or examining the method by which the results are calculated and inquiring into failures or issues. More recent reviews, particularly in the healthcare sector, have demonstrated greater care in examining the quality of the studies included in the review (Henrique & Filho 2020; Mason, Nicolay & Darzi 2015; Salm Ward & Yasin 2022; Samanta, Varaprasad & Padhy 2021). The dominance of reporting benefits without critical analysis reinforces the mechanistic and rationalist view that simply following the methodology steps and techniques will produce the desired effect.

Predominant Focus on Reporting Financial and Operational Benefits

Figure 2.7 illustrates the reporting focus on **financial** (Abreu-Ledon et al. 2018, pp. 91-4; Albliwi et al. 2014, p. 673; Argiyantari, Simatupang & Basri 2020, p. 483; Chiarini 2011, p. 341; Kumar et al. 2008, p. 883; McAdam, Hazlett & Henderson 2005, pp. 159-60) and **operational benefits** (Albliwi et al. 2014, p. 673; Honda et al. 2018, p. 78; Laureani & Antony 2018, p. 504; Raisinghani et al. 2005, pp. 499-502; Singh & Singh 2012, pp. 99-102; Tanaro et al. 2020, p. 1587; Tjahjono et al. 2010, p. 223). The figure illustrates the flow-on effects of operational improvements on financial outcomes by reducing costs or improving customer experiences and so revenue generation. Singh & Singh (2012, pp. 99-102) and McAdam, Hazlett and Henderson (2005, pp. 159-60) concluded that the bias towards reporting financial and operational benefits further exacerbates a formulaic perspective.

Many of the sector-specific reviews emphasise operational improvements as they focus on identifying effective practices and outcomes for the sector (Cançado, Cançado & Torres 2019, pp. 505-7; Prasanna & Vinodh 2013, p. 230; Salm Ward & Yasin 2022, pp. 3-4; Samanta, Varaprasad & Padhy 2021, pp. 26-7). For example, Argiyantari, Simatupang & Basri (2020, p. 483) cited various improvements impacting cost, operations, and customer experiences, from which they conclude positive effects of the Lean application within pharmaceutical supply chains. The common intent of these sector reviews is to evaluate the application of LSS within the specific industry and identify practices and specific improvements that are of use within the sector. Therefore, there is a strong practical and rationalist orientation within these reviews.

Figure 2.7: Summary of Interrelationship of Reported Benefits of Lean Six Sigma from Literature Reviews

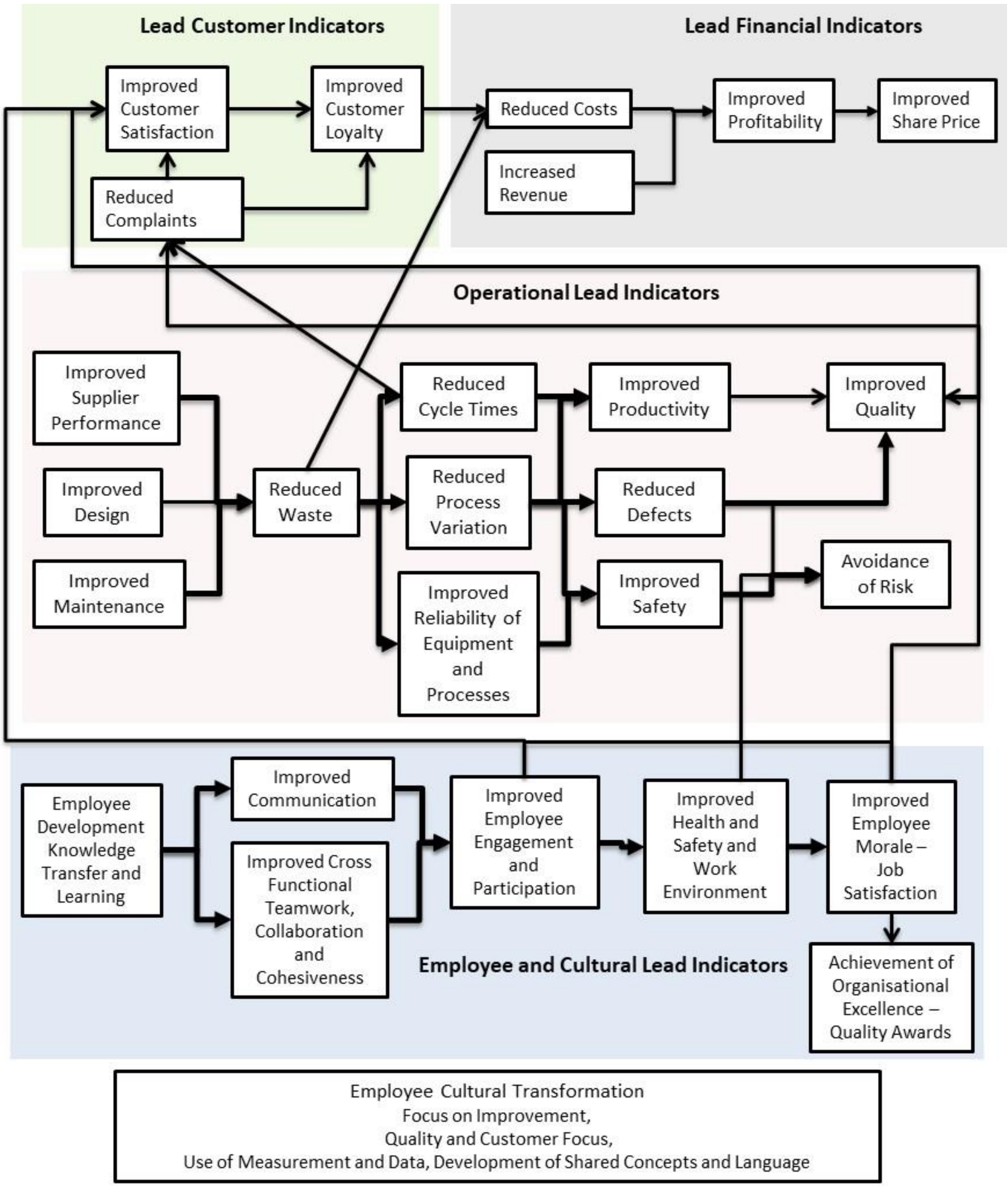


Figure 2.7 summarises the nature of the reported **customer benefits**. Given the emphasis on Organisational Excellence and LSS on improving the customer's experience, it is noteworthy that the frequency of reported benefits for customers is much lower than for financial and operational benefits (Aboelmaged 2010, p. 281; Argiyantari, Simatupang & Basri 2020, p. 483; Mason, Nicolay & Darzi 2015, pp. 93-5; Nonthaleerak & Hendry 2006, pp. 120, 5). McAdam, Hazlett & Henderson (2005, pp. 159-60) imply that this lack of focus masks the strategic benefits gained from LSS adoption.

Benefits relating to employees and the organisational culture, as reported in the literature, are also summarised in Figure 2.7. The reviews report fewer references dealing with the impact on people within the organisation (Albliwi, Antony & Lim 2015, p. 673; Cherrafi et al. 2016, p. 837; de Koning & de Mast 2006, pp. 769-70; Raisinghani et al. 2005, pp. 499-502). Recently Sony, Naik and Antony (2020, pp. 26-30) reported the LSS impact on social performance. Although the title of their paper suggests a focus on the social dynamics at the micro level, an analysis of the themes revealed references to studies applying LSS in sectors making a societal contribution such as healthcare, public services, education, or climate action. One theme dealt with the impact on employee attitudes and workplace satisfaction as a result of involvement in LSS, suggesting the benefits stemmed from an organisational implementation of the LSS program (e.g., involvement in training) (Sony, Naik & Antony 2020, pp. 26-7).

The lack of information on employee benefits reported in the reviews makes it difficult to judge whether these are conceptual claims, anecdotal observations, a summary of perceptions based on survey methodology, or actual measures used to assess improvements after LSS implementation. Although reference is made to the impact on communication, collaboration, and engagement of staff, no reference is made to research on improvement facilitators. In addition, qualitative research in the field was not widely reported despite its dependence on the relational dimension of teams collaborating to improve different processes and functions within an organisation. McAdam, Hazlett and Henderson (2005, pp. 159-60) concluded that the few available studies focusing on people and the cultural benefits again reinforced the dominance of a rationalist bias.

Lack of Reporting on Challenges or Failures Reinforcing Rationalist Representation of LSS

The tendency to report successful outcomes of LSS application reinforces the rationalist representation of LSS. Implied is the notion that simply following the methodology will deliver results (Prasanna & Vinodh 2013). Few reviewers raised concerns about the absence of reporting failures whilst reporting on benefits (Albliwi et al. 2014, p. 1013; Henrique & Filho 2020, p. 446; Vashishth, Chakraborty & Antony 2019, p. 456).

A few reviews raised issues reported in the examined literature, usually difficulties experienced in organisational implementation such as inappropriate contexts or culture (Nonthaleerak & Hendry 2006, p. 124), failure of LSS initiatives, and dissatisfaction with the LSS program (Albliwi et al. 2014, p. 1014; Birgün & Kulakli 2020, p. 481; Vashishth, Chakraborty & Antony 2019, p. 448)

Other issues raised in reviews reflect concerns over the negative impact on employees such as lack of empowerment (Nonthaleerak & Hendry 2006, p. 124), dislike of tools and techniques, and lack of participation (Henrique & Filho 2020, p. 444).

In seeking a deeper understanding of the application of LSS, the interest in challenges and issues experienced is dominated by the interest in factors associated with program failures at the organisational level. It is not surprising then that many reviews have sought to identify success and failure factors from the extant literature as shown in Figure 2.6.

2.3.2.4 Concentration on Identifying Critical Success Factors at Organisational Level

Given the emphasis on the benefits reported in the literature, it is not surprising to find reviews that analysed the characteristics of LSS implementation linked to the generation of benefits. Arumugam, Antony & Linderman (2014, p. 40) referred to these as the "…essential ingredients…" for the successful implementation of Lean Six Sigma. They are termed critical success factors (CSFs).

Sixteen reviews used their analysis of the literature to examine CSFs affecting LSS implementation, predominantly at an organisational level (Aboelmaged 2010; Abreu-Ledon et al. 2018; Arumugam, Antony & Linderman 2014; Cherrafi et al. 2016; D'Andreamatteoa et al. 2015; Honda et al. 2018; Jeyaraman & Teo 2010; Laureani & Antony 2018; Patri & Suresh 2018; Pepper & Spedding 2010; Schroeder et al. 2008;

Sieckmann et al. 2018; Singh & Singh 2012; Stone 2012; Tjahjono et al. 2010; Zu, Fredendall & Douglas 2008; Zu, Robbins & Fredendall 2010). Each of these publications, conducted over many years, examined a large amount of literature and so was included in the analysis.

Three reviews argued that the examination of failure factors in LSS implementation (Critical Failure Factors) is conceptually different to the idea of success factors. The review by Albliwi et al. (2014) focused on critical failures of LSS. However, the review is simply an inverse of the search for CSFs and is again focused on the macro-organisational issues of creating and sustaining an overall program. In a similar vein, Islam (2020, p. 30) and Sunder & Prashar (2020, p. 4896) also provided a summative analysis of factors based on high levels of reported failures. Again, the lists created resemble reviews focused on CSFs. Sunder & Prashar (2020, pp. 4895-6) acknowledged the significant overlap between the two concepts.

These reviews, conducted over many years, have focused on identifying CSFs in order of importance as the work of Jeyaraman & Teo (2010, p. 196) exemplifies. Such reviews continue to repeat the findings of previous reviews in terms of reported barriers or facilitators of implementing LSS as a program. Their value seems diminished given the repetition despite increasing the number of reported factors. Little attempt was made to theorise and explain the prevalence of the factors (often stated in broad terms) nor prompt research to avoid surveying literature or draw on descriptive case studies and pursue deeper forms of research to understand the phenomenon of the factors.

The clear gap in these reviews is the lack of interest in the factors (success or failure) at the improvement project level. Pursuing an understanding of these characteristics does not seem to be a priority, and the rationale that learning about such factors at the micro level may help inform success factors at a program level is not apparent.

Success Factors Organised in Conceptual Frameworks Focused on Organisational Implementation of LSS

Reviewers arranged CSFs in two ways: based on how frequently the importance of a factor was reported in studies and surveys or in conceptual frameworks. Irrespective of whether the review was based on Lean, Six Sigma, or LSS literature, leadership or management support for an LSS program was consistently reported as being the key success factor (Abreu-Ledon et al. 2018, p. 93; Laureani & Antony 2018, p. 517; Patri & Suresh 2018, p. 35; Sieckmann et al. 2018, pp. 815-6). Many of the other factors raised were infrastructure elements necessary to support and sustain an ongoing improvement program. Explanations for why these factors were considered important were mostly conjecture since reviewers drew on opinions based on surveys. Overall, discussions of the models were focused at the macro or organisational level of an improvement program and so were not inclusive of factors affecting an individual improvement project. The analyses of factors by Schroeder et al. (2008) and Zu, Fredendall & Douglas (2008) support the notion argued in this thesis that contextual factors affecting the implementation of an LSS program are characteristic of, and congruent with, practices found in organisations pursuing the broader Excellence philosophy.

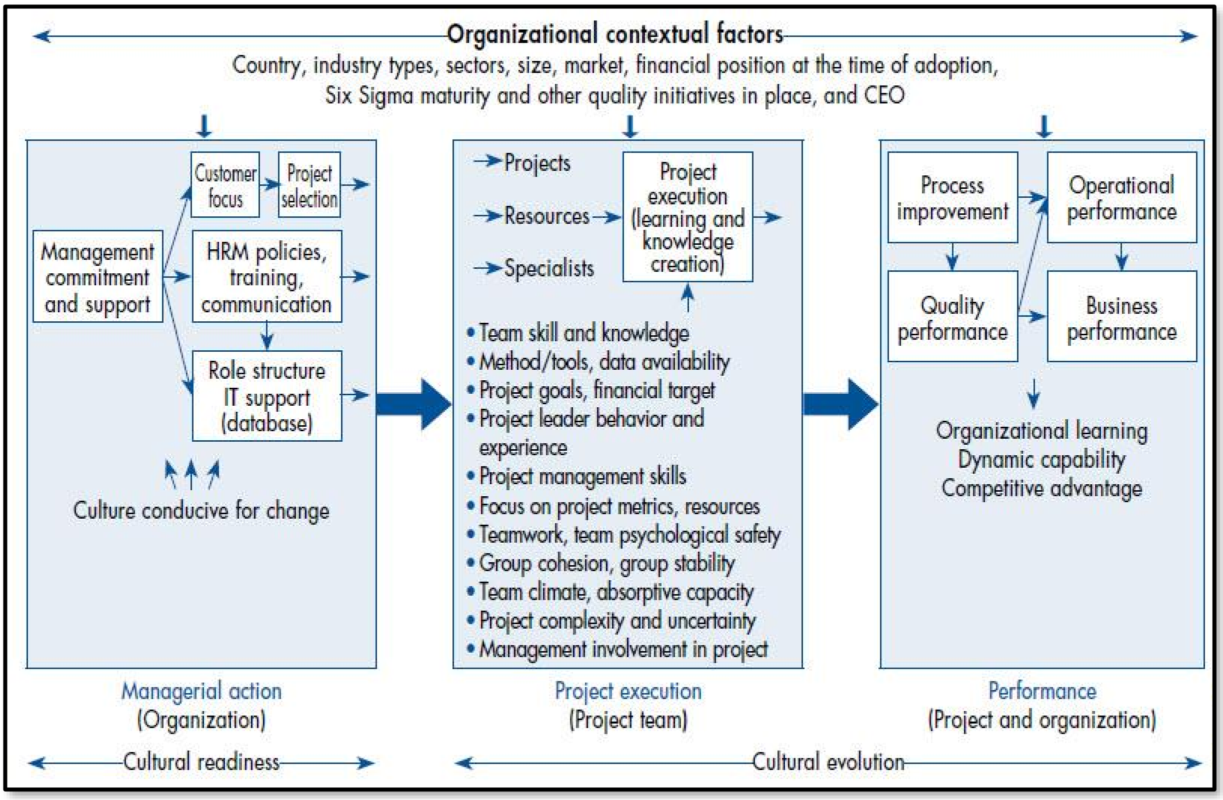
There is an absence of interest in modelling factors that impinge or explain the micro level at which improvement is conducted. There is little interest in building knowledge from the micro level to the macro level. In general, models presented in LSS reviews pay scant attention to experiential and qualitative aspects of improvement dealing with relational and personal dimensions despite the pragmatist influences and ideas of the Quality pioneers. These concerns do not seem to be of particular interest to many writers in the field who illustrate the greater influence of the rationalist paradigm.

Emergence of Models Implying Factors Impacting Micro Level of Projects

Various contributors such as Zu, Robbins & Fredendall (2010, p. 88), Jeyaraman & Teo (2010, p. 200), Arumugam, Antony & Linderman (2014, p. 50), and Patri & Suresh (2018, p. 33) have proposed teamwork and collaboration as key factors. These authors see the characteristics of the culture of the organisation as a moderating variable influencing the effect of organisational factors on the success of LSS. At best, these ideas suggest the possibility of relational and personal factors influencing improvement activity without clearly exploring these dimensions.

The conceptual framework developed by Arumugam, Antony & Linderman (2014, p. 50), shown in Figure 2.8, promotes a more comprehensive and dynamic view of factors impacting LSS implementation. Their framework is representative of how LSS is predominantly analysed at a program level in the LSS literature. Whilst contextual, organisational, and cultural factors influence and support improvement project work, ultimately the success of improvement capability is observed at the project level as the unit of analysis. A strength of this framework is the clear inclusion of project-level factors at its centre. The authors have included a variety of elements based on their analysis of the literature. As can be seen, there are relational experiential dimensions raised at the project execution level, although the elements are simply listed and not placed in relation to one another.

Figure 2.8: Conceptual Framework for Lean Six Sigma Implementation (Arumugam Et Al., 2014, p. 50)



2.3.2.5 Few Reviews Prompt Exploration of LSS Through an Interpretivist Frame

As illustrated in Figure 2.6, conceptual discussions in the reviews have debated the link between TQM and LSS, which involved philosophical and theoretical positions. Discussions historically focused on the emergence of the terms Lean or Six Sigma, anchored in the influences of Toyota or Motorola (Nonthaleerak & Hendry 2006, p. 336). None of the reviewers explored the foundational thinking behind improvement methodology, which would draw them into the ideas of pragmatism. As I pointed out earlier, both Mauléon & Bergman (2009, p. 169) and Lorino (2015, pp. 2-3) argued that pragmatist influences have been forgotten in the way the methodology has been advocated. Perhaps notions of the reality of the social dynamics underpinning the conduct of improvement projects at the micro level would have surfaced had the underlying philosophy been investigated.

Very few reviewers linked back to the principles advocated by Deming or Juran (Andersson, Eriksson & Torstensson 2006, p. 289). Despite acknowledging the origins of Lean and Sigma constructs within the evolution of TQM, attempts have been made to differentiate the ideas as if they were at the same level of abstraction. Specific key principles argued by the Quality pioneers that emphasise the social and collaborative nature of improvement are often not considered in conceptual debates (Chiarini 2011; Zu, Robbins & Fredendall 2010).

Three reviews, taking a philosophical perspective, explored improvement activity based on its 'organic' characteristics, pointing out the dynamic social and relational aspects of improvement activity. Schroeder et al. (2008) identified organic characteristics in LSS principles and practices, such as the encouragement of cross-functional collaboration and the creation of parallel and informal structures through improvement teams and facilitators helping connect multiple levels within an organisation. However, Schroeder et al. (2008) recommended further research in the positivist tradition instead of promoting inquiry along the lines they postulate.

Hoss & Schwengber ten Caten (2013, pp. 3274, 6) in discussing Lean literature raised the notion that work is carried out as part of social systems within organisations and that Lean (or LSS) is predicated on learning that occurs within these social systems. Hoss & Schwengber ten Caten (2013) characterised improvement as the involvement of employees (actors) in teams (social contexts) dealing with problems. Managers and staff agree to solve a problem, learn together (interpret and add meaning to what they observe), agree on solutions, and change their workplace process (their social reality), which illustrates a dynamic social learning process that promotes adaption of the workplace (organic character). Hoss & Schwengber ten Caten (2013, p. 3276) characterised this as a shift from the functionalist paradigm to the interpretivist paradigm. They are the only review authors (Hoss & Schwengber ten Caten 2013, p. 3279) recommending future research break out of the positivist mould and employ interpretivist forms of inquiry like action research!

Consistent with this view, McAdam, Hazlett & Henderson (2005, p. 155) stated that "… organic theory of TQM is phenomenological in perspective and supports inquiry into meaning, subjectivity, and learning experience within TQM discourse." Since LSS involves substantive relational experiences during social learning and actions about problems or opportunities, it follows that there is a strong implicit emphasis on a constructionist or phenomenological orientation. Surprisingly this observation by McAdam, Hazlett & Henderson (2005) is the only acknowledgement of the phenomenological view in the review literature. Despite this phenomenological conceptualisation of LSS, McAdam, Hazlett & Henderson (2005, p. 169) called for "…a range of empirical studies with hypothesis testing…" and argued for more analytical case studies based on qualitative data. The specific recommendation to employ phenomenological research forms was not proposed.

Consistent with these few voices in the LSS domain, Langley & Denis (2011, pp. i43-i5) clearly cautioned against the continued bias towards a rational view of improvement practice. The authors drew attention to the underlying politics in the fundamentally social dynamic of improvement and encouraged researchers to take a more theoretical perspective to explicitly uncover what is going on during improvement projects. It seems few academics have taken heed of this significant commentary on the field.

Lack of Theoretical Exploration in Lean Six Sigma Literature at Project (Micro) Level

This failure to consider deeper philosophical perspectives and principles underpinning LSS is reflected in the lack of theoretical orientation of the literature. Review authors have argued that LSS research is not oriented towards extending certain aspects of the theoretical basis underpinning LSS or organisational improvement methodology (Aboelmaged 2010, p. 290; Baker 2011, p. i32; Snee 2010, p. 24; Sunder & Prashar 2020, p. 4911). This can be seen in the few reviews in Figure 2.6 that explored LSS from a theoretical perspective.

Two reviews provided a more extensive summary of theories associated with LSS (Arumugam, Antony & Linderman 2014, p. 43; Gupta, Modgil & Gunasekaran 2020, pp. 958-61). However, the theoretical frameworks discussed have more application in the organisational implementation of LSS than in helping explain what occurs at project level (Arumugam, Antony & Linderman 2014, p. 55; Snee 2010, pp. 19-20). Arumugam, Antony & Linderman (2014) argued that it is the interaction and integration of multiple theories that will help explain the effects of improvement principles, practices, and techniques under the banner of LSS. From this perspective, discussing individual theories does not aid an integrated understanding of the phenomena of LSS either at the organisational or project level. Both reviews (Arumugam, Antony & Linderman 2014, p. 43; Gupta, Modgil & Gunasekaran 2020, p. 959) cited the same paper by Lloréns-Montes & Molina (2006) as a rare attempt to theorise the role of the facilitator by using the analogy of the principal-agent relationship expounded in economic agency theory for the sponsor-facilitator relationship. Lloréns-Montes & Molina (2006, p. 491) did not critique the relevance of the economic agency model for the facilitator role other than drawing out the analogy. Neither review explored the ideas raised by Langley & Denis (2011) who drew attention to the underlying politics in the fundamentally social dynamic of improvement (see 2.3.2.5).

Existing reviews seem more interested in a rationalist perspective and less concerned about the application of an interpretivist orientation to explaining LSS phenomena at the project level. There is little interest in exploring the social dynamics of the project, either theoretically or from an alternate philosophical research perspective. In a similar vein, little interest has been shown in exploring the experience of the facilitator within improvement projects.

2.3.2.6 Description, Case Studies and Surveys are the Predominant Forms of Research

Given the bias towards a rational presentation of the benefits of LSS, it is not surprising that many reviews are dominated by case studies and surveys that are descriptive in nature. Early reviewers like McAdam, Hazlett & Henderson (2005, p. 152), Brady & Allen (2006, p. 340) and Nonthaleerak & Hendry (2006, p. 108) reported that most of the literature at the time of their reviews was classified as descriptive case studies.

This tendency of reviewers to focus on case studies as the dominant form of empirical investigation has continued over time (Arumugam, Antony & Linderman 2014, p. 40; Honda et al. 2018, p. 73). More contemporary reviews have also drawn attention to the dominance of case study research within the LSS domain (Argiyantari, Simatupang & Basri 2020, p. 487; Gupta, Modgil & Gunasekaran 2020, p. 954; Henrique & Filho 2020, pp. 434-6; Sony, Naik & Antony 2020, p. 26).

Characterising much of the research as descriptive case studies despite the use of the term ‘empirical studies’ indicates that researchers are simply describing the process of conducting a project, the use of tools, and the results achieved (Samanta, Varaprasad & Padhy 2021, p. 21). There is an appearance of a qualitative approach that captures the field-based experiences of the practitioners pursuing improvement. However, the descriptions mainly relate what was done without providing an interpretivist perspective on the experiences or critiquing the process by indicating issues, social dynamic characteristics, or the experience of the exercise of power as changes are confronted by the stakeholders involved. Both Argiyantari, Simatupang & Basri (2020, p. 487) and Henrique & Filho (2020, pp. 432, 6) argued that action research can help observe the actions of a team during improvement work but is the least used form of research in their reviews. The continued description of improvement projects as a recipe to be followed belies the more complex, socially constructed aspect of improvement.

Reviews and studies dealing with CSFs mainly used survey methodology to verify practitioners’ perceptions of their importance or impact on implementing LSS. Again, this indicates the dominance of the rationalist frame that influences much of the reported research with this focus. Contemporary reviewers also observed the common use of survey methodology to collect individuals’ perceptions of the application of LSS (Argiyantari, Simatupang & Basri 2020, p. 487; Henrique & Filho 2020, p. 436). Sunder & Prashar (2020, p.

4911) acknowledged that surveys are not the most effective way of observing the experience of people executing an Improvement project.

2.3.2.7 Improvement Facilitators Not a Major Theme in Reviews

In their review, Arumugam, Antony & Linderman (2014, pp. 45,50) briefly discussed the important role of improvement facilitators, whom they refer to as 'specialists' (Figure 2.8). In a similar vein, many reviewers referenced the significant role of the improvement facilitator within their discussions and models (Cançado, Cançado & Torres 2019, pp. 504-5; Gupta, Modgil & Gunasekaran 2020, p. 962; Honda et al. 2018, pp. 76-7, 9; Jeyaraman & Teo 2010, p. 194; Nonthaleerak & Hendry 2006, p. 113; Schroeder et al. 2008, p. 538; Sieckmann et al. 2018, p. 818; Sunder & Prashar 2020, p. 4898; Zu, Fredendall & Douglas 2008, p. 631; Zu, Robbins & Fredendall 2010, p. 98). The role is acknowledged as key in several ways, including delivering training, managing the team, acting as a catalyst promoting interaction and facilitating the planning, and measuring and analysing tasks with the team involved. Honda et al. (2018, p. 77) drew attention to the way improvement facilitators model improvement behaviour and so influence peers in the organisation. In a similar vein, Schroeder et al. (2008, pp. 540-4) argued that specialist facilitators coaching intact or cross-functional teams promote cross-boundary collaboration, helping connect and integrate multiple levels within an organisation. They used a grounded theory approach involving interviews, particularly with improvement facilitators. Their review paid the greatest attention to the role of improvement facilitators, but their observations did not lead them to recommend inquiry on the role from an interpretivist frame.

In contrast, very recent reviews either made no mention of the role of the facilitator (Birgün & Kulakli 2020; Salm Ward & Yasin 2022, p. 6) or were surprised by the lack of inclusion of the role in the research studies they reviewed. Samanta, Varaprasad & Padhy (2021, p. 29) observed that whilst facilitators are commonly mentioned in the LSS literature, such references were not seen in the research within the area of healthcare in which they were interested.

Although some reviews discussed the facilitator role as key, the nature of what is involved in improvement facilitation has not been explored nor has inquiry on the subject been encouraged. The inclusion of the improvement facilitator in models and the brief discussion of the role is the level of treatment in reviews. The role is not modelled in any depth as a major factor influencing LSS success. Given that most reviews focused on organisational factors and paid little attention to the project level, the lack of focus on the role, despite arguments about its importance, is not surprising.

2.3.2.8 Anecdotal Hints of the Social Dynamic of Improvement Projects Within Reviews

In their comprehensive review, Arumugam, Antony & Linderman (2014, pp. 43, 5, 55) emphasised the need to understand the human aspects of LSS. They cited a few studies showing an interest in the process of learning, although at macro or organisational level. The realisation that improvement has a social and personal experiential dynamic did not prompt the reviewers to recommend a deeper understanding through qualitative means. The term qualitative is used by the researchers in reference to their content and thematic analysis of the research they reviewed.

Upon examining the success factors and barriers emerging from their review, Sieckmann et al. (2018, p. 815) concluded that "in general, human-oriented 'softer' factors predominate." This conclusion reinforces the observations of Schroeder et al. (2008) and Arumugam, Antony & Linderman (2014). More recently there has been a growing awareness of the human relational dimension within improvement. Reviewers cite studies that provide anecdotal observations about the relational experiences of these challenges and barriers encountered during improvement projects. Several examples are given below.

Table 2.4: Citations with Anecdotal Observations of Challenges Encountered During Improvement Projects

• The way team meetings, debriefings, staff engagement, interdepartmental governance, and collaboration are developed and encouraged (Cudney et al. 2020, p. 241; Fong, Smith & Langerman 2016, pp. 375, 7; Honda et al. 2018, p. 78; Patri & Suresh 2018, p. 27) • The professional culture of an organisation and the built-in bias towards LSS disrupts adoption (Patri & Suresh 2018, p. 27; Sieckmann et al. 2018, p. 816) • Issues of teamwork and active resistance by staff limiting the deployment of LSS (Birgün & Kulakli 2020, pp. 480-3; Patri & Suresh 2018, p. 27; Salm Ward & Yasin 2022, p. 9; Sunder & Prashar 2020, p. 4909)	• The manner in which learning and development about LSS knowledge and skills are provided and fostered (Abreu-Ledon et al. 2018, p. 85) • 'Silo Mentality' – managers that resist or do not allow interference in their respective departments (Honda et al. 2018, p. 77; Patri & Suresh 2018, p. 26) • Financial arrangements and structures creating difficulties in measurement and in fostering participation (Honda et al. 2018, p. 77) • Political barriers and the exercise of power by stakeholders impacting the work of improvement and availability of resources (Henrique & Filho 2020, p. 444; Honda et al. 2018, p. 77)

These observations imply a personal, relational, and political experiential dimension that emerges while conducting improvement and is consistent with the cautions raised by Langley & Denis (2011). However, more recent papers do not call for research from an interpretivist and qualitative perspective into the micro project improvement phenomena to understand LSS more deeply.

The recent review by Laureani & Antony (2019, pp. 67-9) focused on leadership and its application to LSS. The review was prompted by the literature on CSFs that highlights how the successful implementation of LSS as a capability or program depends on management support. This review was an opportunity to explore the social-relational aspect of improvement, but it was limited to the macro level of leadership for implementing LSS at an organisational level, thereby ignoring the conduct of improvement at the project level where the key relationship between leaders (the sponsor) and the facilitator is significant. The opportunity to explore this social relational aspect of improvement was not pursued.

In their review of LSS applications in emergency departments, Breen, Trepp Jr & Gavin (2020, p. 643) provided brief observations of leadership behaviour during improvement projects highlighting the significant role of leadership during improvement projects. However, the possibility to explore leadership constructs that impact the social dynamic amongst stakeholders, including the facilitator, was not pursued.

2.3.2.9 Recommended Research not Focused on Micro-Level, Facilitator, or Interpretivist Perspectives

The previous discussions have highlighted the lack of calls for research at improvement project level through a deeper exploration of the phenomena. A thematic analysis of the research gaps identified in the conclusions across the fifty-two reviews of the extant LSS literature was completed to illustrate the state of thinking amongst the authors. The examination of the summary below reinforces the conclusion and illustrates the lack of research interest in the micro level of improvement projects or the role of the facilitator.

- **Need for research on CSFs in different contexts**

  Some reviewers argue for more specific studies tying factors to different contexts and organisational levels.

- **Need for research on an integrated Lean Six Sigma theory and model for improvement**

  Some reviews argue that research should focus on the joint implementation of Lean and Six Sigma to analyse appropriate ways to integrate the methodological streams.

- **Need for LSS research to include measures of impact on employees**

  Some authors argue for broadening the focus on operational and financial performance to include human performance measures and examine how culture mitigates the application of LSS.

- **Need for research on impact and financial value of LSS**

  A few reviews argue for further research to help clarify assertions about financial results and improve the quality of evidence provided.

- **Need for research on Lean Six Sigma methodology, tools, and techniques**

  Some reviewers recommend more detailed research on specific aspects of the methodology and analytical tools and their use in different phases and contexts, including the role of data analytics and digitalisation.

- **Need for research on organisational and team learning processes**

  A few review authors encourage research on the way learning is facilitated through the improvement journey, particularly at the project and team levels.

- **Need for more in-depth case studies, better reporting, and critical analysis**

  Several reviewers call for a clear theoretical base and associated epistemological rationale, as well as greater in-depth analyses, particularly with case study research forms.

Overall, extant LSS literature reviews have not promoted inquiry using interpretivist methods to gain an in-depth understanding of the phenomena. Even in the areas which would prompt consideration of an interpretivist methodology, like understanding the impact on the people involved or pursuing more in-depth and critical studies, empirical forms of research remain the dominant choice.

I understand the need for empirical research given the focus of LSS on improving business performance. However, I find it puzzling that researchers have not given greater emphasis to the development of the field through alternate forms of epistemology (interpretivist or critical paradigms) that would aid an in-depth understanding of what happens in improvement in such a relational, people-centred environment.

2.3.2.10 Conclusions on Key Gaps Emerging from Analysis of LSS Literature Reviews

Based on the analysis presented, reviews in the extant LSS literature seem dominated by the rationalist frame. There is an abiding interest in demonstrating the efficacy of LSS on organisational performance. LSS literature and research seem consumed by understanding and recommending factors that deliver successful LSS programs. LSS research pursues a formulaic interest in LSS methodology, tools, and techniques best suited to different contexts. Further, the perspective taken by reviewers is often at a macro or organisational level. Little attention is paid to the micro or project level of improvement. As with the practitioner literature, the role of improvement facilitators is seen as key but with little further elaboration.

Despite evidence that there is an experiential reality involving the personal and relational dimensions of those involved in improvement, no clear drive to employ interpretivist inquiry to understand these dimensions has emerged from the reviews.

The gaps identified in the LSS research domain after an examination of extant literature reviews over many decades seemed to confirm the choice of the research aim. Specifically, the aim was to gain a better understanding of the dynamic of improvement activity at the project (micro) level from the perspective of the facilitator.

Given the analysis of the reviews of the LSS literature and research so far, I expected there to be very few studies directly relevant to the research questions posed. However, I wanted to validate the focus on the research questions following discussions on specific research studies within reviews and additional searches of the literature databases. This led to the next and final stage in the analysis of the research on LSS.

2.4 Stage 2: Analysis of Specific and Relevant Research Studies on Facilitator Experiences During Improvement Projects

This section of the literature review focuses on specific research studies relevant to the research questions. The search methodology described earlier was used to discover these studies focused on facilitator experiences in the conduct of improvement projects or even more broadly on team experiences involved in improvement.

Given the conclusions emerging from the analysis of extant reviews of LSS research, I realised there was a lack of studies examining the lived experience of facilitators during improvement projects. To deepen my search for such studies, I sought four types of research (listed below) thinking they would confirm the gaps identified in the previous discussion and/or affirm the possibility of the social dynamic of improvement projects:

- Phenomenological studies that had already been conducted on organisational improvement. This would immediately indicate if research of the kind I was interested in had already been done.
- Specific research focused on the role and experience of the improvement facilitator.
- Other forms of qualitative research observing facilitator experiences in the conduct of improvement projects.
- Additional LSS studies shedding light on the nature of individual or team experiences in an improvement project.

The following review will examine the research found in each category.

2.4.1 LSS Studies Employing Phenomenological Methodology Lack Fidelity to the Tradition

Four studies were found that conducted research in the field of improvement and explicitly stated phenomenology as the basis for their methodology (Glover et al. 2013, p. 1173; Kluse 2017, p. 109; Macpherson 2013, pp. 20, 90; McAdam et al. 2014, p. 88). Table 2.5 below provides an overview of these studies.

The basis for critically examining these studies is the phenomenology literature and, specifically, advice on the application of the philosophy in research methodology. This is discussed in detail in the chapters on phenomenology (Chapter 3) and research methods (Chapter 4), based on the work of van Manen (2016, pp. 313-8, 27-34). The characteristics of phenomenological research that define fidelity in applying the philosophy are the lens through which I have analysed these four studies.

Table 2.5: LSS Research Studies Using Phenomenological Research Methodology

Study	Characteristics
Glover et al. (2013) Characteristics of established Kaizen event programs: An	**Focus** Describing characteristics of 16 Kaizen programs and their implementation problems.

empirical study	**Method** Ten characteristics of Kaizen programs were developed from a prior literature review. Based on these characteristics semi-structured interviews (36 questions) were conducted within the organisations predominantly with facilitators. **Analysis and Outcomes** A thematic analysis based on coding of the comments. Description of the benefits, attributes, and problems in the programs.
Macpherson (2013) An examination of Kaizen Drift in Japanese Gemba: Implications for business in the Anglosphere	**Focus** Develop an understanding of Kaizen from the perspective of Japanese practitioners and compare it to the way it is interpreted in the western world. **Method** Nine-item survey instrument and/or interviews involving 53 employees across a range of ages in five manufacturing organisations. Questions inquired about how Kaizen was interpreted and practiced. **Analysis and Outcomes** Emergent themes of how Kaizen is interpreted and deployed. A comparison of the definition to definitions in the English-speaking literature.
McAdam et al. (2014) Absorbing new knowledge in small and medium-sized enterprises: A multiple case analysis of Six Sigma	**Focus** The way small and medium-sized enterprises (SMEs) adopt, assimilate, and sustain their LSS programs. **Method** Semi-structured interviews (20 questions) were conducted with the managing directors of 18 organisations from different service and manufacturing industries. Organisational records illustrating implementation were also examined. The interviews and document analysis were followed up with focus group interviews involving various staff from within each organisation. **Analysis and Outcomes** A thematic analysis of the data based on coding was conducted and then linked to an absorptive capacity framework to illustrate the way LSS was adopted and deployed.
Kluse (2017) Failure Modes and Effects Analysis (FMEA): Factors affecting execution and implementation of the FMEA and an alternate method for process risk assessment	**Focus** Understand reasons why engineers have difficulty completing the FMEA tool and process to comply with automotive guidelines so that practices to address the issue can be proposed. **Method** Semi-structured interviews (8 questions) conducted with 13 engineers in the automotive industry. **Analysis and Outcomes** A thematic analysis of the data that described engineers' responsibilities for the analysis, their attitudes to the technique, and the issues they had in using

	the technique.

In all four studies, the most significant characteristic suggesting that the phenomenological tradition was not really followed was the lack of focus on surfacing or discovering the prereflective experiences of humans in the phenomena of interest (van Manen 2016, p. 315). Not all titles and aims of the studies suited a phenomenologically based analysis (van Manen 2016). Although the studies applied qualitative methods, the mere use of semi-structured interviews and thematic analyses does not constitute phenomenologically based research. The aims and analyses of all four studies were similar to researchers who have sought to identify CSFs (see 2.3.2.4) in implementing LSS rather than aims suited to their stated use of phenomenological methodology.

These four studies indicate the misunderstanding of the application of the phenomenological philosophy in research on improvement. As van Manen (2016) pointed out, research true to the tradition will:

- have a clearly stated aim to disclose the prereflective experience of the phenomenon of interest
- clearly draw on a conceptual understanding of phenomenology as a precursor to the research method, thereby providing a rationale for the phenomenological tradition that will be followed
- design and execute interviews focused on surfacing prereflective experiences and
- then write the analysis to evoke insight and empathy with the experiential themes.

Against these characteristics, these four studies are clearly not demonstrating fidelity to phenomenological philosophy. Labelling their research method as phenomenological reflects a lack of understanding of the philosophy and its application in research. They may represent the interpretivist tradition and have employed qualitative methods but are not phenomenological studies. The interest across the studies is to a large extent focused on uncovering the meaning of improvement from the perspective of the practitioners rather than uncovering the prereflective experience during a project. This approach is more akin to the application of phenomenography and not phenomenology.

The studies have not sought information revealing meaning structures in the lived experiences of those involved in tackling improvement projects. In this sense, they do not shed light on the core questions for this research and confirm the gap in the extant literature regarding an accurate inquiry about lived experiences during an improvement project.

2.4.2 Rare Study of Facilitation of Improvement Projects

Despite the emphasis on the role of improvement specialists to coach and guide those involved in improvement work, only one study has specifically observed their work within an LSS improvement project (Shaw et al. 2010). Appendix 2 contains a tabular summary of the characteristics of the study.

Shaw et al. (2010) – In the moment: An analysis of facilitator impact during a quality improvement process

Shaw et al. (2010) completed a rare study on the interventions of facilitators during improvement projects. The study involved 11 primary healthcare teams in the US with facilitators working with each team. The actual improvement methodology used across the care teams is not clear. A qualitative research methodology was used involving recordings of weekly team meetings (for 12 weeks) as well as collecting the facilitators’ field notes. An analysis of recordings and notes resulted in 10 thematic forms of intervention based on frequency of interventions and time spent speaking.

The results illustrated facilitation patterns related to broad stages in the improvement project, such as the frequency of interventions by type during the project. For example, ‘dealing with conflict’ was a code employed to describe interventions dealing with defensive behaviours. The frequency of interventions in conflict peaked in the middle of the improvement projects. Brief case examples of different types of interventions were provided, including observations illustrating conflict or questioning to aid reflection and learning.

Each recorded intervention is a type of agency experience these facilitators had whilst coaching their improvement teams. It illustrates experiences dealing with reflection and learning and the exercise of power that occurs frequently during improvement projects. Reflecting on the frequency and pattern of interventions, the authors summarised the experience of facilitators as responding in the moment to situations that confront them. The study intended to discover the frequency and pattern of facilitator behaviour, but the methodology or analysis is not phenomenological. Regrettably, there were no phenomenological interviews to gain an understanding of the facilitator's lived experiences and interpretations from their perspective.

Contributions to Facilitation in Domains Related to LSS

Several recent papers were identified in fields related to LSS where facilitation has become a focus to aid the application of 'design thinking' or the introduction of new routines in clinical practices. These papers, drawing on relevant literature, are mainly conceptual and argue for emerging constructs in their facilitation contexts.

Mosely, Markauskaite & Wrigley (2021, pp. 5-6) reflected on the challenges facing the facilitation of design projects and proposed three dimensions of practice. Apart from design competencies, they defined a 'relational-affective' dimension within which they describe constructs dealing with sensing the feelings of others, mediating conflicts, and encouraging collaboration.

Clinical practices, particularly in hospitals, are faced with the constant challenge of introducing new practices requiring facilitator support. This work has prompted contributions about facilitators in such settings. The orientation is not always that of an improvement project but simply implementing and sustaining new clinical processes.

Harvey & Lynch (2017, p. 5) and Cranley et al. (2017, pp. 4-12), drawing on literature on facilitation in the healthcare sector, provided a conceptual basis for understanding the role and process involved. They discussed definitions, outlined different role forms of facilitation, and described facilitation strategies. They further called for research that builds a more complete understanding of the role in context. This literature draws attention to the common use of the healthcare framework for aiding the facilitation of implementation (Integrated Promoting Action on Research Implementation in Health Services i-PARIHS) in clinical settings. One of the four constructs in the framework is facilitation, which in turn has stimulated explorations of facilitation in clinical settings.

Quinn, Gephart & Davis (2019, pp. 455-7) conducted eight interviews with facilitators in neonatal settings involved in implementing evidence-based practices. The aim of the study was to understand the fourth construct of the i-PARIHS framework dealing with facilitation. One of the five themes emerging from the analysis was termed 'facilitator stewardship', which identified barriers to facilitation such as team members not being familiar with one another impacting the effectiveness of the facilitator. Factors enabling facilitation included the relationship developed between the facilitator and team and the facilitators project management skills. Results also highlighted the significant impact that the organisational context had on successful facilitation and interventions.

Based on interviews with two facilitators in a case study, Olmos-Ochoa et al. (2021, pp. 4-5) proposed three constructs reflecting how facilitators experienced and reflected on successes and challenges they faced. Their contribution was directed at evolving the most used healthcare framework for aiding the facilitation of implementation (i-PARIHS) in clinical settings. The three constructs are:

- facilitator intensity is described as the degree of effort required to complete tasks

- facilitator resilience includes the degree of emotional labour or self-regulation required when dealing with challenges and conflict
- facilitator effectiveness reflects the way feedback from stakeholders is processed during interactions.

These papers illustrate the attention given to the facilitator role in parallel settings to improvement projects. The level of focus and exploration is in stark contrast to that shown in the extant LSS literature. The various challenges and successes referenced in these papers also demonstrate the social dynamics involved in improvement activity.

2.4.3 Hints of Facilitator Experiences in LSS Qualitative Studies of Improvement Projects

Two studies were found that mention facilitator experiences in a different context from this study. Appendix 3 contains a tabular summary of the characteristics of these studies.

Leon et al. (2012) – Integrating Six Sigma tools using team-learning processes

Motivated by the very few studies examining team learning during an improvement project, Leon et al. (2012) used a case study of a successful improvement project in an electronics manufacturing organisation to observe the dynamic process of using tools at each of the DMAIC phases. Their core proposition for conducting successful improvement projects is that dialogue and discussion of learning discovered from the use of various analytical tools builds shared understanding amongst project team members, which enables understanding of the problem, its root causes, and effective solutions (Leon et al. 2012, p. 134). As Leon et al. (2012) observed, the difficulty project teams have in using tools during the DMAIC phases and their case description evokes an experiential flavour and illustrates the dynamic nature of conducting the project.

The case description illustrates the challenges of achieving shared learning, engaging stakeholders, avoiding jumping to conclusions, and agreeing to the need for evidence as examples of the dynamic relational nature of the process of improvement. One experience requiring the facilitator's intervention is described as follows:

> In the Define Phase, the facilitator intervened after a senior engineer argued the cause was known and therefore the solution before the team had defined the problem. The facilitator helped defuse an awkward, potentially combative scene by engaging the group in a discussion on a principle in the methodology of getting factual information to validate the causes of the problem. (Leon et al. 2012, p. 139)

The intent of the research was the use of tools and associated processes of learning. However, interspersed in the descriptions was an emerging sense of the lived experience of those involved in the project including the facilitator.

Knights & McCabe (1999) – 'Are There No Limits to Authority?': TQM and Organizational Power

Knights & McCabe (1999) used case studies drawn from the financial industry in the UK where organisations had begun to pursue TQM to apply their analysis of their perspectives on power and identity (Wilkinson, Knights & McCabe 1996, p. 67).

In one particular study, Knights & McCabe (1999) focused solely on an improvement project in a bank they coded 'Qualbank', where they had been conducting research for over 10 years (Knights & McCabe 2000, p. 427). The case methodology involved following the process of the improvement project in two major sections of the bank over a certain period, including the conduct of four workshops. The observations from each workshop were supported by interviews with those involved as well as analyses of documents and communications used by the participants. The researchers' analyses were framed by their perspectives on power and identity to explain the observed behaviour. This specific publication of Knights & McCabe (1999) is a rare observation of defensive behaviour in an improvement context, followed by an analysis of the observations through the frame of theoretical views on the exercise of power.

The behaviours observed by the authors included:

- the parties involved acting contrary to the policy governing the process
- senior people not attending or withdrawing from the process
- the defensive nature of the discussion between the parties involved
- the raising of problems experienced being taken as personal criticisms
- parties blaming one another for their actions including communications to that effect
- dominant and aggressive advocacy and passive behaviour.

The examples given above are only a sample of what was observed during the period of the improvement initiative. What is apparent are the various defensive behaviours displayed between the groups and people involved. The observations included the behaviour of the facilitator.

Although the researchers supplemented their analyses with interviews, the manner in which Knights & McCabe (1999) analysed behaviour requires a level of inferences to be drawn about what people are thinking. Suppositions were made about why views were being expressed or actions taken. In some instances, value judgements were made based on the effectiveness of the facilitator’s behaviour. In the case reported by Knights & McCabe (1999), the defensive behaviour resulted in collaborative learning being severely inhibited to the point of the project failing.

These two studies also illuminate the likely lived experiences of facilitators attempting to guide teams through the process of improving aspects of the workplace. Whilst facilitators are key to the conduct of improvement, the few studies referenced indicate the lack of attention given in LSS research to this dimension of improvement.

2.4.4 Additional Experiential Accounts Emerging in Some Studies on Improvement

Five studies were found that were not focused on facilitators in improvement projects, but they reported experiences of staff in the application of improvement methodology (Buch & Tolentino 2006; Pearce, Pons & Neitzert 2018; Sterling & Boxall 2013; Taylor et al. 2014; Walley & Gowland 2004). An examination of the experiences embedded in the brief accounts of improvement projects within these studies highlights the subjective relational and personal dimension of the reality of conducting improvement.

In summary, the experiences across these studies include the following:

1. the dominance of senior staff in decision making
2. behaviours of managers and staff stemming from some sense of threat to their reputations
3. teams who experience blame and who are not encouraged to work collaboratively
4. staff who do feel their ideas are being sought and are engaged
5. facilitators sensing they are not recognised or rewarded appropriately
6. conflict between people, inhibiting project progress.

Appendix 4 contains a tabular summary of the experiences reported by each study. These incidental observations in five different research studies reinforce the conclusion that LSS research focused on CSFs and methodology belies a richer reality that may help provide insights into the successful practice of improvement. Such LSS research focused on factors influencing the implementation of improvement maintains a high level of abstraction, which inhibits the pursuit of a more in-depth understanding that could lead to more tailored, contextual, and sensitive practice.

2.5 Conclusions on Gaps in LSS Extant Literature and Research Prompting this Study

Given the focus on organisational performance, the predominant emphasis of the LSS literature has been a formulaic guide for improvement programs. Consequently, the field of LSS research seems to have an unstated or unconscious bias towards positivist epistemology, even though its philosophical and conceptual roots advocate principles that encourage qualitative insights into improvement practices.

Some research and practical experience have pointed to a deeper subjective reality when humans work together to improve certain aspects of their work situation. This reality is interwoven with the personal and relational aspects of lived experiences that enhance or mitigate the rational intentions of conducting improvement. More recent research continues to hint at such a dimension and the need for research in the field to inquire about this 'being' aspect of improvement (Honda et al. 2018; Patri & Suresh 2018; Pearce, Pons & Neitzert 2018; Sieckmann et al. 2018).

In summary, the key areas of interest and related questions for this research address several major gaps that have emerged in reviewers' critiques of the LSS literature and research over time. These are as follows:

- Despite the evidence that there is an experiential reality involving the personal and relational dimensions of those involved in improvement, no clear drive to employ interpretivist inquiry to understand these dimensions has emerged from reviews.
- Little research has been conducted at the micro or improvement project level.
- Despite the conceptual focus on the significant role of the facilitator, there has been no focus to pursue research in this area.
- LSS research has been criticised for its lack of grounding in a clear theoretical frame, particularly at the improvement project level.

This research seeks to address these gaps in the LSS extant literature. The major aim and overarching question in Chapter 1 prompts a depth of inquiry into the experience of improvement from the perspective of the facilitator in this process.

What is the essence of the improvement facilitator's lived experience during the improvement journey?

The proposed rationale for the use of phenomenology as the basis for the research methodology to observe the lived experience of facilitators is discussed in the following chapter.

3.0 Phenomenology and Its Influence on the Research Methodology

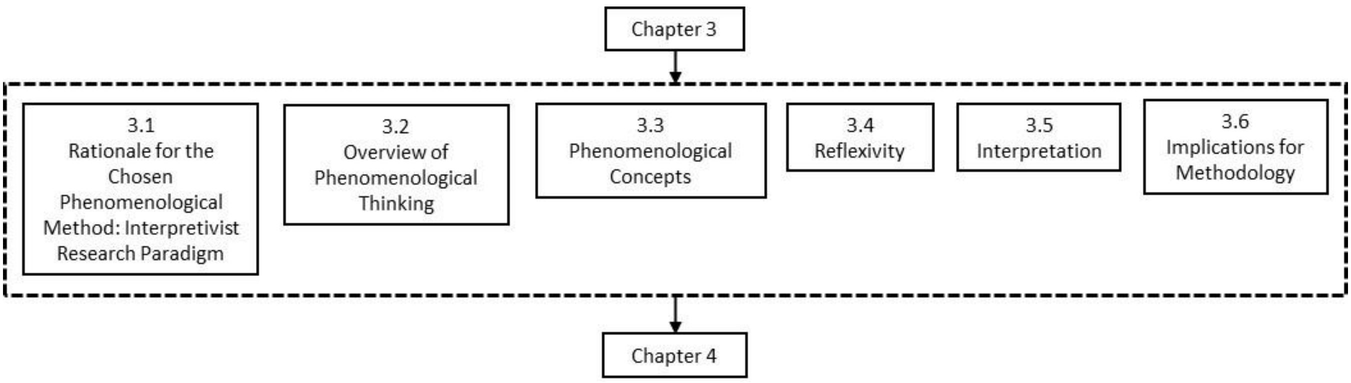
Chapter Purpose and Structure

The purpose of this chapter is to provide the rationale for the methodology design employed in this research as detailed in Chapter 4. This chapter represents the pursuit of fidelity to the application of Phenomenology in the research methodology by demonstrating an understanding of core phenomenological ideas and their application as a rationale for the form of phenomenological tradition to be followed (Seth 2017, p. 36; van Manen 2016) in this research.

There are six major sections as outlined below and shown in Figure 3.1:

- The discussion (3.1) begins with the rationale for the use of a qualitative methodology based on phenomenological philosophy as a means of surfacing the reality of the improvement experience through the lens of improvement facilitators.
- A brief overview of the development of phenomenological thinking is outlined, including broad implications for the research methodology (3.2).
- Section 3.3 is core to the methodology rationale as the contributions of major philosophers and proposed phenomenological concepts are discussed. The implications of these ideas for the design of the method of inquiry and analysis are also discussed. This discussion seeks to distinguish the nature of the methodology used here from other applications of the phenomenological method.
- Sections 3.4 and 3.5 outline the discussion in the extant phenomenological literature, dealing with analytical characteristics of the phenomenological research methods in terms of managing reflexivity and interpretation in the research process. Both discussions conclude with the implications for this research.
- The final section (3.6) summarises the broad outcomes of the discussion, which have implications for the specific aspects of the method to be provided in Chapter 4 on methodology design.

Figure 3.1: Outline of Chapter 3



3.1 Rationale for the Chosen Phenomenological Method: Interpretivist Research Paradigm

Both Singh (2015) and Welch & Piekkarib (2017) argue that the quality of research ought to be judged on the congruence between:

- the underpinning philosophy of the research questions based on the purpose emerging from extant literature in the field (implicit ontological and epistemological perspective),
- the broad design of the methodology to be employed, and
- the specific methods and tools used to gather knowledge and reflect on it.

Authors clarifying the philosophical bases for research such as Scotland (2012, pp. 10-2) and Raddon (2010, pp. 3-7) commonly distinguish between the positivist and the interpretivist paradigm. The positivist paradigm, stemming from the philosophy of Descartes (1596–1650) where mind and body are treated as separate entities (Scotland 2012, pp. 10-1), seeks to discover objective reality. This leads to the development of experimental and quasi-experimental methods as a means of controlling factors that interfere with the observation of 'truth'. The positivist paradigm is the dominant frame in the extant LSS literature but is not congruent with the research questions here.

The interpretivist paradigm stems from a reaction to the application of positivist epistemology from the natural sciences to the social sciences (Welch & Piekkarib 2017, p. 715). Twentieth-century philosophical thought represented by phenomenologists, existentialists (Magee & Barret 1977, pp. 6.22-6.30), and the pragmatists (Dreyfus & Magee 1987, pp. 11.52-12.04) in the US began to articulate an alternative view of reality that moved away from the duality of Cartesian thinking. Here the assumption is that reality is fluid and created subjectively and is valid as evidence, particularly where humans are the subject of research (Shaw 2010, p. 234). Subsequently, knowledge about the experience of the subject is pursued inductively, requiring a qualitative methodology to describe and understand the structure of experiences and the meaning attributed to them (Ataro 2020, p. 20). The nature of the applied inquiry helps create explanations that facilitate theory building (Raddon 2010, p. 6; Scotland 2012, pp. 11-3). This is the reality that has not been properly addressed within the LSS field, even though humans relationally are at the centre of the phenomena.

The earlier chapters of this research argued that organisational improvement has been dominated by the positivist tradition. The argument is not that this is inappropriate but that another dimension of reality is at play beyond the routine of applying DMAIC. The analysis of the few LSS research studies revealed the social nature of improvement activities where confronting subjective realities is part of the process. Therefore, the interpretivist paradigm was considered the appropriate orientation for this research.

To address the gaps in the extant LSS literature, this research seeks a deeper, richer, and more contextualised understanding of the improvement facilitator experience through their subjective narrative accounts and explanations within their given contexts (Schipper 1999). Silverman (2013, pp. 103-7) discussed the application of the interpretivist paradigm through the naturalistic or constructionist view where qualitative methods serve the purposes of the research. Naturalism is seen as noting what happens in the life being observed, whereas constructionism goes one step further and seeks to understand how meaning is attributed to the experiences.

This study is interested not only in observing the facilitator's experience at a deeper and more detailed level than what has been described in the literature but also in the way in which the facilitator interprets experience. Given Silverman's (2013) discussion of the two orientations, this research is more oriented to constructionist methods as it seeks to understand both the 'what' of the experience and 'how' it is interpreted and the meaning attached.

Improvement projects may raise the spectre of underlying values and assumptions, ethical behaviour, the exercise of power and the perceived impact on the participants' identities that illuminate the dynamics of an existing context from a critical perspective. Indeed, this ought to be part of the methodology in the conduct of an improvement project. However, this was not the driving purpose or core question for the proposed research and hence the critical paradigm was not considered relevant.

3.1.1 Phenomenology versus Phenomenography

Whilst considering the research methodology for this study, phenomenography (Marton 1981, pp. 179-82) was examined as a possible approach. An analysis of the explanations by Marton (1981) and his colleagues, and research using the approach, showed that there was less concern about the phenomenological ideas of lived experience and more interest in the cognitive representations of experiences, often in a learning context. Understanding how meaning structures and notions about LSS may emerge was not of interest to this work. However, this research is focused on three dimensions of the facilitator's lived experience during an improvement project, which makes phenomenology an appropriate basis for the research.

3.1.2 Selection of Phenomenology as the Congruent Basis for the Research Methodology

The term 'phenomenology' is interpreted as studying or describing phenomena (Pettit 1969), which is anything that appears to someone in consciousness (Moran 2000). Phenomenology rejects the ontological stance of separating internal perception or consciousness from matter or objects. Descriptions of phenomena begin with how one experiences them (Cope 2005, p. 164; Hammond, Howarth & Keat 1991, p. 1). In this sense, subjectivity is inherent in attempts to be objective. As Cope (2005, p. 165) stated, "subjectivity must be understood as inextricably involved in the process of constituting objectivity." Thus, there is no independent, objective reality waiting to be discovered through "…rational, empirical, 'scientific' methods." Based on this view, the phenomenological position is that reality is best described when it is subjectively experienced. The phenomenological purpose is to provide as carefully as possible an authentic description of the experience under study so that the essence of the nature, types and structures of experiences can be understood (Pivcevic 1970). In particular, phenomenology seeks to understand human experience in its purest form from the perspective of the participant without the prejudice of a researcher's expectations, theories, or assumptions, or even the person's own post-experience analysis. Van Manen (2016, pp. 315-6) referred to this as the 'prereflective experience' before opinions, interpretations, and beliefs.

The phenomenological paradigm is best suited to the epistemological stance taken in this research as a more valid view of the reality of improvement will emerge from an interpretive study of the phenomena. The epistemological stance, based on interpretivism, seeks to discover the subjective reality of the people involved as they conduct improvement work. From an ontological perspective, this reality is better understood by seeking out the meaning of the lived experiences as attributed by the people involved (Ataro 2020, p. 20).

Together with the purpose and key question for the research, Table 3.1 below summarises the philosophical and methodological underpinnings of the research (Symon, Cassell & Johnson 2018; Welch & Piekkarib 2017). A more detailed discussion of phenomenology follows to identify the specific implications for the research methodology within the broader intent of characterising the experience of improvement facilitators.

Table 3.1: Philosophical and Methodological Underpinnings of the Research

Purpose	**Gain a deeper understanding of the reality of improvement activities beyond the rational positivist depiction of LSS or organisational improvement activity**		
Key Question	**What is the essence of the lived experience of improvement facilitators during the improvement journey?**		
Ontological Position	**Epistemological Position**	**Methodology**	**Method**
Phenomenology & constructivism – reality is what is in consciousness (mental constructions), therefore relative and experientially and socially constructed (Guba & Lincoln 1994, p. 109; Singh	Interpretivism / constructivism – existential phenomenology Knowledge is constructed through human perception and social experience and, therefore, subjective with "the researcher as an interpretive agent" (Singh	Hermeneutical methodology Individual constructions can be gained from dialogue between the subjects and the researcher. Constructions are thematically analysed to	Personality inventory Diary analyses Semi-structured interviews to encourage dialogue and descriptions and interpretations of

2015, p. 135; Welch & Piekkarib 2017, p. 719).	2015, p. 105). Knowledge and understanding of humans in a situation are gained through the meanings given by them to their activities (Guba & Lincoln 1994, p. 106). In this sense, knowledge is transactional and created with the researcher (Guba & Lincoln 1994, p. 111).	reveal a structure of themes, similarities, and differences.	experience

Cope (2005, p. 163) pointed out that 'phenomenology' has become somewhat confused since it has been used to mean a philosophy, a naturalistic methodology or a form of interviewing. The four studies mentioned in the research review demonstrate this confusion. Cope (2005) and van Manen (1990, pp. 8-9) emphasised that this does not mean that a researcher must become a professional philosopher to use an associated methodology; rather, it is sufficient if a researcher can articulate the epistemological or theoretical implications of applying phenomenology. Van Manen (2016) encouraged researchers to demonstrate their understanding of core phenomenological ideas and follow the phenomenological tradition. The following discussions identify and apply core philosophical concepts as well as define the tradition that will be followed and applied in the research method.

3.2 Historical Overview of Phenomenology

A brief historical account of the development of phenomenology is discussed below, followed by a short review of recent research (dissertations and journal publications) to learn how phenomenology has been applied to methodological approaches. This analysis leads to a deeper understanding of the philosophy, which is then discussed. The motivation here is to go beyond the description of phenomenological concepts found in the research literature to extract likely methodological implications from specific phenomenological concepts. The implications of phenomenological notions raised here will be applied in detail in the following chapter on methodology.

3.2.1 Overview of Development of Phenomenological Thinking

The antecedents of phenomenology are seen as lying with the thinking of Immanuel Kant (1724–1804) (Scalambrino 2018, p. 1a). However, the origins of phenomenology as a philosophical movement are attributed to the thinking of Edmund Husserl (1859–1938) (Dodson 2015, pp. 31-48; Giorgi & Giorgi 2010, p. 3) who was also influenced by Franz Brentano (1838–1917), particularly regarding the intentionality of consciousness.

Martin Heidegger (1889–1976), a student of Husserl who disagreed with some of Husserl's ideas, is considered the major contributor to phenomenological thinking and existential philosophy and phenomenology (Giorgi & Giorgi 2010, p. 4; Peterson 2017a, pp. 1.00-3.38). Heidegger was interested in the notion of being in the world and its meaning and so was more focused on interpretative rather than descriptive methodology. His student Hans-Georg Gadamer (1900–2002) reinforced this interpretive orientation in his own work, which subsequently prompted the hermeneutic phenomenological method (Giorgi & Giorgi 2010, p. 4).

Other well-known contributors influenced by Heidegger include Maurice Merleau-Ponty (1908–1961) and Jean-Paul Sartre (1905–1980), who both published their own ideas expanding the awareness and application of existential phenomenology (Cope 2005, p. 164; Groenewald 2004, p. 4). Van Manen (2016) provided a detailed historical account of the founding thinkers and the subsequent strands and variations in phenomenological thinking.

Given the philosophical focus of phenomenology on reality and particularly consciousness and being, it is not surprising to note contributions from psychologists and psychoanalysts (Plant 2018, p. 279). Ludwig Binswanger (1881–1966) influenced by Jung and Freud became interested in Heidegger's work and created a form of analysis or existential psychology (Boeree 2006). Medard Boss (1903–1990), a contemporary of Binswanger, was another psychologist influenced by Freud, Heidegger, and Merleau-Ponty. Olesen (2006a, p. 4) characterised the contribution of Binswanger and Boss as providing a more analytical and holistic form of phenomenology.

Emmanuel Levinas (1906–1995), also a student of Husserl and Heidegger, oriented phenomenology towards other humans in subjective experience and thereby "…gave phenomenology a radically ethical orientation…" (Cohen 2012, p. 317).

This brief outline of the development of phenomenological thinking illustrates that there are many and varied contributions from different phenomenological philosophers. Although there is a broad common sense of the philosophy, there is no one school of phenomenological philosophy. Kafle (2011, p. 181) outlined three broad schools of the philosophy: transcendental, hermeneutic, and existential.

Some background reading on the philosophy made me aware that I needed to be clear on which form of phenomenology is relevant to the interests of this research to determine the impact on the research design.

3.2.1.1 Analysis of a Sample of Phenomenology-Based Dissertations to Aid Research Design

As I became more aware that phenomenological concepts and traditions could subtly influence the design of tools and processes in the method used, I analysed a sample of recent research based on phenomenology to understand the rationale used and the associated patterns employed in the methodology.

Two different types of dissertations under the banner of phenomenology were identified. Philosophical dissertations were focused on exploring propositions expressed by the founding philosophers, often in abstract areas of human experience. These kinds of philosophically based theses were not collected and analysed for their approach and methodology since they were very different.

Methodology that I could relate to came from studies applying phenomenological methods in areas like psychology, education, nursing, and business involving some form of professional occupation in a social situation. I examined fifteen recent dissertations (see Appendix 5), analysing their research questions, phenomenological concepts discussed, and methodologies used to learn how they interpreted and applied phenomenology in these studies.

The review of the sample of theses across various disciplines shows a pattern which illustrates a discipline with several characteristics as follows:

1. A rationale for choosing a phenomenological orientation associated with the desire to understand lived experience in a particular context.
2. Discussion of the history of the development of phenomenological thinking and related concepts.
3. A description of the method often involving a semi-structured interview process.
4. Description of the form of analysis of collected accounts where notions of bracketing are stated. This description reflected a particular author's approach sometimes with reference to a particular phenomenological orientation.

The majority of dissertations I examined were focused on a descriptive analysis reflecting Husserl's thinking, and many cited the work of Moustakas (1994) and Creswell (1998, 2007, 2012, 2014) as guiding their choice of method. A few researchers sought to apply more hermeneutic interpretative approaches, and some cited the work of van Manen (1990) as the basis for their approach. These variations encouraged me to explore in more detail the ideas behind these approaches as well as the characteristic methods.

Overall, the discussions in the examined dissertations were not as helpful or instructive in assisting my methodology choices as I thought they would be. There is a discipline to follow but the implications of phenomenological concepts on the research questions, forms of interview, and analysis seemed unclear or not clearly developed. Some aspects indicated gaps in the analysed approaches, prompting me to think about the elements I considered essential for my design. The critique is summarised below:

1. Often the interpretation of the phenomenological approach was satisfied by an intent to discover 'lived experience'. In a few instances, this was not even part of the research question. Subsidiary questions or all the research questions were focused on seeking answers to contextual or content-based issues of the subject area rather than being open to whatever the lived experience illustrated.
2. Whilst researchers reviewed phenomenological concepts, these discussions were often very brief, drew on methodology authors, and rarely explored phenomenological notions and their implications for their research.
3. The phenomenological basis for the conduct of semi-structured interviews was rarely clear.
4. Little elaboration was provided on reflexivity and the extent of description versus interpretation of experiences to be employed as discussed in the extant phenomenological literature.
5. In many instances, the form of phenomenology was identified (hermeneutic, descriptive), which then moved into the conduct of interviews and the thematic examination of the accounts.

Does the lived experience observed in these dissertations reflect the concepts of phenomenology or are the analyses merely a thematic organisation of the meaning of the content area under examination? Knapp (2015, pp. 227-8), van Manen (2016), and Seth (2017) argue for efficacy in the application of phenomenological thought by linking the research method, particularly the interviews and following analyses, closely to the specific concepts raised by the founding phenomenological thinkers and associated traditions. In a more recent publication, van Manen and van Manen (2021, p. 1080) express concern over the scholarship of research based on phenomenology. They highlight application of the phenomenological attitude and use of evocative experiential descriptions as key elements "...for doing phenomenology on phenomena". Shorey & Ng (2022, pp 1975-1976) completed a review of descriptive phenomenological nursing studies. They also found inconsistencies in the justification for the use phenomenology and aspects of the research methodology dealing with bracketing and analysis techniques.

These concerns led me to articulate my understanding of phenomenological concepts in this chapter before describing the research design so that the congruent extrapolation from concept to tradition to design is clear. The following methodology discussion will relate core phenomenological concepts that led me to specific areas of inquiry about the lived experience of improvement facilitators. In turn, this will influence the proposed methodology for gaining descriptions of experience and completing interpretive analyses. In this manner, I adhere to the discipline of phenomenological research. The examination of the sample of dissertations led me to form the view that this research may also contribute to the way in which phenomenological research can be planned, interpreted, and executed in the social sciences apart from research in LSS.

3.3 Phenomenological Concepts

The following discussion attempts to raise the principal ideas of phenomenology that have implications for the research stance and methodology employed, and it prompts attending to aspects of the lived experience of improvement facilitators.

Since phenomenology seeks to discover the reality of the lived experiences of humans – the 'being' of humans – it is not surprising to see the contributions outside of the field of philosophy coming from the field of psychology. It is the philosophical concepts that aid understanding humans, particularly their pathology, that attract psychoanalysts to the subject of phenomenology and invite them to comment on the ideas of the various philosophers taking up the discussion. Whilst the ideas of psychologists are employed, it is not the intent to examine psychological concepts that ensue from such discussions but to concentrate on the phenomenological concepts that emerge to illuminate the 'being' of humans during an improvement journey.

3.3.1 Husserl: Reality as Intentional Conscious Awareness

Edmund Husserl published his views in two volumes called *Logical investigations* in 1900 and 1901 and another called *Ideas* in 1913 (Dreyfus & Magee 1987, pp. .25-.33). For Husserl, the mind is always focused on some object – toward something outside of itself – and therefore, he characterises reality as subjects knowing objects. As such, humans have access to study objects of our consciousness without making assumptions about their independent existence (Dodson 2015, pp. 1.42-1.59). He argued that consciousness (the mind) was directed at objects, and so the phenomenological concept of 'intentionality' (the notion of 'aboutness' of something to which the mind is directed) was established. Intentionality indicates that consciousness is an activity (doing something – *noesis*), and it is always referring to something (*noema*) (Dodson 2015, pp. 6.16-7.08).

This intentional content was considered a type of description of reality and so became a way of systematically analysing the consciousness or experience of humans by describing what was focused on (objects) by their consciousness. Such descriptions helped gain an understanding of the coherence and structure of experience. This gave rise to phenomenology as a description of whatever appears in direct experience, irrespective of the independence of the objects of experience.

Husserl also proposes that researchers put aside preconceived ideas of the phenomena being studied, a process termed 'bracketing'. This observational stance is termed 'the phenomenological attitude' or epoché – the suspension of judgement. Taking a phenomenological stance when studying something requires being open to the experience as it stands (as it really is) rather than rejecting the characteristics of experience because it does not fit our prevailing worldview, driven by philosophy, theory, or beliefs (Boeree 2006).

During the latter part of his life, Husserl adopts a more holistic view of experience. He refers to exploring the totality of the 'lifeworld' (the *Lebenswelt*), involving social and interpersonal or intersubjective spheres. This thinking brings his views on phenomenology closer to that of his student Martin Heidegger who disagreed with his focus on consciousness and intentionality (Dodson 2015, pp. 7.51-8.15). It is from the use of language like 'lifeworld' that the notion of exploring the 'lived experience' emerges and is used to characterise the research question as phenomenological in nature.

3.3.1.1 Application of Husserl's Concepts to the Research

From the perspective of the improvement facilitator, Husserl's thinking prompts the following questions:

1 What emerges in conscious awareness for the improvement facilitator?
2 What is the 'lifeworld' (lived experience) of the facilitator during an improvement journey? (This notion influenced the form of the overarching question for this research).

These questions influenced the way in which the semi-structured interviews discussed in Chapter 4 were planned and conducted. It also made me aware of the way I would adopt a phenomenological attitude in conducting the research.

3.3.2 Heidegger, Binswanger and Boss: Levels of Consciousness and Worlds of Experience

Like Husserl, Heidegger conceptualised reality as everything we experience with no subject–object divide (Peterson 2017a, pp. 11.00-11.50).This concept formed the focus of his 1927 key publication *Being and time*, which he dedicated to Husserl. *Being and time* together with Heidegger's other publications marked the beginning of existential phenomenology (Dreyfus & Magee 1987, pp. 2.20-3.00).

3.3.2.1 Different Levels of Consciousness

Heidegger expanded on Husserl's view of consciousness. He argued for different forms of consciousness in Being. Heidegger illustrated that much of the time, humans are not conscious of what they are doing, which he called 'ready to hand' – a form of 'transparent coping' (Dreyfus & Magee 1987, pp. 8.00-10.02). It is in this sense that van Manen (2016, p. 315) argues that phenomenological research is known for its focus on prereflective experiences before interpretation and opinions.

Heidegger termed the next level of consciousness 'unready to hand', which happens when things go wrong and intentionality kicks in to solve the problem. The third level of consciousness Heidegger termed 'present at hand' whereby we stare at or study, the properties of objects. Heidegger related this state to the activity of science, describing it as an existential view of science (Dreyfus & Magee 1987, pp. 14.09-16.01). Observing what comes into improvement facilitators' consciousness in their project experience would reflect 'unready to hand' consciousness, and this research would be a form of 'present at hand' consciousness.

3.3.2.2. Dasein Thrown into the Surrounding World – a Context

From a phenomenological perspective, consciousness occurs in a context. Heidegger saw humans as thrown into the world and forced to cope in that context (e.g., time, culture, society, language, family, and a priori characteristics like personality) (Boeree 2006, pp. 8-9; Correia 2014, pp. 176-7). Heidegger uses the word *Dasein* (Craig 1993, p. 270; Ghaemi 2001, p. 53) to describe this being in ongoing activity within a world context. Phenomenologists are interested in the situation or context or environment in which experiences emerge and, in that sense, are focused on the totality of the experience (Thompson, Locander & Pollio 1989, p. 135).

3.3.2.3. Dasein – Three Worlds Seen Holistically

Binswanger and Boss, extending Husserl's and Heidegger's conception of the dimensions of the lived world, view 'being' as simultaneously being a part of the surrounding world, the social world, and the personal world (Boeree 2006, p. 13; Frie 2000, p. 113).

The surrounding environment in which a person lives (*Umwelt*) involves the physical dimensions of the lived world, such as things, buildings, and other objects (Boeree 2006, p. 13; Frie 2000, p. 114). Cultural influences on lived experience also reflect this phenomenological focus on the context of Dasein. Exploring the lived experience of a person from a phenomenological perspective then necessitates understanding their physical contextual world.

The personal world (*Eigenwelt*) or 'world of self' (Boeree 2006, p. 13; Correia 2014, p. 176) involves a being's private thoughts, interpretations, feelings, sense of identity, hopes, dreams, and self-awareness. Jens Olesen (2006b, p. 107) called this foundational dimension of lived experience "…the universal 'introvert' landscapes of existence…". In drawing on the contributions of Merleau-Ponty, Olesen expands on this dimension by including the experience of one's 'lived body'.

The social world (*Mitwelt*) (Boeree 2006, p. 13; Correia 2014, p. 176; Frie 2000, p. 113) is the lived experience of encountering others. This dimension is based on the characteristics of interactions and relationships with all others encountered in the lived experience, and it is considered key from a phenomenological perspective. The subjective experience of emotions resulting from such relationships is a key part of the reality of being.

Phenomenologists see lived experience in a holistic sense whereby experiences across the three dimensions are instantaneous and interrelated. The experience of all three dimensions creates a subjective context of meaning in which a person lives (Craig 1993, p. 271; Olesen 2006b, pp. 100, 8). From a phenomenological perspective, we need to understand the sum-total of an individual's world relationships.

Van Manen (2016, p. 318) discusses these dimensions in a different way referring to the existentials of "…lived relation, body, time, space, and things…" that are part of every human's lived experience.

3.3.2.4 Heidegger on Others, Openness, Care and Authenticity in Personal Existence

Heidegger accommodates others into his construct of subjective experience (relational dimension). As indicated earlier, Heidegger views humans as thrown (Correia 2014, p. 176) into a societal situation as babies and over time socialized into norms or a set of practices through their experience (Boeree 2006, p. 9). This aspect of Heidegger's thinking becomes a point of contention with other phenomenological philosophers.

Life proceeds and choices are made. Therefore, Heidegger introduces the notion of 'care' as a key quality of Dasein to show that we are engaged with and committed to life and are not indifferent to the world and experiences around us (Boeree 2006, p. 8). Craig (1988, p. 14) describes this orientation as a kind of fundamental a priori condition or characteristic of being open to one's own 'being', others, events, and objects in experience.

Expressing an existentialist view, Heidegger indicates that the unsettling, unreflected life of Dasein can produce anxiety. One possible response is to retreat into a more conformist life, producing an inauthentic existence (Correia 2014, p. 176) and perhaps more anxiety. Heidegger's notion of openness in 'being' (called *Lichtung* (Boeree 2006, p. 8)) is a response to inauthentic living. It involves a sense of receptiveness during lived experience rather than being dominated by circumstances or surrounding mores. Understanding oneself and the surrounding world can allow a degree of freedom of expression, which in turn helps allay the anxieties of life. Boeree (2006, p. 10) describes this manner of 'being' as follows:

> To live authentically means to be aware of yourself, of your circumstances (thrownness), of your social world (fallenness), of your duty to create yourself (understanding), of the inevitability of anxiety, of guilt, and of death. It means further to accept these things in an act of self-affirmation. It means involvement, compassion, and commitment. (p.10)

Openness to circumstances, ourselves, and others can provide greater freedom in 'being'. Boeree (2006, p. 9) points out that Binswanger refers to 'being-beyond-the-world' to emphasise this potential and essential aspect of 'being'. Interpreting the philosophy, Petersen (2018, p. 214) describes inauthenticity as a human who is overly certain of their knowledge and ideas such that openness to other ideas is rejected. Consequently, an inauthentic person continues to act in ways that experience has shown to be false or causing problems. This could be because of a belief in one's own world view, a commitment to an ideology, or avoidance of confrontation, or from seeing fault in the generic others. Petersen refers to this as 'the voice of inauthenticity'.

3.3.2.5 Application of Heidegger's, Binswanger's and Boss's Concepts to the Research

The three dimensions of lived experience provide an organising schema for describing and understanding the lived experience of improvement facilitators. Engaging with facilitators can be designed to surface and gain a better understanding of their experiences in the three worlds as they relate to improvement projects. The three life worlds prompt three lines of inquiry for the research as phrased in the questions raised in the Introduction.

- How facilitators were thrown into their roles and the contexts in which they work can be discussed to understand the interpretation of their experiences based on their context.
- Different forms of intentional consciousness ('ready to hand') can be discovered in facilitators' experiential accounts.
- A priori aspects of facilitators' personal world can be examined to see the influence on their experiences.

Heidegger's concepts of care and authenticity may also emerge in the accounts of facilitators' lived experiences of dealing with challenges they faced and the feelings that emerged.

3.3.3 Binswanger and Boss – Meaning in Experience is Primary

Phenomenological philosophy extends the concept of intentionality by emphasising meaning in experience. The idea is that what confronts humans first is meaning. As Peterson (2017b, pp. .15-1.20) pointed out, people live within a value system which structures their process of active perception of objects and particularly other humans (Peterson 2017b, pp. 17.20-18.50).

Both Binswanger and Boss outlined an approach to holistically understand the lived experience of a person (Correia 2014, p. 176; Craig 1993, pp. 259, 68, 70), which was in large part a reaction to seeing psychologists studying people as objects (Ghaemi 2001, p. 51). Binswanger (1963, p. 114) argued that what we perceive first is not the recognition of the object but its meaning and relevance to us. This can be an interpretation of the object based on past, present, and future experiences relevant to the current reality.

As humans, we notice and pursue the things whose meaning and significance attract us (shine forth to us) in some way. Peterson (2017b, pp. 31.0-2.52) concludes that the views of both Binswanger and Boss aid understanding lived experiences. A perceiving being always has an a priori structure, but at the same time, something about the object attracts attention. Peterson points out that curiosity pulls at the perception of a human manifesting meaning which is not random. He translates this pursuit of meaning in lived experience as the opportunity to pursue perceived potential in lived experience, referencing the phenomenological concept of authenticity.

This focus on the meaning of experience and the pursuit of interpretation is what characterises this dimension in phenomenology as 'hermeneutic' because it seeks to uncover the meaning or sense of the features of the lived experience (Correia 2014, p. 167) from the perspective of the person.

3.3.3.1 Application of Binswanger's and Boss's Concepts to the Research – Following the Hermeneutic Tradition

The emphasis on the centrality of meaning in lived experience shifts the phenomenological focus away from mere description of the prereflective experience of improvement facilitators (e.g., events, actions) to the meaning of those events from their perspective.

Pursuing an interpretation of the meanings that the various facilitators assign to what they paid attention to in the journey of improvement then becomes a key characteristic of the methodology. The interview and dialogue with participants and the analysis approach taken need a process of reflection and interpretation. In this sense, the research methodology will follow the hermeneutic tradition.

3.3.4 Levinas – Seeing the Trace of Others in Subjective Experience

Within the extant phenomenological literature, Emmanuel Levinas is seen as a preeminent thinker taking a different and challenging approach to the subjective experience of others by expanding the conceptual structure of phenomenology (Zahavi 2001). The orientation of western philosophy towards the primacy of self-awareness ('know thyself') by equating being with thinking is what Levinas disagreed with. He sees this as the drive towards knowledge and control and objectifying the other person. Levinas uses the term 'totalising' to label the preoccupation of assimilating what is in one's consciousness into a rational system of representation of others (Downs 2010, p. 15; Knapp 2015, p. 232).

As humans are engaged in their day-to-day being, totalised thinking – 'thematization' (Rhodes & Carlsen 2018, p. 9) – dominates the process of making meaning to survive in the world. The self, dominated by 'totalised' thinking, employs an egotistical, self-satisfying, rigid meaning structure and, therefore, a closed system of perception and thinking. It is difficult for new experiences and their meaning to break into inherent structures of the self-mind (Downs 2010, p. 23).

The observation of the other, the language used, and the way words are said provoke a response and disrupt the comfortable view of oneself (Moran 2000, p. 348; Rhodes 2016, p. 1508). Others, when encountered, challenge, resist, or disrupt a perceiver's consciousness, or attempts to represent themselves according to the perceiver's existing knowledge structures. (Bergo 2017; McMurray, Pullen & Rhodes 2010, p. 553).

For Levinas, others are beyond, outside, or exterior to attempts to be bound by an ego-based representational structure. In this sense, alterity in intersubjectivity (relational experience) holds the potential of a transcendent experience forcing a self to see outside of itself (Knapp 2015, p. 232; Plant 2018, p. 281). Levinas sees this notion of the unique and infinite 'otherness' of humans as the basis for a sense of love and responsibility for others (Moran 2000, p. 330). He reprioritises the nature of subjective consciousness away from a self-oriented intentionality to the primacy of generosity towards and care for others (Rhodes 2016, p. 1507).

From Levinas's perspective, opening oneself to disruption by experiencing the difference in the other allows for new meanings and possibilities to emerge (Plant 2018, p. 286; Rhodes & Carlsen 2018, p. 3). These encounters are the basis of learning, instruction, and the development of language and culture, which in turn influence authenticity (Levinas 1969, p. 73). The phenomenological theme of authenticity in being is developed through this challenging perspective from Levinas (Petersen 2018, pp. 253-6).

In this manner, Levinas posits a unique view of intersubjectivity that makes the personal ethical responsibility to others in subjective experiences the foundation of his philosophy (Bergo 2017). An ethical demand is placed on the self because a response is required in lived relationships with others, particularly as one senses vulnerability in the other (Bergo 2017; Plant 2018, p. 286). Irrespective of whether I am self-aware or blind to the responsibility, there is a "…necessity that falls on me to respond to that other person's needs and very existence." (Knapp 2015, p. 233; Morgan 2007, p. 160). Levinas sees a non-reciprocal relationship where the other has priority over the self (Moran 2000, p. 346) and, therefore, a person is responsible for their response to others and is characterised or defined on this basis. He envisions the opportunity of a transcendent experience with others that holds great value, encouraging an ethical stance when encountering others.

3.3.4.1 Application of Levinas's Ideas on Intersubjectivity to the Research

Facilitators guide stakeholder engagement and discussions throughout the improvement process to integrate the collaborative consciousness of the situation. It follows then that a central feature of the lived reality of improvement facilitators is the emerging nature of the relational experience through all their interactions. Knapp (2015, p. 234) encourages the application of Levinas's ideas in his phenomenologically based research *To See the Trace of the Other* in intersubjective experiences to differentiate such research from other forms of qualitative inquiry. Therefore, Levinas's perspective on intersubjectivity and relational experience provides a key lens through which to view the lived experience of improvement facilitators.

In their discussions on the application of Levinas's views, both Knapp (2015, pp. 237-8) and McMurray, Pullen & Rhodes (2010, p. 543) indicate that phenomenologically sensitive research would bring to light and explore negative emotions and how responsibility towards others is resisted and distorted. In work situations like improvement projects, multiple others place demands on one another for appropriate responses and responsibility in the sense in which Levinas outlines relational experience. Negotiating between different demands and responsibilities during an intersubjective experience encourages the exercise of power as a means of deciding between the demands of different others (McMurray, Pullen &

Rhodes 2010, pp. 545-6). The operationalising of ethics through political action may or may not be self-serving towards individuals or groups, consistent with Levinas's call for appropriate responses. Whilst forms of resistance may occur, political action may also reflect non-totalising behaviour.

Examining more closely why facilitators act and think can uncover seeing responsibility for 'the other' in human relationships. In this way, the research method is orientated towards seeing the trace of 'the others' in the lived experience of improvement facilitators and reinforces pursuing meaning attributed to lived experience. The narratives emerging from discussions with facilitators may illustrate their own political activity as well as their observations of the political behaviour of others. Given the role of facilitators, the nature of their personal ethical subjectivity as they cope with the demands placed on them by the many stakeholders involved in their projects may be surfaced through the research interviews and be available for analysis and reflection.

3.4 Phenomenological Reflection and Reflexivity – Implications for the Research Process

3.4.1 Empathy During Dialogue Enables Richer Experiential Accounts

Phenomenologists encourage an affective orientation when interacting with people to understand their lived experiences, whether in the context of research on lived experience or in psychological encounters. Applying Levinas's ideas, the researcher–researched engagement is 'opening up to one another' in dialogue (Boeree 2006, p. 14). This involves being less formal (natural) and genuinely seeking to understand the intrinsic meaning of the experience through dialogue in an interview. The balanced interplay between inquiry, responsive description (advocacy), and active listening creates dialogue rather than a survey of lived experience (Senge 1990, pp. 198-202). The encounter is less of an interrogation and more a natural, gentle, respectful discussion where 'sympathetic understanding' enables intuiting the nature of the experience by internalising the experience of 'the perceiving other' (Craig 1988, p. 16; Lanzoni 2003, p. 170). The assumption is that the description of experience attained through such a process is likely to be richer and closer to the actual experience.

3.4.2 Generous Reciprocity in the Dialogue Process

Rhodes & Carlsen (2018) extend the application of Levinas's thinking to the relationship between the researcher and the subject. As Levinas admonished, researchers must be open to what is described to see the unique alterity of the other and be able to learn from the other and vice versa. The researcher puts aside their identity as 'the researcher' as well as preconceptions, allowing the researcher to sense and be vulnerable to the other. Rhodes & Carlsen (2018, pp. 12-3) call this relationship 'generous reciprocity' where the participant and the researcher are co-researchers inquiring collaboratively into the experience of interest. The researcher, putting aside their preconceived notions and biases, immerses themselves into the world of the perceiver (Plant 2018, p. 281). This helps intuit the verbal and non-verbal expressions of the other (Lanzoni 2003, pp. 172-3) and prevents the researcher from 'totalising' the experience of the 'perceiving other'.

3.4.3 Phenomenological Attitude – Reflection and Reflexivity in Preparation

Understanding the lived experience of others is a highly reflective process, requiring the execution of the research method from preparation to dialogue through to analysis and writing (Shaw 2010, p. 234). Enacting the phenomenological attitude of bracketing, researchers are encouraged to proactively reflect before the research begins so they are alerted to their presuppositions about the study aim and their biases to avoid masking the essence of the lived experience of others (Clancy 2013, p. 15; Knapp 2015, p. 228).

3.4.4 Phenomenological Attitude – Reflection and Reflexivity During Dialogue

During the research dialogue, the researcher can also apply reflexive skills (Clancy 2013, p. 13). In this way, the reflexive approach helps mitigate bias so that the description of experience is faithful to what is perceived without the interference of judgement or prejudice from the researcher in theorising about the description. Notations can be made during the dialogue based on what the researcher intuits, which can prompt further dialogue as well as be used in the analysis of accounts. Clancy (2013, p. 15) argues that such reflection may prevent a 'problem solving' orientation from emerging during dialogue.

3.4.5 Phenomenological Attitude – Collaborative Reflexivity During Analysis

Reflexivity continues during the analysis of the accounts of the experience. The process uses the recorded language and researcher notations to capture the nature of the experience described, including the differences and similarities in accounts, as a means of illustrating what is essential to the experience. Repeated reflection on the transcribed dialogue allows insights about the themes in lived experience to emerge. The orientation is to go beyond the experience as described through the narrow lens of the perceiver to illustrate the structure of the experience. The meaning of the experience is teased out by reflecting on both the what and the how of the experience (including the mental processes involved) (Ihde 2012, pp. 41-2; Knapp 2015, p. 228). Learning emerges through this process of reflection during the analysis and may prompt further dialogue with the subjects of the research.

Rather than reflexivity during analysis being a process of researcher introspection, reflexivity can be encouraged in every communication with research participants. This process of collaborative reflection and creation of understanding can continue into the analysis and theory-building process (Rhodes & Carlsen 2018, pp. 15-6).

3.4.6. Implications of Phenomenological Attitude and Reflexivity for the Research

The advice on reflexivity has various implications for the research methodology as follows:

1. I need to be conscious of my preconceived views on the conduct of improvement and what I hope to find discussed by improvement facilitators. This means that I need to be very clear in communications to facilitators that the research is not an assessment of the way they have conducted the project. The focus of exploring their experiences based on what came to their attention, their description, interpretation, and feelings needs to be clearly stated in invitations to participate so that they do not perceive the process to be an evaluation. Explaining that the interview process will be conversational and exploratory also needs to be emphasised. This must be communicated at the beginning and, if necessary, repeated during the research dialogue to reinforce the spirit and nature of the research.
2. Being aware of my background and ideas on improvement will help reflexivity during the dialogue process. This will mitigate any tendency towards superimposing my perceptions on those of the facilitators by driving the discussion to hear what I want to hear when it has not been raised through the natural exposition of the facilitator.
3. My judgemental or careless responses to descriptions that may prompt distress in the facilitator can also be tempered through my reflexive process in the dialogue. I will need to avoid moving into a 'Lean Six Sigma' focus when discussing facilitators' improvement project experiences, whereby the methodology dominates the dialogue and the focus on understanding and reflecting upon the subjective experience and lived reality of the facilitators is lost.
4. Drawing on the ideas of Rhodes & Carlsen (2018), openness to the ideas and reflections of the improvement facilitators will be actively invited at every point of communication with the facilitators. Facilitators can be invited to raise their own areas of discussion or questions before the research conversation.

5. Emotive responses or exchanges, such as expressions of humour or concern or empathy on my part, will help put aside the stereotypical role of the distant researcher promoting ‘affective engagement’ and my immersion into the experiences described (Rhodes & Carlsen 2018, p. 11).
6. Reflexivity during analysis will draw on the language used to create themes that represent the facilitators’ experiences. Inevitably the outcome of the analysis of facilitators’ experiences will have some form of thematisation. Being open to the teaching of the other can include the process of reflexivity, beginning during the dialogue with the facilitator; this is part of the collaborative process of the summative reflection on the conversation at different points (Rhodes & Carlsen 2018, p. 13). The improvement facilitators will be sent transcriptions of their research conversations to which their additional thoughts and insights can be added. Facilitators could add their reflections on the arrangements of the conversation into proposed themes and alter them, which may result in additional conversations. Finally, facilitators will be invited to a workshop where preliminary analyses can be shared such that thematic insights and their interrelationships and explanations can be developed to aid theory building (Rhodes & Carlsen 2018, p. 16).

The concrete application of these ideas will be seen in the next chapter on research methods. This fidelity to phenomenology is what distinguishes this research from the previously discussed LSS studies that claim to apply phenomenology. It also distinguishes this research from other studies in the Social Sciences that apply phenomenology in the research conducted.

3.5 Phenomenological Description and Interpretation

Given the emphasis on reflexivity in phenomenology, it is not surprising that terms like ‘interpretative phenomenological analysis’ or ‘hermeneutic phenomenology’ are labels used to identify forms of research inquiry and related methodology.

Langdridge (2008, p.1129), Finlay (2012, pp.21-2), and others provide comprehensive reviews of phenomenological methodology, discussing a continuum from the description of lived experience to ever deeper interpretations of experience. The chosen methodology then ought to show congruence between the phenomenological position taken, the research questions posed, and the method used.

3.5.1 Description as the Foundation

Earlier, this research pointed out that van Manen’s (2016, p. 315) admonition to gather and analyse prereflective experience is characteristic of phenomenology. Van Manen’s (2016) intent is to make visible the experience of the participants in their own terms, requiring the research process to provide as much detail about the experience as possible so that an accurate (as close as possible), complex, and rich understanding of the experience is gained (Errasti-Ibarrondo et al. 2018 p. 2; Finlay 2012, p. 17). Care is given to the design of the communication to participants as well as the interview process and collection of written work to enable what is experienced (noematic) and how it was experienced (noetic) to be recorded in as much concrete detail as possible (Langdridge 2008, p. 1129) without the interference of the researcher’s opinions and interpretations of the experience. The transcripts are the base material meant to provide a reliable representation of the features of the participant experience (Brocki & Wearden 2006, p. 29). Ataro (2020, p. 22) argues that descriptive phenomenology is more applicable when the experiential nature of the phenomenon is unexplored, as is the case when conducting improvement projects, which is demonstrated in the literature review in Chapter 2.

3.5.2 Levels of Interpretation

The shift from description to an emphasis on interpretation reflects the influence of Heidegger (influenced by Gadamer) and Binswanger and Boss (Finlay 2012, p. 22). Here the hermeneutic emphasis on interpretation to gain meaning enters into the design and application of phenomenological research methodology (Errasti-Ibarrondo et al. 2018, p. 2). Hermeneutics involves interpreting the meaning of the language used by research participants to consciously describe their experiences, including their own reflections since the underlying phenomenological position is that "… individuals actively construct meaning of their lifeworld." (Greatrex-White 2008, p. 1846; Langdridge 2008, p. 1128). Langdridge (2008, p. 1131) and Smith & Osborn (2009, p. 53) point out that different levels of interpretative stances can be taken. For this reason, they encourage researchers to make plain their rationale and how interpretation is conducted.

3.5.2.1 Initial Thematic Analysis – Empathic Hermeneutics

Phenomenological analysis is often idiographic since the researcher begins with one participant (case) and then builds on the interpretation through the analysis of additional cases (Pietkiewicz & Smith 2014, p. 8). Reflection from case to case allows common themes and differences to be established. A synthesised structure is developed illustrating the features of the experiences and aiding understanding of the issue being researched (Finlay 2012, p. 21). In this sense, interpretation is based on minimal inferences being made by the researcher or co-created (as discussed earlier) by researcher and participant.

As themes of experience emerge, the labels used are evocative of the themes. This immersion in the descriptions of lived experience enables the researcher to provide an emic perspective illustrating participants' sense making of their lived experience (Pietkiewicz & Smith 2014, p. 11). Continued reflection may identify relationships between themes. Both Langdridge (2008, p. 1138) and Smith & Osborn (2009, p. 53) use the term 'empathic hermeneutics' to suggest a level of interpretation that seeks to accept the meaning of the descriptions given by participants who try to understand an experience from their perspective – the participant's side.

3.5.2.2 Interpretation Based on Phenomenological Concepts

Another level of interpretation involves the researcher reflecting on the descriptions and interpretations in terms of phenomenological concepts. In this sense, the descriptions can be interpreted and analysed revealing the nature of the experience from a phenomenological perspective beyond the creation of themes based on the content of the experience (Langdridge 2008, p. 1131).

Such analyses intend to gain a more holistic understanding of the experiences being investigated. This level of interpretation is seldom applied in phenomenological research, even though the methodology is based on the philosophical orientation (Langdridge 2008, p. 1131).

3.5.2.3 Reductionist Interpretation Requiring More Inferential Analysis

Langdridge (2008, pp. 1133-4) and Larkin, Watts & Clifton (2006, p. 103) suggest that the tendency of researchers to extend inferences, make assumptions, and become more speculative during the analyses of descriptions results from a desire to get more out of the descriptions and provide some form of critical analysis.

In some instances, external theoretical frameworks are used to analyse the descriptions as they are provided (Finlay 2012, p. 23). Langdridge (2008, p. 1133) expressed concerns that such interpretation, particularly in phenomenological research in psychology, may mask the understanding of the experience and be seen to introduce a form of bias given that the inferential leap is beyond what the data supports.

Finlay (2012, p. 23) suggests that these forms of interpretation have arisen because of arguments that phenomenological analysis has been overly descriptive. The view is that researchers have not taken account of discourse analysis. The work of Ricoeur (1970) is used to exemplify the form of critical interpretation using discourse analysis whereby the action elements and micro features of language during discourse are examined to identify acts of persuasion or the exercise of power that go beyond the meaning of descriptions to uncover unconscious meanings of discourse and lived experience. Langdridge (2008, p. 1136) referred to this as the 'hermeneutics of suspicion'.

Langdridge (2008, p. 1136) argues that the critical frame pursued by what is labelled the '…hermeneutics of suspicion…' underestimates the power of blending descriptive and interpretative phenomenology and points out that the lived experience of power and politics can be identified, understood, and critically examined from descriptions provided. The other argument outlined by Langdridge (2008, p. 1131) draws attention to the two different philosophical positions of phenomenology and the critical frame. There are two different purposes pursued by the congruent research methodologies. Phenomenological description is focused on content and meaning, whereas the critical frame prioritises features of language that reveal displays of power and politics. Respecting the differences by understanding the purpose of the research ensures that the methods used are congruent with the intent of the research.

Langdridge (2008, p. 1133) and Larkin, Watts & Clifton (2006, pp. 109, 14) caution against extended forms of interpretation of lived experience descriptions where inferences go beyond what the data validly reveals and result in simplistic reductive explanations that may be invalid. Larkin, Watts & Clifton (2006, p. 115) propose a middle ground between empathy and suspicion through what they term 'hermeneutics of meaning-recollection'. They emphasise that interpretation is meant to help bring out the meaning of experience consistent with both descriptive and interpretative approaches.

3.5.3 Implications – Levels of Interpretation Intended for this Research

The process of engaging improvement facilitators in the research process will focus on creating detailed descriptions of their key experiences that include their view of their surrounding context, the impact of their experiences on a personal basis, and the nature and interpretation of their key interactions with others during their improvement work. Both the noematic (what is experienced) and the noetic (how it was experienced) aspects of experience will be sought. The interview and dialogue process will encourage facilitators to reflect on their personally impactful key experiences to draw out descriptions of the way they attached meaning to these experiences through their interpretation. These views are also part of the base descriptions that will form the core transcripts from which further interpretations will be made. This descriptive, Husserl-oriented focus reflects the foundational aspects of the research outcomes.

I intend to minimise the inferences made in interpreting the base descriptions. The core interpretative analysis will seek to ideographically construct themes that emerge across the transcripts of experience. As much as possible, the participation of the facilitators will be required to co-create themes. The importance associated with the various features of the experience will be drawn from the facilitators themselves. Interpretation will include identifying common themes across experiences, unique features or differences in experiences, and possible interrelationships between this more summative analysis. Facilitators will be given the opportunity to participate in this process as well.

Another level of interpretation will be to organise the summative analysis according to and associate it with the three aspects of the life world of improvement facilitators. This form of interpretation and association with phenomenological concepts will aid a more holistic representation of the lived experience of facilitators through the lens of phenomenology rather than simply the content-based aspects of their improvement experiences.

Overall, the interpretative character of the analysis employed in this research can be characterised by the 'hermeneutics of empathy and meaning-recollection'. The intent is to make minimal inferential leaps or conjectures from the data in the transcripts towards causal explanations for the descriptions provided. Suspicion over what is being said will not be the orientation. Given the purpose of the research, discourse analysis will not be used.

3.6 Summary of the Characteristics of the Methodology Based on the Phenomenology

This chapter on phenomenology has identified and discussed phenomenological concepts and their implications for the research design. A summary of the links between phenomenological concepts and implications for the conduct of the research that emerged through the chapter is provided in Appendix 6.

Understanding phenomenological concepts and the demonstration of fidelity to phenomenological methodology prompted phrasing the questions that defined the research intent so they would reflect key phenomenological ideas. The overarching research question is:

What is the essence of the lived experience of improvement facilitators during the improvement journey?

Implicit in this overarching research question is the intent to illuminate the meaning structures of improvement facilitators' prereflective experiences and at the same time obtain a glimpse of the lived experience of an improvement project, albeit from one perspective.

The subsidiary questions are organised around the three dimensions of lived experience, reflecting the ideas of Binswanger, Boss, and Heidegger to obtain a holistic and comprehensive view of the lived experience.

- **Personal World (the *Eigenwelt*)**

  What experiences emerged within the personal world of facilitators that led them to be involved in improvement project facilitation?

- **Surrounding World (the *Umwelt*)**

  What did facilitators notice in the surrounding organisational context of the improvement project and in the project itself?

- **Relational – Social World (the *Mitwelt*)**

  What experiences predominated in the relational world of facilitators whilst being involved in the improvement project?

Inquiry into the relational world experiences is the key focus given the predominant social dynamic involved in improvement projects. The following chapter will extrapolate the implications of the phenomenological concepts into the details of the research method.

4.0 Research Methodology

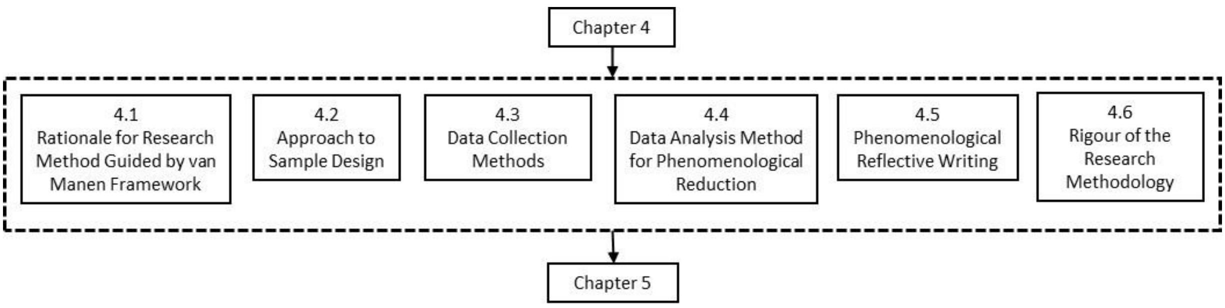
Chapter Purpose and Structure

The philosophical concepts underpinning the methodological stance taken were discussed in Chapter 3. This discussion also covered various research approaches stemming from different phenomenological positions. This chapter describes the overall research approach adopted and its rationale, and then identifies the specific research methods that are most suited to address the targeted research questions.

There are six major sections as outlined below and shown in Figure 4.1:

- Having discussed the philosophical concepts in Chapter 3, the discussion (4.1) begins with the rationale for using van Manen's (2016) work on phenomenological methodology (e.g., phenomenology of practice) as the underlying guide to the detailed elements of the research design.
- The phenomenological perspective on sampling using purposive and convenience approaches is discussed, followed by a description of the sampling and recruitment process (4.2).
- Section 4.3 discusses the approach taken for the data collection, beginning with the application of four forms of epoché that apply the phenomenological notion of bracketing. The rationale for, and use of, the personality inventory and use of the project portfolios of work are then described in detail. This is followed by a detailed description of the rationale for the unique design of the interview process and the method for trialling the interview schedule.
- Section 4.4 describes the analytical method applied to surface the themes of experience within the three dimensions of personal, surrounding and relational worlds.
- Section 4.5 outlines how the outcomes of the analysis are composed into evocative accounts engaging the reader in the meaning of the experience.
- The final section (4.6) describes the approaches taken to establish the rigour of the research methodology. This includes the way the validity of the research is demonstrated according to the phenomenological tradition. Methods addressing reliability and transferability, risks, ethics, and confidentiality are also outlined. Finally, limitations of the research are raised.
- Note: Section 5.1 outlines how the planned research methodology was executed including the actual participant sample obtained and the volume of experiential accounts generated.

Figure 4.1: Outline of Chapter 4



4.1 Rationale for Research Method Guided by the van Manen Framework

Moustakas (1994), Giorgi (2009), Smith & Osborn (2009), and van Manen (1990) are major contributors in describing phenomenological methodology given the frequency with which their ideas are cited in research papers (see Table 4.1). Their descriptions emphasise different phenomenological perspectives and different descriptive and interpretive approaches used in analysing reports of lived experiences.

Table 4.1 summarises the characteristics of the methodology they encourage. Despite variations in their views, there are many similarities in their approach, which helps formulate a research design. All methodologies emphasise aligning the chosen research purpose and question with the appropriate methodology.

In the previous chapter, I argued for the broad nature of the elements of the research method summarised in Appendix 6. It was based on these parameters that I chose to make use of van Manen's (2007; 2016) approach, which he terms 'phenomenology of practice' as described in his more recent writings (van Manen 2007; van Manen 2016; van Manen & van Manen 2021, p. 1071). Van Manen (2007) points to the value of phenomenology as a means of thoughtful reflection on the practice of living from a pragmatic and ethical perspective. As humans, we wonder about how to think and act in different personal and professional situations (Pereira 2015, p. 9609). Van Manen (2007, p. 19) particularly observes the way research on professional practices involving humans (teaching, nursing, counselling) has been oriented towards a rationalist view dominated by "… technological and calculative thought…". In a similar vein the review of extant LSS literature and research has also illustrated the domination of the rationalist or positivist perspective in LSS research.

Van Manen (2007) argues for the use of a careful, pathic-oriented phenomenological methodology that is "…free of calculative rationality" and more open to the nuances of the noncognitive aspects of professional practice (van Manen 2007, pp. 20-2). Such reflection captured in phenomenological writing prompts further reflection, learning, and knowledge creation, producing a more sensitive and effective practice. He points to his involvement at the University of Utrecht where he observed different professionals (psychologists, educators, paediatricians, sociologists, criminologists, psychiatrists) applying phenomenology within their contexts as an important influence on his thinking (van Manen & van Manen 2021, pp. 1071-1073). These professionals were less interested in phenomenology as a philosophy and more in its practical and reflective application in their professions (Errasti-Ibarrondo et al. 2018, p. 2; Errasti-Ibarrondo et al. 2018 p. 1725). This orientation towards phenomenology as a guide to reflection on professional practice suited this study of the practice of improvement facilitators and was the main reason for considering the guidance offered by van Manen's thinking.

Van Manen (2016, p. 25) referred to the phenomenology of practice as a "…hermeneutic or interpretive-descriptive phenomenology". He sees the phenomenological method as defined by a flexible, creative scholarship to suit the nature of the inquiry the researcher has formed (van Manen 1990, p. 29). The framework practices identified in Table 4.1 reflect this perspective. In this sense, he offers a heuristic approach for researchers to consider, design, and apply (Errasti-Ibarrondo et al. 2018 ; Pereira 2015, p. 1728).

The flexibility and creativity implicit in his approach were also attractive features prompting the adherence to his methods. Other researchers report (Errasti-Ibarrondo et al. 2018 p. 1724; Seth 2017, p. 40) that the alternative approaches and the level of detail van Manen provides were both practical and readable, again making his methodological guide attractive.

This discussion has provided my rationale for using van Manen's work as the underlying guide to the detailed elements of the research design. However, encouraged by van Manen's call to flexibility within scholarship, I will draw on other materials for guidance as well. What follows is a description of the elements of the research method planned and applied in this study.

Table 4.1: Table of Frequently Cited Phenomenological Research Guides

Hermeneutic phenomenology - Van Manen Guide (1984, 1990)	**Descriptive Phenomenology** **Giorgi (2009) Guide**	**Transcendental or Psychological Phenomenology** **Moustakas (1994) Guide**	**Interpretive Phenomenological Analysis (IPA)** **Smith and Osborn (2009) Guide**
Connell (2003, p. 52), Litchfield (2016, pp. 41-2), Seth (2017, p. 40) Taken from van Manen (1984b, p. 42). Four themes involving eleven stages: **Turning to the Nature of Lived Experience** • Orienting to the phenomenon • Formulating the question • Exploring assumptions and pre-understandings **Existential Investigation** • Exploring the phenomenon – generating data • Consulting phenomenological literature **Phenomenological Reflection** • Conducting thematic analysis • Determining essential themes **Phenomenological Writing** • Attending to spoken language • Varying examples • Writing • Rewriting, etc.	Broomé (2012, pp. 86-90) with Giorgi (2009) define five stages: 2 Assume the phenomenological attitude. 3 Read the entire “naïve description” to get a sense of the whole experience. 4 Demarcation of “meaning units” within the narrative so that the data can be dealt with in manageable portions. 5 Transforming the meaning units into psychologically sensitive descriptive expressions. Transformations of meaning units using imaginative variation to isolate the essence of the structure of the experience. Descriptive paragraphs are generated to obtain the structure of experience. 6 Synthesis of the general psychological structure from the psychological constituents of the experience.	Stubbs (2013, pp. 70-1) uses Aspers (2009) adaption of Moustakas (1994) seven stages: • Developing a research question • Conducting a pilot test • Developing a theoretical framework (using theories as schemes of reference) • Studying first-order constructs (bracketing theories) • Constructing second-order constructs (connecting the real world to the theories) • Checking for unintended consequences • Correlating the field evidence	IPA reflected in work of Smith, Jarman & Osborn (1999); Smith & Osborn (2009), Smith, Flowers & Larkin (2009), and Pietkiewicz & Smith (2014). Basic approach discussed: • Constructing a research question and deciding on a sample • Collecting data: semi-structured interviews as the exemplary method for IPA • Constructing the interview schedule, constructing questions, interviewing, tape recording and transcription • Analysis – two approaches • Idiographic case study approach • Exploratory approach • Writing Up

4.1.1 Overview of Research Methodology

Based on the concepts discussed in Chapter 3 and van Manen's (2016) approach, an overall methodology was designed for the research whilst maintaining fidelity to phenomenology. Figure 4.2 summarises the design elements that make up the methodology and shows the related sections in the following discussion, providing detailed descriptions of the approach taken. The distinct phenomenological characteristics of the methodology are apparent in the outline.

Figure 4.2: Summary of Research Methodology

Epistemological Basis	**Existential Phenomenology** drawing on van Manen's (2016) approach to **hermeneutic or interpretive-descriptive phenomenology** (3.1.2, Appendix 6).
Sampling	**Purposive and Convenience Sampling** to obtain range of concrete experiential descriptions from UTS LSS short course graduates (4.2.1).
Data Collection	Four forms of **Epoché** to create critical self-awareness to be open to participants during data collection (4.4.1).
	Use of **Personality Inventory** to understand 'a priori' characteristics of facilitator's Personal World experience' (4.3.2).
	Facilitators' existing Project Portfolios describing their improvement project journey were collected for analysis. (4.3.3).
	Semi Structured Interview designed to elicit Phenomenological and Hermeneutic dialogue during discussions with facilitators (4.3.4).
Data Analysis and Phenomenological Reduction	**Descriptive and Thematic Analysis of facilitators' backgrounds and work contexts** based on portfolios and introductory sections of interviews to understand **Personal and Surrounding World experiences** (4.4.1).
	Thematic Phenomenological Analysis of Accounts of Facilitators' Relational World Experiences (4.4.2) Initial Analysis – Wholistic Reading and Preparation of Facilitator Approved Transcripts Immersion Analysis – Detailed Reading and Analysis to generate themes.
Phenomenological Reflective Writing	**Evocative Writing in Reduction of Experiential Accounts** (4.4.2, 4.5) Development of evocative accounts and final thematic analysis across all accounts to focus on essence of experiences and building representative models
Maintaining Rigour of the Research Methodology	Processes followed **Ensuring Efficacy and Validity of the Research** in the Phenomenological Tradition, and to adhere to **ethical standards and manage risks** (4.6).

4.2 Approach to Sample Design

van Manen (2016, p. 370) discussed the issue of generalisability in the context of phenomenological research. He argues that phenomenological analyses can reveal essential aspects or repeated meanings found in lived experience that can help understand what is universal about the phenomenon under focus (Creswell 2012; Pietkiewicz & Smith 2014, p. 9). Given that 'sample' has empirical connotations, van Manen (2016, p. 371)argues that trying to determine how many participants to include in a phenomenological study is an inappropriate question. Rather the intent should be: "How many examples of concrete experiential descriptions would be appropriate for this study in order to explore the phenomenological meanings of this or that phenomenon?" (p. 371).

As van Manen (2016, p. 373) indicates, the outcome of the research should contain the "… right amount of experiential material…" to create a "…scholarly and reflective phenomenological text" (p. 373). The general advice for studying lived experience is to use a smaller sample (one to fifteen participants) where rich detail can be gained from participants' own descriptions (Brocki & Wearden 2006, pp. 21-2; Pietkiewicz & Smith 2014, p. 9). Purposive sampling is advised where a homogeneous set of participants, subject to the experience under study for whom the research is particularly relevant, is sought (Smith & Osborn 2009, p. 56). Moustakas (1994, p. 5) sees this as the essential feature in deciding on the group of people to be involved in the study as they are likely to have the greatest knowledge about the experience under study.

The pragmatics of obtaining a sample of people willing to participate also influences the number of participants that can be obtained. The ease with which such a sample can be obtained influences the size of the group and the process by which the sample can be obtained. Such an approach is termed 'convenience sampling' (Suri 2011).

4.2.1 Use of Purposive and Convenience Sampling

The sampling approach taken for this research reflects both purposive and convenience methods.
Given the research is focused on improvement project facilitators conducting more complex projects, the main criteria in selecting participants would be their training in conducting improvement projects and their actual experience in completing a complex improvement project.

Access to people of the kind described above was available through the Lean Six Sigma short course study and certification at the University of Technology Sydney (UTS), which I have taught for several years. These are people who work in a variety of organisations and industries and who have completed actual improvement projects as part of their certification work. Apart from written assessments at the end of their training, course participants submitted a project portfolio containing reflections on their experience, the completed project plan, and learning cycles (with attached analyses) diarising the team journey through DMAIC.

It was convenient from several perspectives to draw on these people to obtain a homogeneous group. They had common training experience and a similar understanding of LSS. They all had completed complex improvement projects and had portfolios available to analyse the context of the improvement projects and the nature of the improvement process followed. Examination of the portfolios would allow preparing for subsequent dialogue with participants about their experiences.

Depending on the acceptance levels, the sampling goal was to obtain a group of 5 to 15 participant facilitators from a variety of organisational contexts. If the number of interested participants would have been too big, then a random sample would have been taken to achieve the sample size. The example experiences across a variety of organisations and industries helped discover common and unique experiences and their meaning across the different individuals. The number of examples was also indicative of the stability of experiences across different contexts in terms of organisation and industry. The target number did not compromise the level of detail and richness of description that could be obtained from participants.

The first part of Chapter 5 describes the execution of the planned approach to the methodology, reflecting on the appreciation of the phenomenological approach and the resultant efficacy achieved. Included in these descriptions (5.1.1) are the actual sample and response rate obtained.

4.2.2 Recruitment of Participants

4.2.2.1 Informal Communication and Request for Interest

Given that I had met all the people involved and had had further contact with them at university topic-based seminars over time, my initial informal approach was to email the graduates and seek their interest in being involved in the research. The process would have also included follow-up phone calls if necessary. The email message is attached in Appendix 7. The themes of the message reflect key implications for the research discussed in the chapter on phenomenology. The email makes clear that the research is not an evaluation of their work or their organisation but is solely concerned with their experience of conducting improvement projects. In response, participants were asked to indicate their interest, after which they would receive a formal invitation to participate.

4.2.2.2 Formal Invitation – Informed Consent

A formal email invitation from the UTS Principal Supervisor (see Appendix 8) together with information about the research (see Appendix 9) and a return consent form (see Appendix 10) was then sent to those interested in participating. The forms of communication were based on templates provided by the UTS Human Research Ethics Committee. These procedures were approved under the UTS Human Research Ethics Committee (HREC) guidelines (Approval Number: ETH19-3485). Facilitators who gave their consent were then contacted to arrange the interview process and answer further queries if required.

4.3 Data Collection Methods

This section discusses the approach taken in collecting the data for the research. The use of a personality inventory, the portfolios of work, and the conduct of the interviews are described in detail. The section begins with a discussion of epoché, a practice of phenomenological research designed to avoid researcher bias interfering with the participants' observations about their experiences. Epoché was particularly applied during data collection, analysis, and the final writing of the research findings.

4.3.1. Epoché and Bracketing

I found van Manen's van Manen (2016) chapter 'Epoché and Reduction' (Chapter 8) helpful in understanding the concepts and my role as researcher during the research process. He discusses epoché after synthesising ideas from Husserl, Heidegger, Merleau-Ponty, Levinas, and others. He states:

> All the various aspects and methodical gestures of the epoché serve this purpose: to open oneself to experience as lived—how certain phenomena and events are constituted and give themselves in lived experience. (van Manen 2016, p. 233)

Van Manen argues that the basis for epoché enacts Levinas's orientation to be open to others in intersubjective experience – to adopt a sense of wonder by putting aside pre-conceived notions about the other with which we engage. To achieve insight into the essence of the prereflective experiences of participants, a researcher needs to become aware of their own presuppositions as we are predisposed to interpret phenomena we observe from these perspectives (van Manen 1990, pp.46-7; van Manen 2021, pp. 1075-1077). Critical self-awareness beginning with a written declaration of the researcher's experience and views about the focus of the research is seen as a discipline that will help avoid bias in data collection, analysis, and writing. van Manen (1990, p. 47) argues that the practice of epoché is not about trying to forget our beliefs and suppositions as this is too difficult. Rather by making these views explicit, the knowledge can be used to evaluate (reflect on) what is being done during the research process to avoid masking the essence of the experiences under study.

Below is the description of my experience and views about LSS. In addition, I have practised four forms of epoché outlined by van Manen (2016, pp. 231-8) that are relevant to this research. These reflections were taken into the interview, analysis, and writing process that followed.

4.3.1.1 My Past Experiences Relevant to this Research

My educational background involved educational psychology with an emphasis on learning theory. I moved out of teaching roles in schools and became part of the Division of Educational Research in the NSW Department of Education. For a time, I was an adjunct lecturer in Teacher Education at the University of Western Sydney. My interest in organisational psychology and management theory grew as I became involved in consultancy and research work in schools seeking to improve aspects of teaching and learning. I left the educational system and moved into industrial settings – primarily utilities and information technology. It was here that I began specialising in facilitating improvement. During this process, I went back to studying part time at the UTS Business School and specifically in the Management Department.

My educational background made me pay attention to issues of action research and learning and to forms of analysis, particularly quantitative analysis. Research in educational settings places emphasis on experimental and quasi-experimental designs typical of much educational research. However, the use of more qualitative research methods is also employed. My background in psychology taught me about learning theory, understanding people, and the process of change within organisations. Teaching and lecturing in teaching methods increased my skills in facilitating learning and collaboration amongst groups. My studies on organisational behaviour and quality management gave me an understanding of the factors influencing behaviour at different organisational levels and an affinity for the values and principles that are part of quality management, including the emphasis on improvement and its related principles and practices. This process combined with the influence of leaders in organisations, following my work in schools, had a significant impact on developing my professional interest in the field of improvement in organisations. Over time I developed a passion for the philosophy behind creating high-performance organisations under the guise of Total Quality Management and latterly Business Excellence. I became interested in the application of improvement methodologies, including LSS.

I have been involved in improvement activities in various capacities over the last 30 years. The work has been in different settings such as educational organisations, utilities, and for much of the time large multinational information technology organisations. I have been involved in improvement activities that dealt with administrative, financial, human resources, information technology, sales, pre-sales, and marketing processes, and a broad range of core manufacturing and service environments that were mainstream for the organisations.

I have facilitated and managed improvement projects, led the design and implementation of improvement programs, and evaluated improvement programs. I have developed and implemented training programs on improvement (LSS) within organisations, as a private consultant and as an adjunct lecturer at UTS. As the chair of the Australian Business Excellence Framework Committee, I was involved in writing criteria by which organisations and evaluators for the Australian Business Excellence Awards could assess their improvement programs and campaigns. As an evaluator, I was involved in assessing improvement activities in organisations around Australia and within the technology companies in which I worked.

Through these experiences, I have established a set of principles, values, and practices that influence how I observe what is occurring in organisations. I have previously mentioned my view that effective improvement facilitators adopt the rational, phenomenological, and critical frames when seeking to understand phenomena within organisations. I am committed to using analytical methods drawing on these frames and employing LSS methodology and tools with great emphasis on collaborating, engaging, and enabling the ‘prisoners’ of the work systems.

At the heart of epoché is an orientation towards openness to what will be discovered rather than proving the researcher's presuppositions. Below, I discuss how I have attempted this openness through the research, as I discuss each aspect of epoché described by van Manen (2016, pp. 231-8).

4.3.1.2 Heuristic Epoché – Maintaining a Disposition of Wonder about the Experience of Improvement

Van Manen (2016, p. 234) refers to the heuristic epoché as the researcher putting aside any sense of presumption about the experience under study caused by a familiarity with the experience. The notion is to adopt an attitude of wonder and be open to the experience being shared. Referencing Heidegger, van Manen (2016, p. 234) described this sense of wonder as seeing "...the unusual in the usual, the extraordinary in the ordinary...".

This is a challenging yet understandable disposition from the perspective of phenomenology. Given my background, I needed to be self-aware and not slide into focusing on my interests and perspectives. To emphasise this sense of discovery, I began my bracketing with the nature of the key questions I posed for the research. I did not presume any experience during improvement in the questions I posed. My inquiry was organised around the different dimensions of lived experience and left open the nature of descriptions provided by participants within these dimensions.

My orientation particularly during the interviews with facilitators needed to display interest even in what I might consider the mundane aspects of experience during an improvement project. I wanted to display a deep interest in the interpretations and meanings given to the experiences by facilitators. This depended on my active listening and inquiry behaviours during dialogue with the participants. As a reminder to bracket in this manner, I built in prompts into the discussion schedule (see Appendix 11).

4.3.1.3 Hermeneutic Epoché – Avoiding the Desire to Prematurely Explain Descriptions and Interpretations from a Particular Frame of Reference

van Manen (2016, pp. 234-5) argues for bracketing the desire to explain what is described by participants in the first instance. At the end of the previous chapter, I indicated that the phenomenological tradition I would follow was focused on rich descriptions of experiences with minimal interpretation by myself.

By describing my background, views, and concepts about LSS, I created a point of assessment that I used to reflect on what I was doing and thinking in the data collection, analysis, and writing process. This reflection helped sustain a discipline of self-awareness to avoid the desire to explore LSS concepts and tools rather than a dialogue on the experiences of the facilitators. In the discussion guide (Appendix 11), I included notes to avoid stimulating topical discussions of LSS concepts and theories and instead focus on the experiences. The prompts in the guide included the use of open questions focused on stimulating participants' experiential descriptions and interpretations. During the analysis and writing process, my focus needed to be on thematic representations of the experiences rather than linking experiences back to theoretical views about LSS.

Based on my experience with the participants, I needed to avoid an evaluative flavour in the dialogue as participants could be less open about their experiences. The communications to the participants during recruitment made it clear that the discussion was not an assessment of their work. The discussion guide (Appendix 11) contained reminders not to slip into an evaluative discussion of the methodology used.

My intention was to avoid large inferential leaps prompted by a desire to critically analyse participants' descriptions or interpretations. In this sense, I remained open to gaining an understanding of the experiences and their meaning without leaping into an interpretation or focusing on a special interest. This is particularly the case in my writing which communicates the essence of the key experiences of the improvement facilitators. Only following the analysis of the facilitators' prereflective lived experiences did I then consider my own interpretations and conclusions, which drew on extant theory.

4.3.1.4 Experiential Epoché – Putting Aside the Tendency to Abstract the Concrete Nature of Lived Experiences

Experiential epoché, as described by van Manen (2016, pp. 236-7), seems to overlap with his notion of hermeneutic epoché. Fundamentally, van Manen is calling for researchers to put aside any tendency to move away from capturing the specific, immediate concrete nature of the described experiences. The place, the timing, the bodily sensations, the feelings, and the perceptions of the direct experience unadulterated by any form of summation or abstraction are sought in phenomenological research. There may be a desire to surmise or abstract, resulting from embedded theoretical frames well known to the researcher, but this would result in losing the rich detail of the immediate experience. I have already stated that the phenomenological tradition I followed is based on seeking rich descriptions of experience.

The form of bracketing used here was based on the dialogue conducted with participants. Given this admonition, the design and conduct of the interview with participants pursued the qualia of their experiences. A key process following participants' descriptions was to seek elaboration using probes. This allowed the concrete details of the experiences to be captured as deeply as possible. The specific design of the interview process will explain this process.

4.3.1.5 Methodological Epoché – Bracketing Conventional Research Techniques

van Manen (2016, pp. 238-9) argues that phenomenological research places more emphasis on the skilful and sensitive application of the research processes dealing with data collection through interviews, analysis and writing methods. All these processes build evocative representations to capture the essence and meaning of the experiences under study. Researchers are encouraged to bracket conventional methods they may be familiar with in favour of inventive methods that suit the nature of the phenomenological study. The authors of the above-mentioned four LSS studies (see 2.4.1), claiming use of phenomenology, may have been influenced by their own notions of research based on LSS, which inhibited the opportunity to be true to the phenomenological tradition.

Given the traditions of educational research and the rationalist orientation of LSS, this form of bracketing was challenging. Based on my area of interest, the understanding of the field I developed, and phenomenology, I made methodological choices that suit the topic under study. In this sense, I sought to develop and apply a method that reflects the broad phenomenological tradition and specifically hermeneutic phenomenology. The way the research questions were posed allowed for greater openness to the possibilities of improvement experience. The design of the semi-structured interview process is different to designs of other forms of qualitative interviews including those found in published dissertations based on phenomenology. My approach to communicating the intent of the research during the recruitment process was designed to avoid preconceived notions being adopted by the participants and myself. My focus on epoché is a more disciplined approach to ensure the depth of experiences can be obtained without the impact of presuppositions about LSS. I encouraged a collaborative approach with participants, which helps with epoché as it allows others to interpret the essence of the results of the data collection as well. The process of analysis and writing also reflects the phenomenological tradition more so than a generic qualitative approach.

4.3.2. Use of Personality Assessment Scale

Heidegger's concept of humans being thrown into the world and a specific situation was discussed in the chapter on phenomenology (3.3.2.4), including the personal world aspect of lived experience and the notion of a human's a priori characteristics. The chapter also discussed the views of Binswanger, Boss, and Petersen that deal with the influence of a priori structures on perception and how they impinge on a being's consciousness and their interpretations.

I introduced the use of a personality inventory into LSS training at the University because my readings and Dr Petersen's lectures on personality theory influenced my thoughts on developing self-awareness and openness to others in students. Much of the work of improvement facilitators involves collaboration with people in an organisation as well as fostering collaborative learning and action amongst those engaged in an improvement project. Consequently, developing a good understanding of their own temperament and those of others and appreciating how they are similar and different to others helps improvement facilitators in the way they relate to and engage with others in their work. This awareness seems to me a concrete step to avoid objectifying (totalising) others, as raised in the discussion on Levinas's views. Seeing others as naturally different in terms of personality traits helps generate understanding and engagement, which helps facilitators cope with the diversity of opinions and ways of doing things encountered in the social-relational world. The model also provides facilitators with a theoretical and logical platform on which to base their facilitation methods.

I used the personality assessment scale developed by DeYoung, Quilty & Peterson (2007), available publicly on the site Understandmyself.com. I chose to use this scale for three reasons. It reflects the predominant personality model that has emerged over the last fifty years through research (Church et al. 2015, p. 98; Musek & Grum 2021; Soldz & Vaillant 1999). The five major traits or domains of personality are commonly labelled:

- Openness
- Conscientiousness
- Extraversion
- Agreeableness
- Neuroticism (Emotional Stability)

The model is referred to as the 'Big Five Personality Traits' or the OCEAN model.

Secondly, the research approach used by DeYoung, Quilty & Peterson (2007) provides a clear rationale and supporting evidence for the scale developed as a reliable instrument. Each of the five domains has been further broken down into ten aspects or sub-traits supported by the studies carried out by the researchers and others in the field. The database that has developed over time has now over 10,000 responses from people of diverse age, race, and gender. The completion of the inventory results in a comprehensive and detailed report that helps the respondent understand the traits and how they compare with others on the five major domains as well as the ten sub-aspects. The authors refer to their scale as the 'Big Five Aspect Scales'.

Thirdly, the completion of the inventory takes a short amount of time (between 10 and 15 minutes), is available publicly online, and is low cost. This makes the inventory very accessible and useful.

My reasoning for including the personality results in the research was that a deeper dialogue on the significant experiences described by participants can be stimulated by asking participants to reflect on the connection between characteristics of their personality assessment and their sense of their experience. Rather than my interpretation, I am interested in the meaning structures they see for themselves, stimulated by reflecting on their a priori characteristics.

Participants who had not completed the inventory were invited to do the short online assessment and then share the assessment with me under the same confidentiality agreements provided in the consent form. Before each interview, I asked participants to reread their assessments. Where relevant, I prompted participants to interpret their experience based on their assessment. The structure of the inventory results will be explained and discussed further in the analysis chapter to follow.

4.3.3. Diary or Project Portfolios

As a result of completing LSS studies at UTS, each participant has a portfolio of work describing their project journey. The portfolio is structured to an assessment standard and includes a reflection on their project, a description of the improvement project purpose, and the learning cycles, which relate to each of the DMAIC phases and describe what was done in each phase. This includes the learning achieved together with the analyses on which the learning was based. The project portfolio, therefore, contains some reflections on the project process.

These project diaries, which had already been submitted, were collected for each of the facilitators involved in the study. The diaries were read as part of the collection of information about the context of the improvement work and were also used to prepare for the discussions with each participant. The diaries were available during the interviews and could be referenced during the interview.

The danger was that the diary and the subject matter of the project rather than the facilitator's key experiences could become the object of discussion. As the researcher, I ensured that the content of the improvement and the application of the methodology did not supplant the discussion to the point that the experiences of the facilitators were not discussed.

4.3.4. Semi-Structured Meeting and Dialogue Process Design

Major philosophers employ their own (first-person) examples of experiences as the subject matter on which they reflect, intuit, and establish their logical arguments about phenomenology (Blaschke 2017, pp. 27-8; van Manen 2016, pp. 102-253). The empirical application of phenomenology is a second person (researcher) gathering of prereflective first-person experiences from a sample of participants (Blaschke 2017, p. 29; Pietkiewicz & Smith 2014, p. 10). van Manen (1990, p. 66); (2016, p. 331) distinguishes the use of interviews in phenomenological research from other forms of qualitative research because of the gathering of accounts on prereflective first-person experiences. He points out (2016, pp. 315-6) that the efficacy of phenomenological-based research is predicated on obtaining and analysing prereflective experiential accounts.

Several issues emerge when seeking first-hand experiential accounts gathered second hand. Petitmengin (2006, pp. 237, 9); (2011, p. 46) points out that empirical phenomenological research relies on retrospective access to subjective experience. The dilemma of seeking descriptions of prereflective experience retrospectively becomes a challenge to the validity and reliability of phenomenological research methods. Issues in the research process are compounded by the extent to which participants can recall experiences, let alone verbalise them. Blaschke (2017, pp. 51-2); Petitmengin (2011, pp. 46,8); van Manen (2016, pp. 330-3), and Vermersch (1994, 2018, pp. 52-4) identify specific difficulties encountered in conducting research seeking prereflective lived experiences as summarised below.

- Humans are not conscious of all their past experiences, have difficulty accessing their memory of these experiences, and are not accustomed to reflecting on the experiences.
- Recalling different dimensions of past experiences is tiring and difficult.
- When prompted to discuss experiences, participants tend to focus on the content or object of experience (noematic characteristics) and avoid the inner dimensions of 'how' (noetic characteristics) the event was experienced.
- Verbalisations describing experiences can be vague and tend towards interpretation.

- When prompted to describe certain experiences, people may resist as they may not feel comfortable describing the experience in detail.
- Researchers employing semi-structured interviews in phenomenologically based research may not be trained in techniques to stimulate dialogue and depth of description on prereflective experiences.

Brocki and Wearden (2006, pp. 11-3), having reviewed phenomenological research using semi-structured interviews in the field of health, are critical of the way researchers have reported on the rationale for the design of the interview guide or the role of the researcher as they facilitated the interview. None of the phenomenologically based dissertations that were analysed for guidance (Appendix 5) describe the way the researchers conducted the interviews to address the issues described above. The described development of interview protocols in these dissertations appears to deal more with the nature of the questions than with the question how the planned discussions would yield prereflective experiences. There appears to be an assumption that a semi-structured guide that simply directs the participant's attention to responding to questions on the topics of interest to the researcher is sufficient.

Concerned about the way experiences can be sought from participants, Brocki and Wearden (2006, pp. 11-3), Petitmengin (2006, p. 239), and Blaschke (2017, pp. 29-30) propose ideas on the way the researcher as a second-person mediator can help elicit rich descriptions from participants that address the problems identified. These design and practice elements based on the work of Blaschke (2017, pp. 50-66), van Manen (2016), and others have shaped the model and practice for the interview process for this research as reflected in Appendix 11. These broad design characteristics are outlined below in Table 6 with the detailed application in the interview guide in Appendix 11.

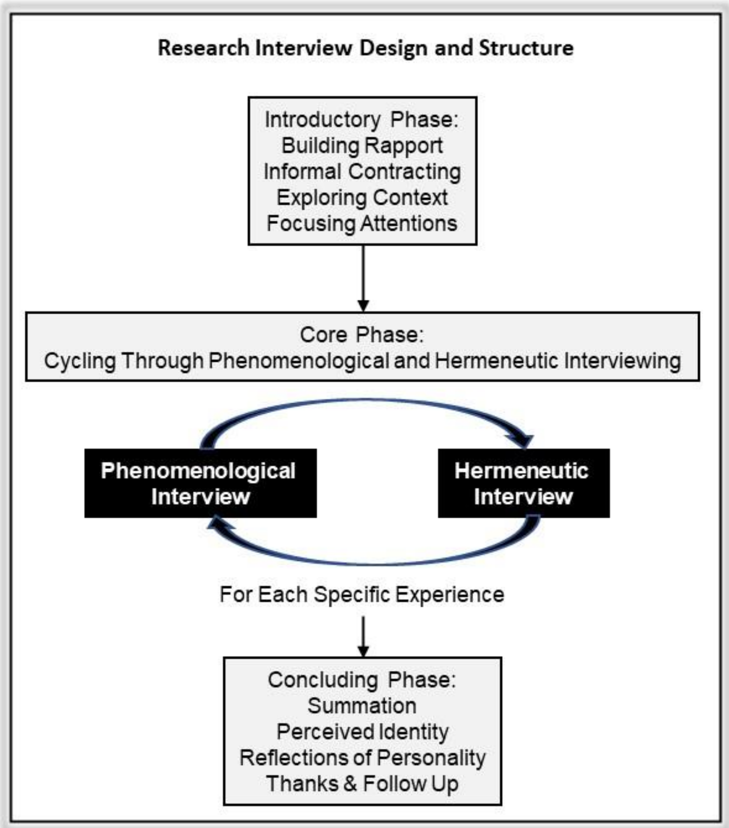
The underlying rationale is that engaging in dialogue with participants to garner base views of experience by continually moving back and forth between stimulating recall of experience and then seeking interpretation of experience disrupts the cognitive process of retrieving memories of experiences. The arguments draw on notions of 'affective, episodic or concrete memory' as distinct from conceptual memory and the theory and research on 'Neuro-Linguistic Programming' (Blaschke 2017, pp. 51-2; Maurel 2009, pp. 59-60; Petitmengin 2006, p. 244). Remaining in a focused posture of recall and dialogue enables reliving of experience in a more concrete and direct fashion. This form of interviewing is termed 'explicitation interviewing' by Maurel (2009, p. 59) or Vermersch (1994, 2018, p. 90) and 'evocation interviewing' by Blaschke (2017, p. 50). van Manen (2016, p. 330) refers to this format as the 'phenomenological interview' (used in this research), which is the initial major phase of the interview process for this research.

Van Manen (2016, pp. 315-6) argues for the clear distinction between direct, concrete experiential accounts and the interpretations of such accounts ("…views, opinions, beliefs, perceptions, interpretations, and explanations…"). The emphasis is on analysing prereflective experiential accounts, which van Manen (2016, p. 333) terms the 'hermeneutic interview' and which follows on from the phenomenological interview. The application of the hermeneutic tradition in gathering opinions or explanations is seen as enriching an understanding of the lived experiences to further uncover meaning structures. Interpretations gathered may give insight into the personal mental phenomena of participants.

Specific guidance on conducting hermeneutic interviews in the phenomenological tradition is not apparent. The advice provided is generic, such as the nature of the questioning or the attitude of the researcher (Porteous & Machin 2018, p. 57; Tingsvik et al. 2018, p. 48). These aspects are already well reported in the previous discussion, which deals with the phenomenological interview. The tendency in such literature is to relate the hermeneutic nature of the discussion to the analysis phase rather than recognise that a different interview approach is required when encouraging interpretation. Blaschke (2017, pp. 58, 61, 3-4) refers to this phase of interviewing as analysis or expositional style Interviewing, which can be used in collaborative discussions to clarify the meaning of language used during the phenomenological interview.

Van Manen (2016, pp. 333-4) encourages engaging participants in collaborative discussions on their interpretations of their experiences. Unfortunately, apart from cautioning that participants may not have the expertise or insight to interpret their experiences, he provides very little additional advice on the interview style. This lack of advice may be because such discussions are more conceptual and, therefore, more obvious to facilitate. Since the participants in this research are all trained and practising facilitators of improvement, I assumed that they could reflect on and interpret their experiences during improvement projects. The interview design allowed for clarification of the meaning of words or phrases if required.

Figure 4.3: Interview Design



The overall pattern for the semi-structured interview process for this research was developed based on the interview structure discussed previously. Figure 4.3 provides a graphical summary of the basic process phases and their sequence. Table 4.2 provides a broad summary of the interview process, illustrating how the design reflects the advice from the literature. Appendix 11 contains the detailed discussion guide including the text to introduce each phase, the specific questions and probes organised within the interview phases, and reminders about my role and attitude during the interview. The interviews were conducted at a location convenient to the participants (own organisation or the University).

Table 4.2: Rationale and Summary of Interview Design

<table>
<tr><th>Phase</th><th>Pattern and Rationale for Interview Design</th></tr>
<tr><td colspan="2">Introductory Phase</td></tr>
<tr><td>Building Rapport
Clarifying Purpose and Process</td><td>Building Rapport
The interview begins with thanking facilitators, checking in with them about how they are, making them feel at ease and comfortable.
Informal Contracting
The discussion purpose and character are restated, and the interviewer checks to see if participants are happy to proceed and if any clarification is needed.
(Blaschke 2017, p. 55; Maurel 2009, p. 59)</td></tr>
<tr><td>Stabilising Attention & Overview of Experiential Landscape</td><td>Exploring Personal and Surrounding World
Facilitators discuss how they got involved in improvement work and their perceptions of the project context. This stabilises attention on the project and eases interviewees into discussing experiences.
Focusing Attention by Funnelling from General to Specific Experiences
The process of focusing attention on facilitators' lived experiences begins with asking them to overview their few most significant experiences during the improvement project which they have thought about in preparation.
(Blaschke 2017, p. 55; van Manen 2016, p. 330.3)</td></tr>
<tr><td colspan="2">Core Phase
Cycling Through Phenomenological and Hermeneutic Interviewing for Specific Experiences</td></tr>
<tr><td colspan="2">The core of the interview process is cycling between the phenomenological and hermeneutic styles of interview. Each significant experience is explored individually moving from a phenomenologically directed process to an interpretive process until the discussion on that experience is exhausted. The same process is repeated for the remaining experiences.</td></tr>
<tr><td>Phenomenological Interview</td><td>The What or Structure of the Experience
The facilitators are asked to describe what happened in a given experience, including the project phase (lived time and space). Clarification is then sought on the events in their temporal sequence within the experience if necessary (what, who, where). The description forms the background against which deeper prereflective experiences can be explored.
The How of the Experience – Dimensions or Existentials
Through prompts, the nature and intensity of physical (visual, auditory, tactile, olfactory), emotional (feelings and reactions), and mental (thoughts, images, memories, associations) perceptions or impressions are explored. The facilitators' physical reactions (tone of voice, eye movements, gestures, movements in the chair, language) are closely observed during their descriptions and may prompt further exploration. The intent is to trigger a vivid reliving of a significant past experience at the more direct, prereflective level by encouraging facilitators to verbalise these experience dimensions.
(Blaschke 2017, p. 55; Friesen 2012, p. 49; Pietkiewicz & Smith 2014, pp. 7,10; van</td></tr>
</table>

	Manen 2016, pp. 318-23, 33)
Hermeneutic Interview	Participants are informed that the mode of interviewing will switch to a different style seeking their interpretation rather than description. **Prompting Clarification or Elaboration of Evocative Language Used** Once there is agreement that the raw description of the experience has been exhausted, the discussion can turn to exploring language used during the description that was noted in the interview (if required). This is a form of clarifying or correcting the descriptions. **Prompting Interpretation and Explanations** Next, facilitators are prompted to reflect on their experiences. The facilitators' explanations or opinions of why they think something happened, including their own actions, thoughts, and feelings, are sought. This is an opportunity to understand how improvement facilitators attribute their own meaning and make sense of their experiences. (Blaschke 2017, pp. 62-3; van Manen 2016, pp. 315-6)
Conclusion Phase	
Summation After exploring each of the significant experiences raised, facilitators are asked to reflect on the character of the whole discussion, summarising the themes they raised in discussion that characterise their experiences. This gives facilitators an opportunity to collaborate on the process of analysis. **Perceived Identity** Given the descriptions of experience, facilitators are asked to reflect on how they saw their role enacted in the experiences and how they felt others involved in the improvement team saw their role. **Reflections of Personality – 'A Priori Characteristics'** Facilitators are asked to reflect on aspects of their personality emerging in their experiences. **Thanks and Follow Up** Participants are thanked for their involvement and the process of further engagement is outlined. (Smith & Osborn 2007, p. 61)	

4.3.5. Pilot of Interview Process

The interview approach was piloted with experienced facilitators who are involved in teaching the LSS program at UTS but would not be involved in the research as participants. This allowed the interview process, including the questions and prompts, to be tested. The interview pilot also helped guage the time involved to adequately complete the interview process.

4.4. Data Analysis Method for Phenomenological Reduction

Throughout his writing, van Manen (1984a; 1984b; 1990; 1997a; 1997b, 2007; 2016) strives to encourage efficacy in phenomenological research. One reason for differentiating the methodology from other forms of qualitative research is the nature of phenomenological analysis and writing. It emphasises disclosing or surfacing the essential meaning elements of lived experiences in an evocative style that encourages readers to reflect on the lived experiences of the practices within the profession. For this reason, I adhered to van Manen's approach to encourage reflection on the conduct of improvement that is not apparent in the extant LSS literature.

The broad elements of the analytical method cover:

1. the analysis of the organisational context or background within which improvement facilitators work
2. the core analysis of the elements of meaning emerging from the described lived experiences of facilitators
3. reflecting and composing the outcomes of the analysis into text in a way that evokes the meaning of the experiences and prompts reflection on the experiences.

4.4.1 Descriptive Analysis of Participant Backgrounds and Work Contexts (Personal and Surrounding World)

A simple thematic analysis was applied to the introductory elements of the interviews to summarise the improvement facilitators' personal world by illustrating how and why they chose to be involved in improvement. A descriptive and graphical analysis (box plots) of the results of the personality inventory was carried out to understand facilitators' a priori personality characteristics. This analysis revealed the phenomenological notion of being 'thrown' into the circumstances of lived experiences.

Similarly, the introductory elements of the interviews and the facilitators' portfolios of work were used to understand the 'surrounding world' of the facilitators. Again, a simple thematic analysis was applied to surface facilitators' perceptions of their organisational and project contexts. This analysis helped understand the situations for improvement and provoked a sense of empathy for the circumstances in which facilitators worked. Finally, descriptive and graphical summaries of the characteristics of the improvement projects, such as duration, cycles of work, stakeholders involved, team structures, and achievements, were completed.

The analyses summarised and evoked the characteristics of the personal and surrounding worlds of the participating facilitators to help readers relate to the ensuing core analysis of relational experiences.

4.4.2. Thematic Phenomenological Analysis of Relational Experiences (Social World)

The heuristic to discovering the essence of lived experience begins with a thematic analysis of the experiences described by participants. Although the approach I describe below draws primarily on the advice of van Manen, it can be seen as an amalgam of the approaches in Table 5 since the thematic analysis of lived experiences forms the starting point of phenomenological analysis. van Manen (2016, pp. 335-6) distinguishes thematic analysis from its use in other qualitative research based on the content of the analysis and, to some degree, the process of the analysis.

Phenomenology is concerned with the structure and meaning of the lived experiences of interest. Through the analysis and writing, the researcher tries to reveal the essence of the experiences. The disclosure needs to be concrete, direct, plausible, and evocative. van Manen (2016, p. 336) is at pains to emphasise that identifying similarities and differences, codifying, and presenting a conceptual structure is not a reflection of the phenomenological tradition. Given such a focus, van Manen (2016, p. 366) decries the use of software tools that complete frequency counts of terms in textual material. He encourages close examination of the language used by participants that particularly evokes the meaning structure of their experiences. Therefore, the analytic process involves isolating expressions that give concrete or direct access to experiences. van Manen (2016, pp. 264-6) puts forward an approach that builds anecdotes that represent meaning elements evocative of the experience. These anecdotes, drawn from raw descriptions in edited form, then become the data upon which further thematic analysis (commonalities, interrelationships) is completed. Finally, a text is composed to create a phenomenological account of the lived experience of interest.

The approach taken, largely based on van Manen, is outlined below. The core materials used in the analysis are the interview transcripts, the bulk of which are the relational experiences.

4.4.2.1 Analysis Method

Three levels of analysis were followed as described below.

Initial Analysis – Holistic Reading and Preparation of Facilitator-Approved Transcripts

- An ideographic approach was adopted in the initial analysis, analysing each interview on a case-by-case basis (Smith & Osborn 2007, pp. 67-8).
- The recorded interviews were heard as soon as possible while fresh in my memory, and additional notes were made during the process (van Manen 2016, p. 336).
- A transcript of the full interview was developed and read and reread with the recording to double-check that the transcript is complete. Notes were taken to begin identifying units of meaning linked to themes.
- The transcript was then edited to remove extraneous sections that emerged during the interview and were irrelevant to the research question. Sections relating to the interview structure and thematic elements were noted using headings and subheadings.
- This edited / cleaned version of the transcript was sent to each facilitator to verify the story of their experience and modify the portrayal from their perspective.

Immersion Analysis – Detailed Reading and Analysis

- Each returned transcript was read and reread at the level of understanding each sentence. Sentences, phrases, or words that were considered significant or evocative in revealing the characteristics and meaning of the experience were highlighted. Colour coding and notations were used to denote the thematic nature of the experience.
- Once this analysis was completed, all elements were reviewed and then sorted into groups of same experience, allowing themes to emerge. Using this data in tabular format, descriptive and interpretative paragraphs were developed using the language of the facilitator, which produced evocative vignettes of each relational experience. Van Manen (2016, pp. 271-4, 336) refers to this process as a conversion into anecdotes to reflect meaning units of experience – the datum of phenomenological inquiry.
- Following the exhortation from van Manen (2016, pp. 265-8, 300-11), each evocative account was carefully drafted and redrafted to ensure that concrete details in the language of the facilitator provoke empathy and aid insight into the facilitator's experience.
- The term 'reduction' was used in the extant phenomenological literature to refer to this process of arriving at the essence of prereflective experiences and their associated meaning (van Manen 2016, pp. 363-4). Throughout this process, the phenomenological attitude (epoché), discussed earlier, was applied as part of the reflexive process of analysis and writing.

Thematic Analysis

- Beginning with an initial account, a draft set of experiential themes emerged, disclosing the phenomenological meaning of the facilitator's experience. Each account contained themes linked to specific anecdotes.
- As subsequent accounts were analysed, a comparative analysis showed common themes as well as what is specific to each narrative. The descriptive nature of the themes and their underlying interrelationship was adapted based on insights gained from further analysed accounts. A final set of common and unique phenomenological themes was developed and cross-referenced to particular vignettes (Cope 2005, pp. 178-9; van Manen 2016, pp. 336-8).

In the last stage of interview analysis, this analytical material then formed the basis for what van Manen (2016, p. 336) refers to as 'phenomenological reflective writing'.

4.5 Phenomenological Reflective Writing

Van Manen (2016) devotes several chapters to describing the process and nature of writing in the phenomenological sense. He sees analysis, writing and reflection as inextricably linked in phenomenological research and states, "…I think it is critical to insist on the inseparableness of phenomenological inquiry or research from phenomenological writing or textual reflection" (van Manen 2016, p. 410). Van Manen sees the object of phenomenological writing as attempting to display and express lived experience in the most evocative manner possible.

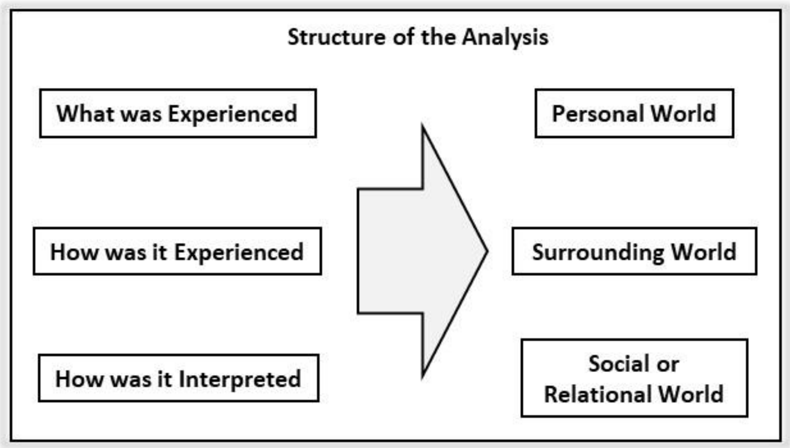
In summary, he encourages drafting and reflection from different perspectives. Drawing on accounts and anecdotes, the writing helps the reader gain insights into the meaning and nature of the experiences. Van Manen (2016, pp. 271-4, 336, 395-8) encourages an evocative style producing concrete vignettes of the experiences under study that resonates with the reader, pulling them into reliving the experience. He suggests organising the writing by exploring the phenomena in the context of the phenomenological worlds and the existentials. Initially, the common aspects of experience can be explored, followed by examining deeper layers of meaning. Further insights can be gained by interpreting experiences in terms of phenomenological concepts.

In a more recent publication van Manen and van Manen (2021, pp. 1077-79) further elaborate on the approach to reflective writing by discussing phenomenology as the study of examples. Whilst reflecting on experiential accounts and maintaining a phenomenological attitude, evocative vignettes or examples are created. They are meant to be eidetic – vivid and detailed, drawing on the language of the experience. Such vignettes "… have evidential significance…" and generate insights into the experiential world, making the essence of the experience "… knowable and understandable". Through explication van Manen and van Manen (2021, p. 1079) argue that such reflective writing is unique and distinct from other forms of qualitative descriptions employing examples that orient towards explaining, clarifying, illustrating, or codifying. Chapter 6 (6.1) illustrates and describes the process of creating 39 evocative vignettes based on the accounts of the improvement facilitators involved in the research.

Given my research questions and the summary at the end of the chapter on phenomenology, I anticipated that the emerging themes would be organised around the three worlds of experience shown in Figure 4.4. Within each dimension, both the 'what' and 'how' of the experiences produced additional themes as they formed key outcomes for the research. In addition, the personal dimension and interpretations from the perspective of the facilitators were also insightful.

This writing is different from drawing on the extant LSS literature for further interpretation and the application of the research findings. Such discussions in the final chapter of the thesis will be linked back to the theoretical literature to confirm, modify, or develop emerging propositions that can be examined through further research.

Figure 4.4: Structure of the Analysis



4.6. Rigour of the Research Methodology

4.6.1. Efficacy and Validity of the Research in the Phenomenological Tradition

van Manen (2016, pp. 366-70) and others are critical of certain empirical phenomenological research studies as they are missing methodological characteristics that illustrate a phenomenological tradition. The more the research conducted displays these characteristics, the more fidelity to the phenomenological tradition can be observed. The way this research addressed these criteria is discussed below.

Valid Phenomenological Question

In the earlier chapters, I have already argued a rationale for both the interest in the broad question posed and its logical relationship to phenomenology. Seeking to understand the subjective experience of improvement through the eyes of the improvement facilitator, who plays a key role, is a valid phenomenological question that emerges from the gaps in the LSS literature (van Manen 2016, p. 370).

Clearly Based on Phenomenological Literature and Tradition

I have argued that many of the studies purporting to apply phenomenological methods do not apply phenomenological concepts in any depth to their research design. Aside from a historical view of the philosophy, I examined key concepts in the philosophy, provided a rationale for the hermeneutic phenomenological tradition and examined the implications for the planned research method as shown in Table 4.2 (van Manen 2016, p. 370).

Valid Accounts of Prereflective Experience

A major criticism by van Manen (2016, p. 368) is the lack of clarity in pursuing prereflective experiences, which characterises the philosophy. Van Manen suggests that much of the research draws on accounts that are interpretations, opinions, beliefs, or theories rather than the base, direct experiences of the participants.

Taking the admonition to heart, I have sought to make this clear in the literature review, the core research questions, and the design of the research method. Communications to participants have emphasised the focus on experience and not the nature of the methodology. I have taken care to design the interview and use facilitation styles to surface prereflective experiences despite the difficulty in the process of recall. Facilitators had the opportunity to review and edit the descriptions to ensure they reflect their experience as remembered (Joshi 2015, p. 90).

During the interview, facilitators were closely observed and process notes were taken whilst they described both the ‘what’ and ‘how’ of their experiences. Behavioural cues, such as eye movements, gestures, body movements, tone of voice, and expression of emotions, contiguous to descriptions indicated evocation as a person relived the experience at a prereflective level (Blaschke 2017, p. 55; van Manen 2016, pp. 331-4).

van Manen (2016, pp. 328-9) cautions against applying tests of validity applicable to quantitative research in phenomenological research. He points out that it will never be possible to get an accurate or factual description of an experience in the past. It is sufficient to gain a close, largely correct view of the experience (Blaschke 2017, p. 66). van Manen (2016, p. 330) states, “phenomenology is less concerned with the factual accuracy than with the plausibility of an account— whether it is true to our living sense of it” (p. 330).

Facilitators also collaborated with me in checking the validity of the descriptions through their review of the interview transcripts and their advice on their accuracy (Ataro 2020, p. 21).

4.6.2. Reliability

van Manen (2016, p. 370) argues that the notion of reliability does not apply in phenomenologically based studies since the concept of repeatability of experiences does not make sense. His view is that lived experiences can vary in their description from person to person and study to study. This seems to be an overstatement of the methodological discipline. One expects the nuances of the experience to be different, but the core aspects of the ‘what’ of the experience and the structure of meanings should be similar. Van Manen’s views seem more related to generalisability rather than reliability.

The design of the interview guide provides a basis for repeating the process from one facilitator to the next (Smith & Osborn 2009, p. 57). Obviously, the nature and content of the dialogue process vary as different experiences are described, but the broad structure and style of the process are stable. Whilst I acknowledge van Manen’s philosophical take on experiential accounts, my view on variability is that one facilitator interviewed in the same way (at the same moment in time) about the same experience will produce a similar but not exact same account. The ‘what’ of the experience ought to be the same. Whilst reflections on the meaning of the experience may change over time, the existentials of the experience are likely to be similar. Therefore, the use of the interview design and its stable executions aided the reliability of the described experiences.

van Manen (2016, p. 373) also discusses reliability under the notion of bias. Self-reflective awareness in the form of epoché has already been discussed to prevent the corruption of facilitators’ accounts of prereflective experiences. Earlier I explained how I intended to bracket my preconceived notions during the application of the methodology. In addition, the process I outlined for the analysis of the experiences and their meanings also enabled experience themes to be presented reliably. The analysis was transparent in that themes were grounded in the anecdotes or examples of experience for readers to examine and assess (Brocki & Wearden 2006, pp. 29-31). Further, facilitators individually and collaboratively reviewed and added to the thematic analysis of the results of the interviews. Colleagues who are experienced teachers and consultants in the field of improvement were also invited to examine and question the analysis. Finally, my supervisory panel was also invited to assess and question the analysis (Blaschke 2017, p. 72). These elements of the methodology reinforce the credibility of the analysis, ensuring that I have been faithful to the emic perspective of the improvement facilitators.

4.6.3 Generalisability – Transferability

van Manen (2016, pp. 371-2) points out that generalisation in phenomenological research needs to be considered differently from its usual application in empirical research. Van Manen emphasises the importance of research that is evocative and resonates with readers, particularly those in professional practice. Repeated aspects of meaning and the stability of experiences suggests what is essential or universal in experience. It is in this sense that existential generalisation is realised.

Writing that draws on common themes in the experience of improvement facilitators, is situated in realistic contexts, and is illustrated with plausible anecdotes and examples that may resonate with professional LSS facilitators and readers. The insights gained from relating to the experience in their own practice may prompt better professional practice. In large part, van Manen (2016, pp. 371-2) is seeking phenomenological research that has an impact in this manner. By drawing on a sample of participants from different contexts (albeit a small sample), recurring experiences and related meanings could emerge, which could be translated to the lives of other improvement facilitators (Whiddon 2015, p. 56; Wright 2013, p. 61).

In addition, differences in experience may also show essential characteristics relevant to different contexts that can be examined in future research.

Silverman (2013) points out that qualitative forms of research allow an understanding of the commonality of phenomena across social situations and, therefore, allow some conclusions about generalising across social situations. In this research, the use of different facilitators across different industries and processes involved with different improvement projects helped gain a sense of which were common themes in experiences. Cope (2005, p. 171) suggests the strength of the phenomenological inquiry lies in its ability to generalise across social contexts. He argues:

> From a phenomenological perspective, knowledge is created through repetitive reinforcement and cumulative evidence, where the strength of a theory rests on the variety of circumstances and contexts to which it holds some descriptive power. (Cope, 2005, p.171)

4.6.4 Limitations

Basing the research on phenomenology had several limitations. The phenomenological approach does not focus on empirical forms of analysis that would allow cause-and-effect relationships to be established or provide quantitative descriptions from large samples of facilitators or project teams. However, these methodologies would not gain access to the deeper and more detailed understanding of facilitator experiences. Future research may use alternate methodologies such as quasi-experimental methods to examine techniques that are effective for different situations in conducting an improvement project.

The size of the sample impacted the generalisability of the observed phenomena across different social situations. However, the methodology is meant to be a deep dive, an inductive process with a few cases to gain much richer insights into the lived experience of improvement facilitators. There is a balance to be struck between a focused inquiry on a few cases versus the use of a larger sample of improvement facilitators that may be more appropriate for empirical studies. As discussed previously, the research outcomes afford a certain level of existential generalisability.

The use of only the facilitator perspective narrowed the possible set of experiences that could be gained. Gathering experiences of all those involved in an improvement project would allow broader and more comprehensive perspectives to be analysed. This would be a different and more intense form of research. As discussed in the Introduction chapter, the viewpoint of the improvement facilitator is a key perspective given their role. It is a useful initial view of the improvement experience as the facilitator often takes the perspective of the observer of what is happening in a project. Future research can focus on the intensive and time-consuming process of gathering all perspectives on an improvement project while the project is underway.

These facilitators were highly trained and worked on complex projects. Focusing on experiences in simpler contexts as well as with alternative forms of training to UTS may reveal other forms of lived experience.

The discussion on validity highlighted the dependence on the interview style employed and the facilitators' ability to recall their experiences. Care in the design of the interview process and the trialling of the interview helped mitigate these limitations. Given the time limitations for the interviews, only significant facilitator experiences were discussed. van Manen (2016, p. 333) advocates focusing on a few experiences in depth rather than many experiences with little rich detail. My view is that given time limitations, focusing on three different significant experiences per facilitator is sufficient to build a sense of their lived experience. Each facilitator was asked to indicate if similar experiences occurred during the project without going into detail about these experiences.

4.6.5 Ethics

The UTS Human Research Ethics Committee (HREC) and various forms of support aid researchers in conducting research ethically and in conformity with Australia's National Guidelines. I also attended training and a workshop on ethics for researchers provided by UTS and consulted the Ethics representative for the Business Faculty and my research supervisory panel in planning an ethical approach to the research.

To communicate with facilitators and obtain their consent to participate in the research, I used the templates provided by UTS. However, before proceeding to data collection and contacting any possible participants, I submitted the required application to conduct the study to the UTS HREC to ensure compliance with the National Statement on Ethical Conduct in Research Involving Humans (http://www.gsu.uts.edu.au/policies/hrecguide.html). These procedures were approved under the HREC guidelines (**Approval Number: ETH19-3485**).

The broad approach submitted is summarised below. The key feature of the approach is to manage confidentiality. Treating each facilitator with respect during the interview has already been discussed.

Basic Approach

- No mention will be made of any names (facilitator, team members, organisation) with recordings, notes, transcripts, or in the thesis and published research. Any reference to organisations or information alluding to an organisation will be removed from any written material.
- Transcripts will be provided to facilitators for advice on the material to be removed including checking for any material hinting at identity.

Process of Communication on Confidentiality

- Initial contact will explain the research purpose and the procedure to protect confidentiality and invite interest and participation. An email based on the UTS template will be sent to interested facilitators to explain the process in greater detail and seek formal agreement to participate (see Appendices 7 and 8).

Data Management Plan

- A Data Management Planning Checklist will be completed in collaboration with the supervisor.

- All data recordings will be kept as three copies on three different portable hard drives and not on network drives. Audio recordings will be coded without names being used but corresponding with transcripts. Recordings will be deleted once transcripts are accepted by facilitators.
- Transcripts will also be stored in the same way using parallel codes to paired recordings.
- A file naming convention for digital files will be agreed on with the supervisor before data collection begins.
- All facilitator-supplied project diaries (already bound) will be kept in a locked area during data collection and analysis and returned to participants.

The management of risks to the interview process is described in Appendix 11.

The following chapters will discuss the lived experience of the improvement facilitators that emerged from the application of the research methodology.

5.0 Conduct of Methodology and Analysis of Facilitators' Personal and Surrounding World Experiences

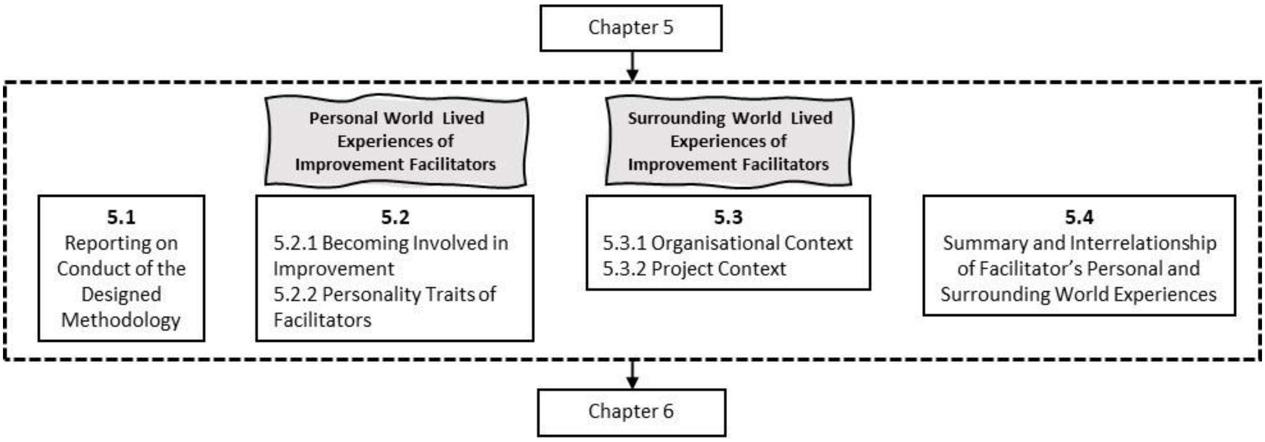
Chapter Purpose and Structure

As discussed previously (see 3.3.2.3), the phenomenology literature argues that there are three aspects of the life world of humans – the personal, surrounding, and relational worlds (Olesen 2006b, pp. 100, 8; van Manen 2016, p. 318). Consequently, the research questions and interview design were oriented towards understanding these three aspects of the life world of improvement facilitators as a conscious and deliberate means of adhering to the philosophy that underlies phenomenology. This chapter discusses facilitators' personal and surrounding world accounts as a preliminary exploration to establish a contextual background from which to examine the core findings on relational world experiences in Chapter 6.

There are four major sections to this chapter as outlined below and shown in Figure 5.1. The phrasing of the research questions associated with each section are more specific than the subsidiary research questions given in Chapter 1 (see 1.2) as they reflect the specific focus of the analysis.

1. Section 5.1 outlines how the planned research methodology was executed generating the volume of experiential accounts. The section concludes with a rationale for the structure of the analysis across Chapters 5 and 6.
2. Section 5.2 discusses the themes emerging from the facilitators' personal world experiences in two sections.
    a. Section 5.2.1 analyses the experiences and shows how participants became involved in improvement work.
        What experiences emerged within the personal world of facilitators that led them to be involved in improvement project facilitation?
    b. Section 5.2.2 discusses the results of the facilitators' personality inventories, illustrating their a priori tendencies as part of their personal world. The emergent traits are linked to the previous discussion on how facilitators became involved in the improvement role.
        What a priori personality traits emerged within the personal world of facilitators that are potentially reflected in their improvement work?
3. Section 5.3 discusses themes emerging from the examination of facilitators' surrounding world experiences in two sections. Each section conveys different aspects of facilitators' working contexts.
    a. Section 5.3.1 examines the experiences of the organisational context in which facilitators worked and in which projects were situated, illustrating organisational influences and challenges experienced by facilitators.
        What have facilitators experienced in their surrounding organisational context?
    b. Section 5.3.2 examines facilitator experiences within their surrounding project environment. These analyses cover experiences emerging from different project characteristics such as project initiation, levels of management involved, project complexity, and pre-existing issues in the team environments.
        What have facilitators experienced in their surrounding improvement project environments?
4. The chapter concludes (section 5.4) with a summary of findings from the personal and surrounding world experiences in the form of a model. This summary provides a background leading into Chapter 6, which deals with the analysis of relational experiences and the overall interpretation of the analyses covered in both chapters.

Figure 5.1: Outline of Chapter 5

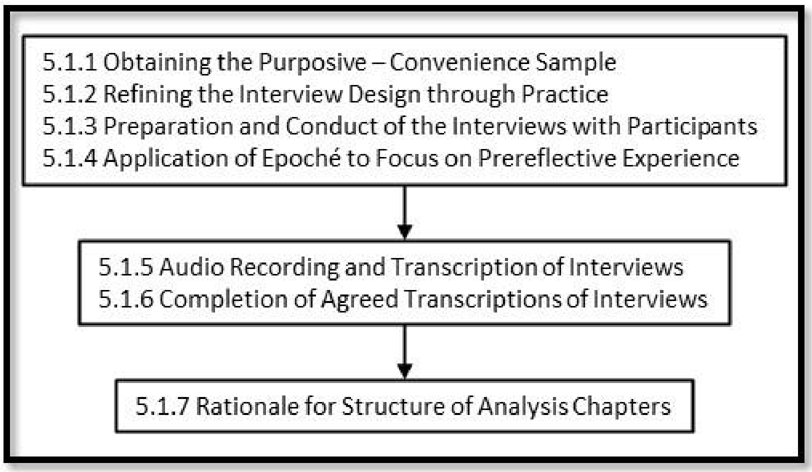


5.1 Conduct of the Designed Methodology

Prior to discussing the experiential accounts of the research participants, a reflection on the execution of the research methodology described in Chapter 4 is summarised, with a particular emphasis on holding true to the principles of phenomenological methodology (see 3.2.1.1).

PhD theses and research articles in journals rarely reflect on the extent to which the chosen phenomenological methodology surfaced prereflective experiences from the research participants. In most instances, the analyses proceed on the assumption that this is the case (see 3.2.1.1). The following discussion reflects on the application of the methodology with a particular emphasis on its effectiveness in gaining specific prereflective experiential accounts. Figure 5.2 illustrates the sections in the discussion concluding with the structure of the analysis sections to follow.

Figure 5.2: Reflections on Conduct of Designed Methodology



5.1.1 Obtaining the Purposive – Convenience Sample

Initially, 39 facilitators who had completed improvement training and projects and gained certification from UTS, were informally approached via email (see Appendix 7). Thereof, 13 facilitators agreed to participate in the research. They were sent a formal email invitation from the UTS Principal Supervisor of the research (see Appendices 8 and 9), which they all accepted by returning a completed consent form (see Appendix 10). This equates to a 37% response rate.

5.1.2 Refining the Interview Design through Practice

I informally tested the designed interview process to gain experience with the approach before conducting the research discussions. I practised the approach with members of my family getting them to reflect on experiences they nominated. The approach seemed to work quite well in separating the phenomenological (noematic and noetic) component from the concluding hermeneutic element. The informal trial prompted minor adjustments to planned hints and probes. Using the draft interview structure, I then practised with two experienced facilitators who are involved in teaching the LSS program at UTS but would not be involved as research participants. Again, the cycling between the phenomenological and hermeneutic elements worked well. The guide reminded me to encourage description before interpretation. As a result, I felt confident in using the framework for the research interviews. No further changes were made to the design of the interview process in terms of questions or prompts. The schedule was printed with clear headings in bold and larger text, which made it easy to follow the process (see Appendix 11).

The interview pilots also confirmed a rough time frame of about two hours to complete the process. In addition, they highlighted the importance of allocating at least half an hour for the setup of the three sets of laptops, microphones, and software and to greet the participant before the interview began. The pilots also made me aware of the need to be well prepared for the interview by pre-reading the participant's portfolio of work, nominated experiences for discussion linked to related comments in their portfolio, and their personality profile results. The importance of this preparation was continually reinforced in each research interview and was further emphasised when I became aware of the relationship between the personality profiles and the reflections contained in the transcripts.

5.1.3 Interview Preparation and Conduct

Before the interview was conducted, the date and venue were set and other arrangements were made through email and phone communication to stimulate preparation for the interview. To encourage reflection, I asked participants to send me their personality profiles and the three experiences they wanted to discuss.

Participants were given the interview structure and a summary of their personality profiles to help them understand the dialogue process and prepare for the discussion. Each participant was involved in a clarifying discussion (by phone) about their profile and the interview design to ensure they understood the notion of simply recalling the experience as distinct from explaining the experience. Three semi-structured interviews were held at the University, four at the participants' own homes, and seven at their workplaces.

5.1.4 Application of Epoché to Focus on Prereflective Experience

Drawing on the guidance provided by van Manen (2016, pp. 231-8) on epoché and reduction, I described my intended approach in the chapter on methodology (see 4.3.1). Outlined below are the implementation of the approach and its effects on surfacing the facilitators' prereflective experiences. The discussion guide (see Appendix 11) included prompts to remind me of the reflective orientation I needed to take during the interviews giving effect to the forms of epoché.

The transcripts indicate that I was able to remain open to exploring the experiences the facilitators raised without falling into topic discussions or adopting an evaluative tone in the discussions. The experiences were discussed in an open and trusting atmosphere. My observations during the discussions and supported by the material in the transcripts illustrated how the interview process surfaced the specific, immediate, and concrete nature of the described experiences and so maintained experiential epoché. This was the most interesting outcome of the interview process as designed.

Placing the event in a project phase timeline and at a certain location and recalling sights and sounds before discussing the experience in greater detail helped participants bring the event into memory, ready to be discussed. The prompts focused on the immediate thoughts (not explanations) as the event unfolded, the feelings that were provoked, and the bodily reactions if recalled. At times, participants went quiet as they recalled these noetic elements. I observed them placing themselves at the time of the event and trying to recall how they experienced the event. The immediacy and depth of the experiences came to the fore in many descriptions. Stimulating the affective or episodic memory triggered a form of spontaneous reliving of specific experiences. Remaining in this type of posture of recall and dialogue enabled participants to relive their experiences in a more concrete and direct fashion. The accounts analysed in Chapter 6 demonstrate the evocative and pathic experiential descriptions that emerged from the interviews.

My firsthand experience of participant responses during the process of the phenomenological and hermeneutic discussion (see 4.3.4) allowed me to witness or sense the evocation of improvement facilitators' everyday practice or their lived world of phenomena and events. The dialogue process was a concrete experience of what van Manen and van Manen (2021, p. 1071) term 'direct experience' and 'practicing attentive awareness of the things of the world'. In this case it was the facilitator's world and so a glimpse into the experience of improvement projects. My appreciation of phenomenology grew as did my conclusion of the distinctive nature of descriptive, hermeneutic phenomenological methodology in comparison to other qualitative methods. Without the discipline of fidelity to the essence of phenomenology, I would not have surfaced insights into the nature and meaning of facilitators' everyday experiences.

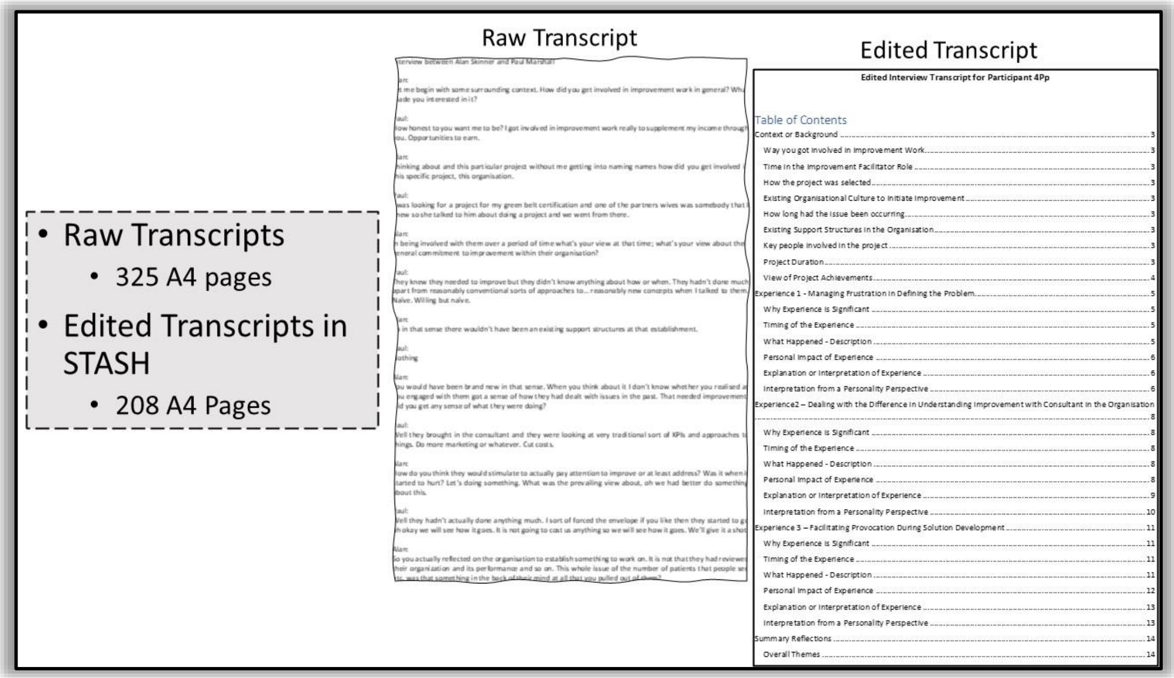
5.1.5 Audio Recording and Transcription of Interviews

The audio recording equipment used involved a Blue Snowball iCE USB microphone connected to laptops. Each laptop had Wavepad sound recording software (NCH Software) that created the audio recording. The use of three separate recording systems worked well as a safety backup configuration. On one occasion, a recording had missing sections, and on another occasion, there was a background noise that interfered with two of the recordings. Having backup recordings worked well in these instances. Each set of thirteen research interview recordings was checked, one complete recording was kept, and the others were deleted.

5.1.6 Completion of Agreed Interview Transcriptions

To achieve a swift transcription of the audio recordings a transcription service (Rev.com) was used. I checked each transcription against each recording and corrected any errors. Overall, the transcription service helped get the raw transcript quickly, which was then used for further editing. The raw transcripts yielded 325 A4 pages (see Figure 5.3).

Figure 5.3: Development of Edited Transcripts of Experiences



Once accurate transcripts of the audio recordings were achieved, they were further edited to remove material that was incidental to the intent of the discussion (e.g., filler sounds, repeated words). My questions and prompts during the discussion were also removed but remain obvious and implicit in the structure of the transcripts. Headings and subheadings were embedded to reflect the structure of the discussion as shown in the interview schedule. This included contextual (personal and surrounding world discussions) and concluding sections, and the discussions of each relational experience moving from phenomenological to hermeneutic elements. Through this editing process, the volume of raw transcript material was reduced to 208 A4 pages (see Figure 5.3). The facilitators' reflections on their personal and surrounding world experiences produced a small volume of material as did the closing reflections on their experiences at the end of the interviews. In contrast, the relational experiences produced 39 separate accounts, which constituted a large volume of material.

Following the methodology design, each participant was sent their edited transcript so they could verify that the transcript was an accurate representation of their recollections and maintained confidentiality about themselves and their organisations. All participants returned their transcripts agreeing that the material was an accurate representation of the discussions and that their confidentiality was protected. No participant added any further material to their transcripts (Ataro 2020, p. 21). The returned transcripts together with the portfolios of work then became the basis of the analysis. The transcripts have been stored and are available on UTS's research data management platform STASH.

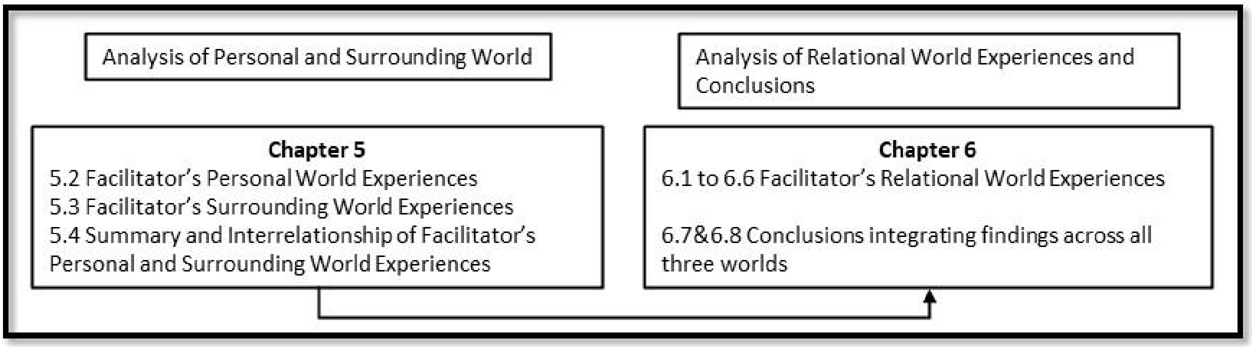
5.1.7 Rationale for Structure of Analysis Chapters

The three life world dimensions (personal, surrounding, and relational) provide the organising schema for describing and understanding the lived experience of improvement facilitators. The interpretive analysis and discussion across the dimensions provide the summative and holistic representation of improvement facilitators' lived experiences, reinforcing the efficacy of applying phenomenological methodology rather than simply summarising the content-based aspects of their improvement experiences.

This chapter concentrates on the personal and surrounding world experiences of the facilitators, evoking a view of the background in which the relational experiences can be seen (see Figure 5.4). Although the material drawn on for these analyses constitutes a minority of the total recorded experiences, it provides a useful context for the core of the analysis dealing with relational world experiences, which will be dealt with in Chapter 6 (see Figure 5.4).

The facilitators' relational experiences are analysed in a separate chapter because they form the core dimension of the lived experience of interest in this thesis and because of the volume of material involved in the analysis. In Chapter 6, the analysis surfaces the major experiential themes across the 40 accounts generated by the facilitators. However, the analysis and summative discussions in Chapter 6 will illustrate how the personal and relational world experiences overlap as the participants' interpretative expressions deal with their understanding of their personalities and their sense of identity (see Figure 5.4).

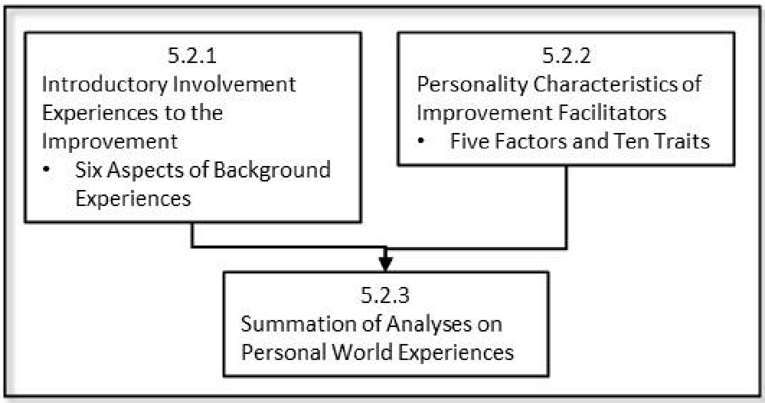
Figure 5.4: Structure of Analysis Sections



5.2 Personal World Experiences in Becoming Involved in Improvement

The exploration of facilitators' personal world experiences in this chapter involves two areas as shown in Figure 5.5. One area deals with facilitators' past experiences in becoming involved in improvement work and the other involves their a priori personality characteristics, which influence their consciousness and behaviour (see 4.3.2). The discussion concludes with a summation of the analysis relating findings across the two areas.

Figure 5.5: Analysis of Two Areas of Facilitators' Personal World Experiences



5.2.1 Introductory Experiences in Becoming Involved in Improvement Work

What experiences emerged within the personal worlds of facilitators that led them to being involved in improvement project facilitation?

The introductory discussions with participants sought their experiences of how they got involved with improvement work. This was a small component of the transcriptions, which simplified the process of generating themes across the 13 accounts. Each transcript's introductory section was read, and themes generated on that basis are presented below. Illustrative extracts from participants were included in the discussions. To reduce the volume of material within the body of this thesis, I included additional excerpts from reflections on becoming involved in improvement work in Appendix 12.

The analysis of the interviews revealed six aspects of the background experiences of facilitators entering improvement work. Although different experiences drew facilitators into improvement work, the underlying theme was a proclivity for improvement work matched with an affinity for the LSS ideas and principles to which they were exposed. This seems to have drawn them into improvement work and held their ongoing interest in the work.

5.2.1.1 'It's in the Blood'

It is not surprising that the research participants have an underlying interest and affinity for the field given their demonstrated commitment through completed training and improvement projects and their preparedness to participate in the research. What is of interest is why they pursue this focus in their working life. Organisations are interested in finding people who can provide this kind of expertise and facilitate improvement in organisational life.

What is striking across all the stories is their intrinsic orientation towards analysis and problem solving. This orientation was expressed repeatedly in various ways, with many participants expressing the idea that it is "in my blood" or "in my DNA". The interview excerpts below illustrate this combination of deep interest and natural inclination towards problem solving in the workplace. Additional accounts are in Appendix 12.

> What I've realised is [that], pretty much from the word go, I was always looking for better ways of doing things. I am innately a process-sort-of-driven person and a data-driven person. I love all that stuff. So, it makes sense. It is this love of learning new stuff.

> I think it's something that's in your blood, or certainly for me it has been. It actually goes back to when I was 12. I wanted to do something that I cared about. I picked a local stream that was polluted, did the analysis to measure how bad it was and the factors causing it, and put together a plan to fix it. Throughout my whole life, in any job I've done, I take a system that's broken, or complex, or not optimal, identify the problem and then get the resources together to make the improvement. I feel like it's in my DNA. Reflecting on it, what drew me to process improvement as a formalised type of work is that [it] was like 'hand in glove'. I felt like I'm made for this type of thing.

Various underlying reasons for the interest are embedded in participant accounts. System thinking seems innate to the way they see the world, prompting the interest in processes. When an issue or problem in the organisation or process is noticed, it creates a sense of dissatisfaction, and a compelling need to analyse and fix the situation. This may reflect facilitator orientation towards 'orderliness'. Mixed into some of the stories is a sense of wanting to help people in the process or the customers of the process, reflecting a tendency to 'compassion'.

5.2.1.2 'Walked in Blind'

For most of the participants, the formative experiences did not come about through a planned process of entering training and pursuing a career in an organisation. Instead, several participants described their introduction into the field of improvement as 'walking in blind'. Their early experience of entering the field was rather abrupt in that they were thrust into a job and/or training in improvement.

> I had no idea. I kind of walked into it unknowingly. I had just walked in completely blind. It took me off guard.

5.2.1.3 Influence of a Manager or Organisational Program Initiates the Journey

Several accounts told of a manager keen to apply LSS methodology within their organisation to help improve performance, encouraging the facilitator to attend LSS training. Some participants sought approval to participate in an organisation-wide LSS program and started their journey in this way.

> The guy that I worked with, who is a gastroenterologist, identified that he was frustrated with how in his practice there was stuff that he could see that wasn't being done right and that it contributed to adverse events. So, he got interested and discovered that collaborative improvement would be good. He could see that I had a lot of potential, and so we just went and did the training and ended up being a bit of a team to do national projects.

5.2.1.4 'It Opened My Eyes' Pursuit of Professional Development

All participants referenced education and developmental experiences over several years. Many reflected that the exposure to the methodology and underlying philosophy sparked their underlying desire to improve situations. They seemed to recognise that the LSS ideas and practices provide concrete guidance on how to conduct improvement work. This realisation matches the underlying desire to analyse and improve situations – perhaps enabling their preexisting orientation to the 'intellect' trait (see 5.3.5 to follow).

> That was my first experience of anything Lean Six Sigma and what it was. I very quickly got the concept and saw how simple it is. I mean, it's not rocket science. It's common sense. My first experience was 'wow'! I really saw from a broader level […] how it was going to be useful but also how challenging it can be, around ensuring that change management was a key part.

5.2.1.5 Career Moves to Suit Participant Interests

Several participants had moved to organisations that better matched their strong orientation towards improvement work. If the desire to engage within an organisation is disrupted or interrupted because of conflict with managers or the prevailing organizational culture, then the person will look for other organisations to better satisfy their interest in improvement. Participants' willingness to shift to other organisations has prompted the effort to develop through training and then pursue career opportunities in the role of improvement.

5.2.1.6 Time Spent Doing Improvement Work

The participants had all completed advanced training and complex improvement projects. It is not surprising to learn that participants had been involved in organisational improvement work anywhere between four and twenty years. More than half of them had been involved in improvement for more than six years.

5.2.2 Personal World – Personality Traits of the Improvement Facilitators

What a priori personality traits emerged within the personal world of facilitators that are potentially reflected in their improvement work?

5.2.2.1 Overview of Personality Model and Analysis Structure and Results on Facilitator's Personality Traits

In the chapter on methodology (4.3.2), the background and structure of the personality assessment scale, developed by DeYoung, Quilty & Peterson (2007), were outlined together with the rationale for its use in this research. The inventory is based on the predominant personality model that has emerged over the last fifty years through research (Musek & Grum 2021). The five major personality domains are listed below, illustrating the basis for the acronym.

- **O**penness
- **C**onscientiousness
- **E**xtraversion
- **A**greeableness
- **N**euroticism (Emotional Stability)

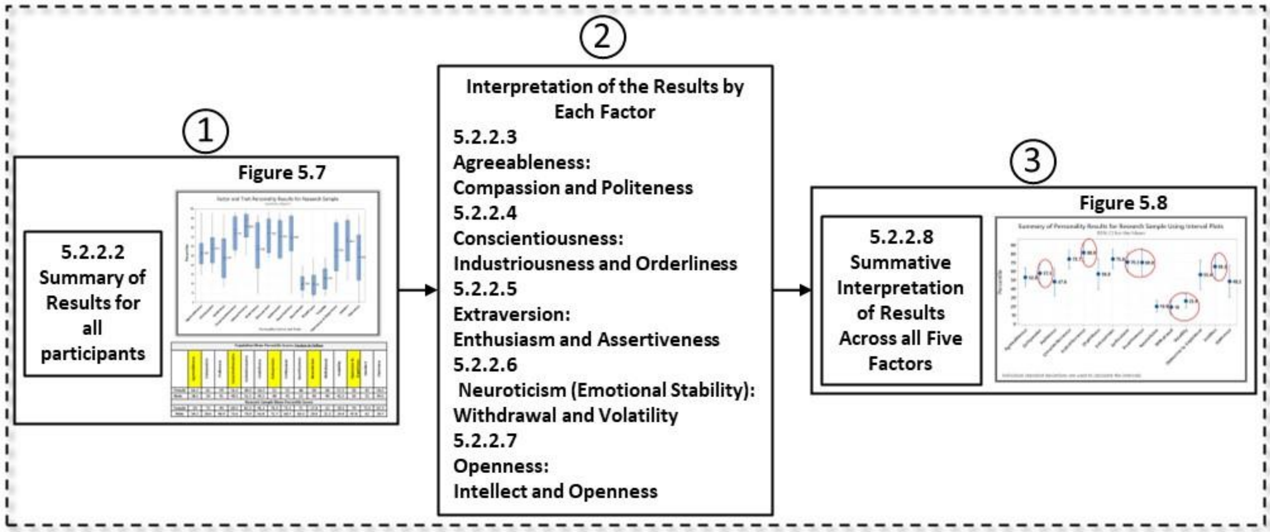
DeYoung, Quilty & Peterson (2007, p. 895) have maintained the five major domains (factors) in their assessment instrument but have refined the pairs of traits or aspects within each factor. Each trait comprises multiple facets that emerge through the factor analytic studies conducted by DeYoung, Quilty & Peterson (2007). These facets help interpret the factors and discriminate between the pairs of aspects within each factor in their instrument.

Responses to one hundred phrases containing key adjectives produce a percentile score for each of the five factors and ten traits. These percentiles compared to the mean percentile score for males and females derived from the normative sample developed over time help produce the interpretative report for each respondent. The reports, organised around each of the major five factors, are detailed and draw on the underlying facets that correlate with each pair of aspects within one of the five factors. The authors point out that an understanding of one's personality emerges from considering the factors and traits in combination rather than treating each factor independently. This is based on the intercorrelations between factors and aspects identified in the studies conducted by DeYoung, Quilty & Peterson (2007). Whilst the individual reports are organised around the five factors, their interpretation draws attention to other related factors or aspects within the results. The analysis discussion is based on the reports received from all 13 facilitators.

The structure of the analysis and discussion on the personality results for all 13 participating facilitators is summarised in Figure 5.6 and summarised below.

- An overview of the results is first shown as a reference point for the following interpretations (Figure 5.7).
- The concept of each factor and pair of traits is briefly explained, followed by an interpretation of the results shown in Figure 5.7. The discussion is in the order shown in Figure 5.6.
- An interpretation of the overall patterns across all five factors concludes the analysis (Figure 5.8).

Figure 5.6: Structure of Analysis and Discussion on Personality Results



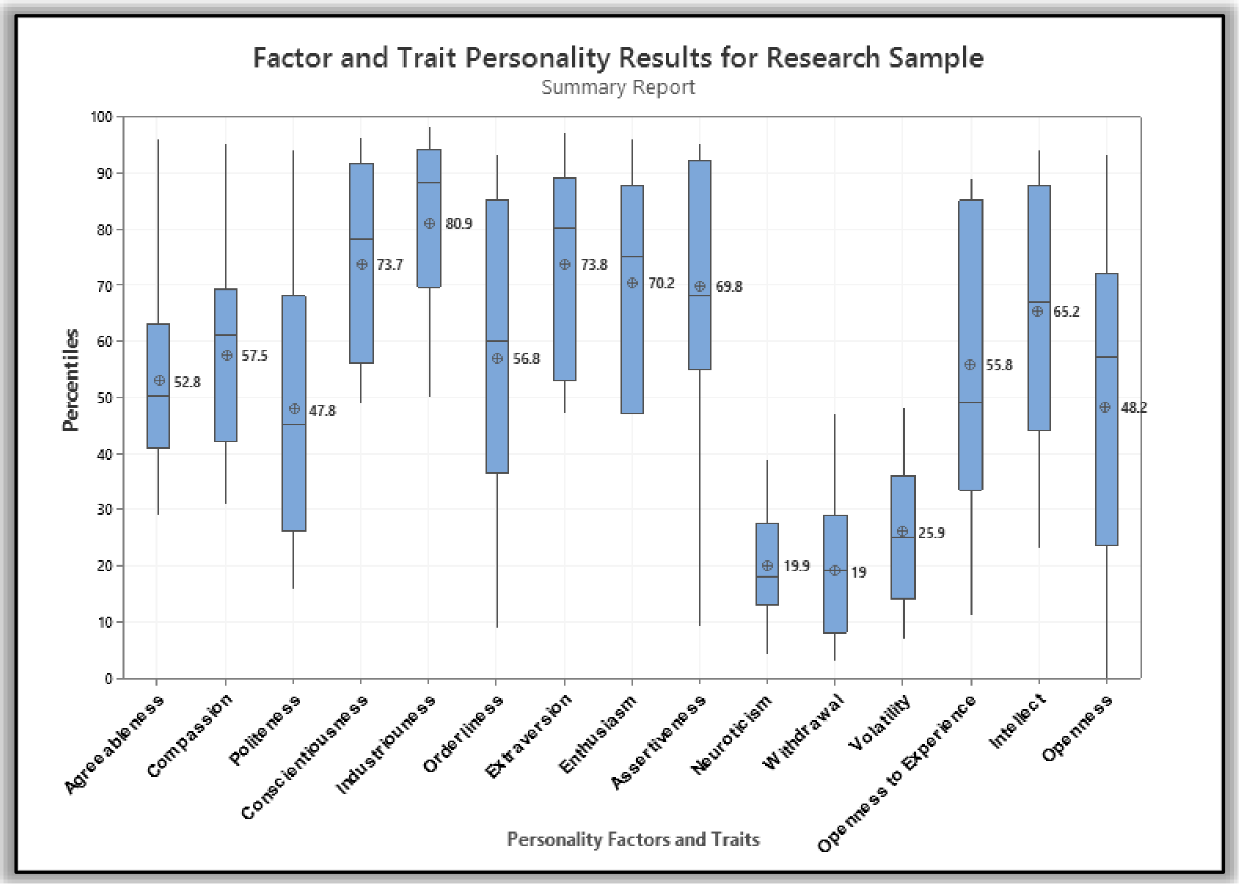
5.2.2.2 Overview of Results of Facilitator Personality Traits

Figure 5.7 shows a summary of the results across all facilitators. The top section of Figure 5.7 contains box plots illustrating the shape, central tendency, and variability (interquartile range and outliers) of the sample distributions for each factor and trait. Under the graph is a table showing the mean percentile score for females and males provided by the normative data in the reports. These are in the first two rows. The percentile scores for the females and males in the research sample are in the following rows. The visual distribution and comparisons between means shown in the box plots and the tables illustrate how the research sample is similar or different to the personality characteristics of the instrument population data. This information allows an interpretation of the a priori characteristics of the sample of improvement facilitators.

Temperament influences the frame of reference through which humans attend to what comes into consciousness and how it is interpreted (see 3.3.2.2). The interpretation of the results in Figure 5.7 is provided in the following discussions, organised by individual factors as shown in Figure 5.6. Each discussion will begin with an outline of the meaning of the factor and traits. Then the discussion on each factor will reference the results shown in Figure 5.7, highlighting the personality characteristics that emerge from participant responses. The focus of the analysis is to understand the facilitators' a priori personality characteristics they brought to their experiences.

Each discussion links the personality findings to the participants' experiences of becoming involved professionally in improvement work. Hints of these links have already been identified in the previous discussion and are elaborated here. Additionally, the prevalence of participants' personalities in their thoughts and propensity for action will be highlighted as part of the analysis of relational experiences in Chapter 6.

Figure 5.7: Factor and Trait Personality Results for Research Sample



Population Mean Percentile Scores: Factors in Yellow															
	Agreeableness	Compassion	Politeness	Conscientiousness	Industriousness	Orderliness	Extraversion	Enthusiasm	Assertiveness	Neuroticism	Withdrawal	Volatility	Openness to Experience	Intellect	Openness
Female	61.5	61	59	51.5	49.5	54.5	52	55	48	60	60	57.5	50	45	56.5
Male	38.5	39	41	49.5	51.5	45.5	48	45	52	40	40	42.5	50	55	44.5
Research Sample Mean Percentile Scores															
Female	59	73	44	69.5	83.3	41.3	76.3	71.5	71	17.8	12	29.3	74	72.5	67.3
Male	50.1	50.6	49.4	75.6	79.9	63.8	72.7	69.7	69.3	20.9	22.1	24.4	47.8	62	39.7

5.2.2.3 Agreeableness: Compassion and Politeness – Summary and Interpretation

This major factor is the primary dimension of interpersonal interaction or care for others in the model. The two aspects or sub-traits are Compassion and Politeness (DeYoung, Quilty & Peterson 2007, p. 885) and are described as follows:

- Compassion (emotional affiliation or the tendency to empathically experience the emotion of others – Warmth, Sympathy, Tenderness)
- Politeness (the proclivity to abide by interpersonal norms; consideration of and respect for others' needs and desires – Cooperation, Compliance, Straightforwardness)

  (Peterson, Higgins & Pihl (2020, pp. personality-assessment title page)

The results in Figure 5.7 suggest that the research participants were likely to be more agreeable and particularly compassionate. The results tend to follow the population trend for women but are more pronounced for men. Politeness does not seem to be a clear trait given the variability in the results. Males in the sample show a greater tendency towards Compassion and Politeness than the population means.

The average to moderately high levels of Agreeableness shown in the research sample suggest that the facilitators are likely to be more cooperative, warm, friendly, and approachable. They are more tolerant, empathetic, and sensitive to others' emotional states, often seeing the best in others, and may identify with those seen as oppressed. They show a tendency to do things for others and promote cooperation between others. The underlying higher Compassion scores emphasise the likely tendency to be interested in others' problems and concerned to help them.

Since there is no tendency towards high levels of Agreeableness, these facilitators are less likely to conceal their feelings and show submissiveness when confronted with dominating and disagreeable people. They will stand their ground and argue their cases, bargain, and negotiate recognition of their and others' positions. They are less prone to sacrificing long-term solutions and stability for peace in the short term. The lower politeness scores also underline this tendency not to be pushovers. They may be respectful and deferential to authority but will not shy away from conflict over issues they feel are important.

The earlier discussion on the experiences that led participants into the work of improvement reinforced the typical to moderately higher scores on Agreeableness. The discomfort with seeing problems left alone in the workplace together with the desire to solve problems and help others reflect the underlying tendency towards Compassion. As indicated in the personality profile reports provided, people with a tendency towards this relational dimension seek out occupations involving working with people. The personality reports describe an association between higher Agreeableness and Compassion in that anger and resentment may not be held when agreeable people sublimate their needs or give in to maintain the peace or remain submissive. However, such resentment can remain and impact relationships when the scores on Neuroticism are commensurately higher. Based on the pattern of results on Neuroticism examined below, this is unlikely in the reported experiences of the research participants.

The authors of the personality profile reports pointed out that the more disagreeable you are, the more you will tend to systematise rather than empathise. This suggests that these facilitators are less likely to display 'totalising' behaviours in their recall of experiences. Their reflections on their experiences discussed in Chapter 6 will provide a further basis for seeing this tendency. One could predict, given Levinas's perspective on the way we see others, that the more agreeable you are, the less likely you are to totalise others when relating to them. Additionally, a plausible prediction would be that improvement facilitators who complete projects are likely to be more agreeable as they gravitate towards working with people in improvement projects.

5.2.2.4 Conscientiousness: Industriousness and Orderliness – Summary and Interpretation

The Conscientiousness factor is primarily about the drive to achieve. The two aspects of Conscientiousness are summarised as follows (DeYoung, Quilty & Peterson 2007, p. 887):

- Industriousness (a desire for achievement motivated by a sense of duty; the ability to engage in sustained, goal-directed effort)
- Orderliness (being methodical and meticulous; the tendency to schedule, organise, and systematise)

(Peterson, Higgins & Pihl 2020, pp. personality-assessment title page)

The results displayed in Figure 5.7 are the most characteristic of the research sample. These facilitators show high levels of Conscientiousness in comparison to mean percentiles. The results for Industriousness are even more striking. The results for Orderliness show greater dispersion with mean percentiles closer to the typical range, suggesting that levels of Orderliness are not a clear tendency for the facilitators.

People who have completed an improvement project are likely to put extra energy into the process. They commit to substantive training over a period of time, initiate and complete improvement projects in the workplace, and put effort into submitting a substantial portfolio of their work for certification purposes. This is more effort than would be required for an internal report within an organisation. The facilitation to make the project happen and completion of the work demonstrate the desire to achieve in an area of interest. The proclivity to be both enthusiastic and industrious underlies the achievement.

The expressions of the desire to be involved in improvement work – it is 'in the blood' – illustrate this sense of wanting to achieve, make things better, not put up with errors, and resolve issues. These expressions typify the innate Industriousness trait.

Orderliness does not seem to be particularly characteristic for the facilitators; in fact, in some cases, the facilitators' levels of orderliness were even lower than typical population levels. In this sense, the lack of orderliness does not seem to be a barrier. Perhaps the LSS methodology and tools provide methodological support as a system to follow and so counteract the lack of this tendency. I note that it will be interesting to analyse hereafter whether characteristics of Industriousness are expressed within the descriptions of surrounding and relational world experiences.

5.2.2.5 Extraversion: Enthusiasm and Assertiveness – Summary and Interpretation

The underlying primary dimension of Extraversion is sensitivity to positive emotions such as hope, joy, anticipation, and enthusiasm, often encountered in social situations. The two aspects of Extraversion are summarised as follows (DeYoung, Quilty & Peterson 2007, p. 883):

- Enthusiasm (strong affective aspect; gregarious, friendly, and outgoing; spontaneous joy; and engagement)
- Assertiveness (agency and the desire to intervene or act and exert influence; social dominance, often verbal in nature)

(Peterson, Higgins & Pihl (2020, pp. personality-assessment title page)

The plots in Figure 5.7 show the tight dispersion for the research sample towards moderate to high percentile scores for Extraversion in comparison to population mean percentiles. A tendency towards Enthusiasm and Assertiveness is characteristic of the sample of facilitators.

The results indicate that the facilitators who get involved with improvement work are likely to be moderately or highly extraverted, more so than many in the population. This is understandable given the nature of the improvement facilitator role. Many of the activities reflect and rely on the positive emotional dimension of this personality factor. The gregarious nature of the work, the requirement to convince and influence and drive action with a team of people is sustained by the positive outlook and energy required. In turn, the reward of social contact and the outcome achieved reinforces the fit with the role. Moderate to high degrees of introversion in such a role would make the work difficult and tiring for the facilitator, possibly prompting them to find roles more suited to their personality.

The high scores for Enthusiasm indicate a level of sociability conducive to a role where you are constantly involved in working with people individually or in groups. Whilst the comments on experiences leading into the profession do not overtly describe enjoying working with people, there is an underlying sense that this is the case. The reported experiences listed earlier also give a sense of energy for working with people to solve issues.

5.2.2.6 Neuroticism (Emotional Stability): Withdrawal and Volatility – Summary and Interpretation

Neuroticism is the primary dimension of negative emotions in the Big Five personality model. It is the degree of sensitivity to negative emotions such as fear, sadness, anxiety, and reactive anger. The positive end (high percentile score) of the scale for each of the other four major traits in the model indicates social desirability. In contrast, the high end of the scale for Neuroticism is a negative pole, indicating traits that are not socially desirable. For this reason, the label of the trait is Neuroticism – the greater the score, the greater the tendency towards neuroticism. In this case, the lower end of the scale is the positive pole, indicating Emotional Stability. In some Big Five models, the term Emotional Stability is associated with the trait as a label. The two aspects of Neuroticism are summarised as follows (DeYoung, Quilty & Peterson 2007, p. 885):

- Withdrawal (internalising problems; inhibition such as depression or anxiety; a tendency to avoid in the face of uncertainty)
- Volatility (externalising problems; disinhibition for anger, hostility, or impulsiveness; a tendency to become irritable and upset when things go wrong)

(Peterson, Higgins & Pihl (2020, pp. personality-assessment title page)

As Figure 5.7 illustrates, the results for Neuroticism for the research sample are particularly striking and characteristic of the sample. The results show a marked tendency for emotional stability given the low percentiles for Neuroticism and its two traits.

Improvement facilitators are likely to encounter challenging situations. The low results for Withdrawal suggest that these facilitators are more likely to handle problems, uncertainty, and unexpected, threatening, or complex situations well. These are characteristics often found in more complex improvement projects. They are substantially less likely to avoid or withdraw in such situations. Having experienced difficult or threatening situations, they are unlikely to hold on to feelings of sadness, discouragement, doubt, and worry for long and tend to recover easily and quickly. This temperament is reinforced by the high scores on Assertiveness and Enthusiasm.

The results on Volatility are not as low as for Withdrawal but still show a tendency to not overreact and become highly emotional in challenging situations. These facilitators' moods are unlikely to vary much. Any expressions of irritability, frustration, and disappointment in response to situations are likely to be infrequent, reasonable, and measured. When these facilitators do get angry, they are likely to calm down quickly. Again, this seems to be consistent with the levels of Assertiveness and Enthusiasm shown in the sample. Given that they display higher levels of Agreeableness, they are unlikely to react with volatility, even when provoked. They would tend to maintain composure.

The analysis of the participant accounts will reveal their propensity to withdraw or become volatile when experiencing challenging situations in the workplace.

5.2.2.7 Openness to Experience: Intellect and Openness – Summary and Interpretation

As DeYoung, Quilty & Peterson (2007, p. 881) point out, how to structure the personality factor Openness to Experience has been greatly debated. This domain is more difficult to understand as the term Openness is used to describe the factor as well as one of the traits. The primary dimension underlying the factor is a combination of creativity, artistic interest, and intelligence (particularly verbal intelligence). The factor label is an attempt to capture the proclivity to curiosity in ideas and the expression of creativity, which in turn is a form of personal expression. The two aspects of the Openness to Experience factor are:

- Intellect (interest in abstract concepts and ideas)
- Openness (interest in beauty, creativity, and aesthetic sensitivity)

The results for Openness to Experience in Figure 5.7 do not reflect a clear-cut differentiation from population patterns. They show greater dispersion and a slightly higher mean percentile than the typical population result. However, the results for the females in the research sample are higher than for the males and significantly higher than the population mean. This is also the case with the Intellect and Openness (Creativity) traits. The result for the Intellect trait of the research sample is striking. The location of the dispersion is higher on the scale with an overall mean, and the means for both males and females in the sample are higher than for the population means. The results for the Openness (Creativity) trait are more typical of the population characteristics for males but not for the females in the sample.

Accounts of how the research participants became involved in improvement project facilitation echo certain aspects of the Intellect proclivity. For example, the description of an intrinsic orientation towards analysis and problem solving is consistent with higher levels of the Intellect trait. Participants also expressed interest in the ideas of the broader philosophy behind LSS as well as the methodological aspects. It is in this sense that the higher mean scores for Intellect seem consistent with the sample’s expressions of what captured their interest in improvement work. This orientation was apparent for both females and males. Additionally, the improvement facilitator role also draws on other tendencies of those with higher levels of Intellect, such as the pursuit of analysis and learning and engagement in discussions about the root causes of issues in the work.

The greater dispersion in the results for Openness (Creativity) and the lower mean percentiles for the sample suggest that Creativity varies as a tendency across the group involved in completing projects. The dispersion patterns reflect a normal distribution. Arguably Creativity is useful in improvement activities but is not a characteristic trait or most improvement facilitators. As the discussion on the experiential accounts unfolds, any tendency for Openness to Experience will be revealed.

5.2.2.8 Summative Interpretation of Results Across all Five Factors

Figure 5.8 presents the results for the research sample as a mean percentile for a 95% confidence interval. To illustrate the characteristic combination of personality traits across all five factors. The interval plots show the location and dispersion of the higher levels of personality aspects, which have been marked in the graph below. The key traits are as follows:

- Compassion (within Agreeableness factor – typical to moderately high mean)
- Industriousness (within Conscientiousness factor – highest mean)
- Enthusiasm (within Extraversion factor – high mean)

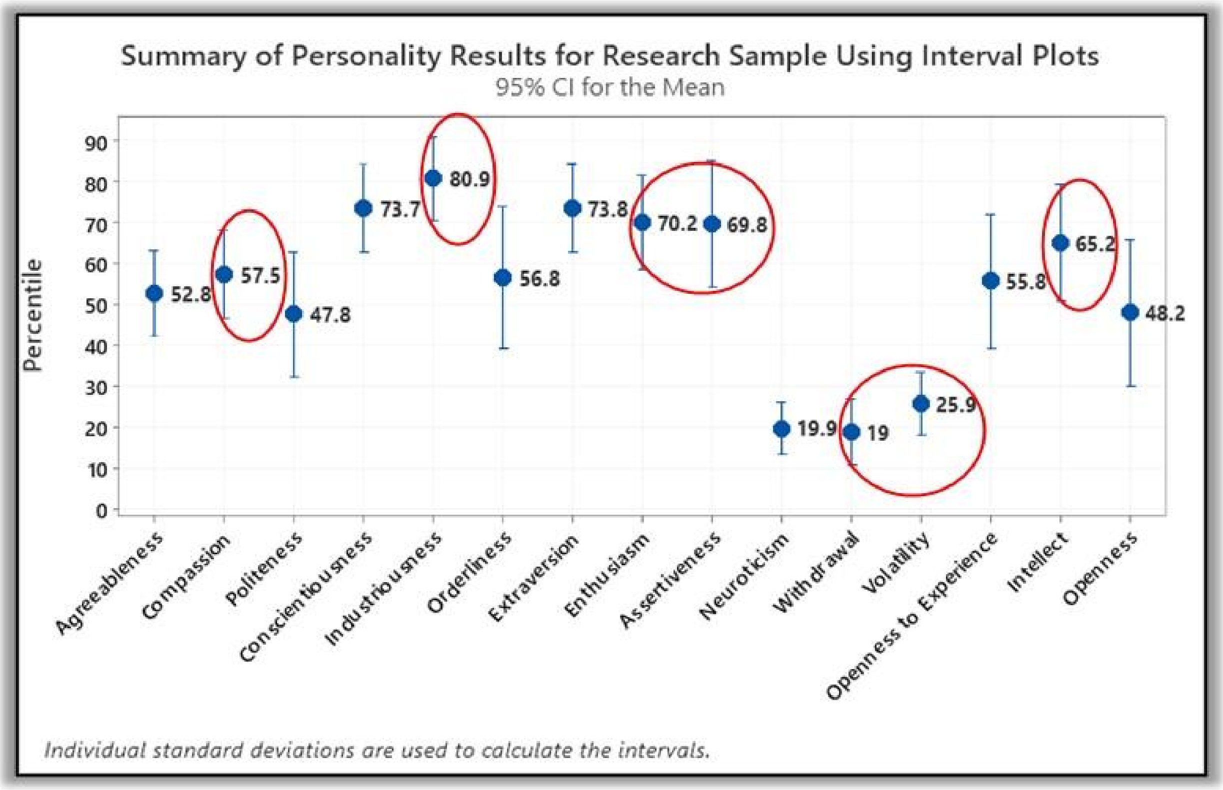
- Assertiveness (within Extraversion factor – high mean)
- Volatility (within Neuroticism factor – low mean)
- Withdrawal (within Neuroticism factor – low mean)
- Intellect (within Openness to Experience factor – typical to moderately high mean)

A compound set of traits seems to emerge, namely higher levels of Industriousness, Enthusiasm, Assertiveness, and Intellect coupled with higher levels of Emotional Stability and particularly low levels of Withdrawal and Volatility. To some extent, Compassion also seems to be part of the trait compound.

Given that participants in the research sample have completed improvement projects, it is understandable that they show higher Conscientiousness and Extraversion tendencies. DeYoung, Quilty & Peterson (2007, p. 892) discuss the high intercorrelations between Assertiveness, Intellect, and Industriousness as an indication of leadership and organisational performance. They also cite the work of Saucier et al. (2005) where this combination of traits has been termed a 'Prowess/Heroism' meta factor, emphasising the underlying tendency to exercise leadership and expertise.

Given the significant intercorrelations between traits, the personality research literature has also examined the emergence of meta-traits within the big five personality factors. DeYoung, Quilty & Peterson (2007, p. 880), Şimşek & Koydemir (2013), and Liu & Campbell (2017) refer to the two higher-order factors that have emerged as 'Stability' and 'Plasticity'.

Figure 5.8: Interval Plots for Factor and Trait Personality Results for Research Sample



Plasticity is the meta trait associated with Extraversion and Intellect (Openness to Experience). It reflects competence and a tendency to explore new and challenging aspects of the environment, generating new goals and strategies. People with Plasticity are more adaptable and cope better with change. They exhibit agency, dominance, interpersonal warmth, and socializing and are more likely to display emotional and cognitive wellbeing. The compound traits reflected in the results for the research sample suggest a tendency towards this meta trait of Plasticity. The associated behaviours reflect the high-level traits in the results. Given the role the improvement facilitator plays, a tendency towards Plasticity would aid their improvement work. Whilst the recounted experiences of getting involved in the role correlate with some of the tendencies, the analysis of the relational experiences in their improvement work in Chapter 6 will also reveal the degree of Plasticity displayed (Liu & Campbell 2017, pp. 230-1; Şimşek & Koydemir 2013, pp. 222-5).

Stability is the meta trait associated with the higher-level combination of Conscientiousness, Agreeableness, and Emotional Stability (low Neuroticism). It is reflected in the resistance to emotional and social disruption and to achieving longer-term goals. The tendency with Stability is to display less impulsivity, anger, anxiety, and nervousness (Liu & Campbell 2017, pp. 230-1; Şimşek & Koydemir 2013, pp. 222-5). The results for the research sample indicate that Stability is also a characteristic of the facilitators. Drawing on their research, Musek & Grum (2021, pp. 4-5) refer to this meta-trait combination as the bright side of personality, strongly associated with wellbeing and prosocial values and attitudes. Musek and Grum (2021) use the term 'bright' to indicate that these experiences and behaviours are seen as advantageous and desirable for humans in terms of wellbeing and display of prosocial behaviours.

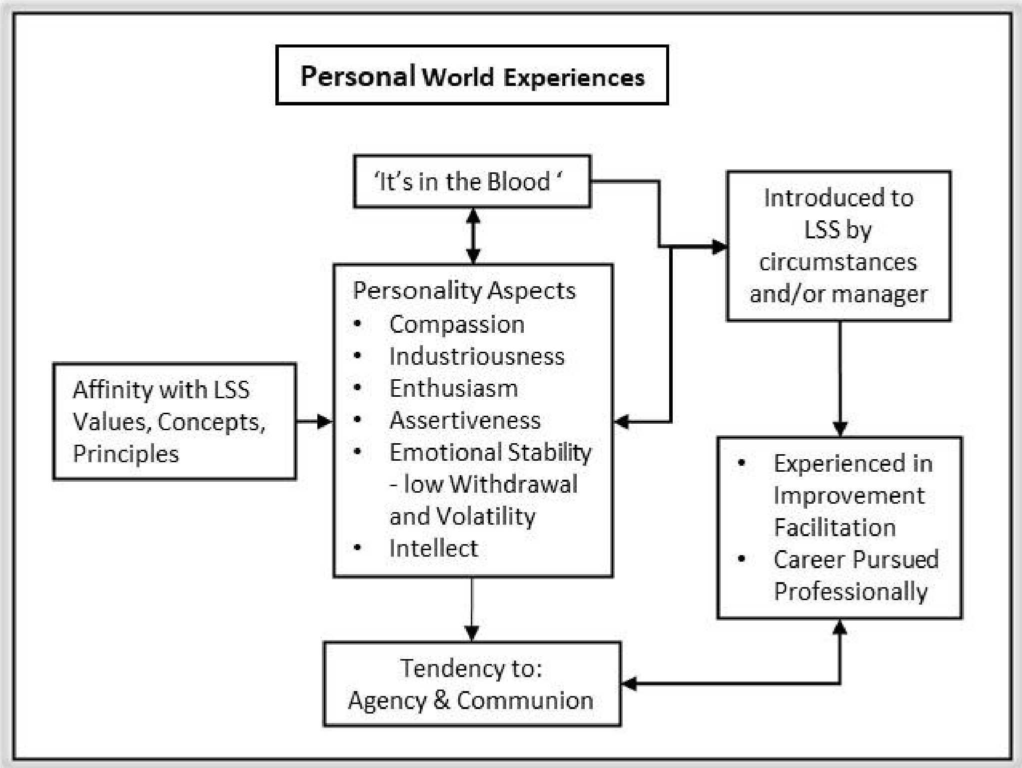
The extant psychology literature on personality discusses two basic and broad dimensions termed 'Agency' and 'Communion' (Entringer, Gebauer & Paulhus 2021; Hopwood, Pincus & Wright 2021). These fundamental constructs add another way of understanding the meta-personality traits of the facilitators. Hopwood, Pincus & Wright (2021, pp. 65-6) argue that Agency and Communion reflect basic psychological patterns of motivations, traits, and behaviours within self and in other interactions reflected in the OCEAN model. Agency refers to asserting control and being directive rather than passive, reflecting tendencies strongly associated with Extraversion. Communion involves the desire for harmony with others, to nurture and be friendly rather than being remote or hostile and so is strongly associated with the traits of Agreeableness and Conscientiousness (Entringer, Gebauer & Paulhus 2021, pp. 13-4). Given that the facilitators obtained higher results for Extraversion, Conscientiousness and Agreeableness, the expectation would be that their interpersonal behaviours reflect Agency and Communion characteristics.

Theoretically, the meta-traits of Plasticity and Agency in improvement facilitators should be reflected in the way they lead teams to create new and more effective processes in work systems. Conversely, the tendency towards Stability and Communion should help improvement facilitators deal with relational challenges amongst stakeholders and introduce approaches to dialogue that can be maintained over time. Reflections on the relational world experiences, discussed in Chapter 6, will reveal the extent of consistency with their personality traits.

5.2.3 Summary of Facilitator's Personal World Experiences

Figure 5.9 is a summary (conceptual model) of the experiential dimensions of the facilitators' personal worlds experiences that have influenced their career interests towards improvement work. The diagram emphasises the interplay between temperament and opportunities to become involved in improvement activity that arise in work circumstances, which then reinforce the proclivity for this type of work.

Figure 5.9: Summary of Facilitators' Personal World Experiences



These findings form a unique contribution to the LSS field in understanding the background characteristics of facilitators choosing to take up their roles. As the analysis unfolds, what will be of interest is the expression of personality—forms of thinking, feeling, and behaving within or beyond their temperament patterns.

5.3 Surrounding World Experience of Improvement Facilitators

Overview of Surrounding World Analyses

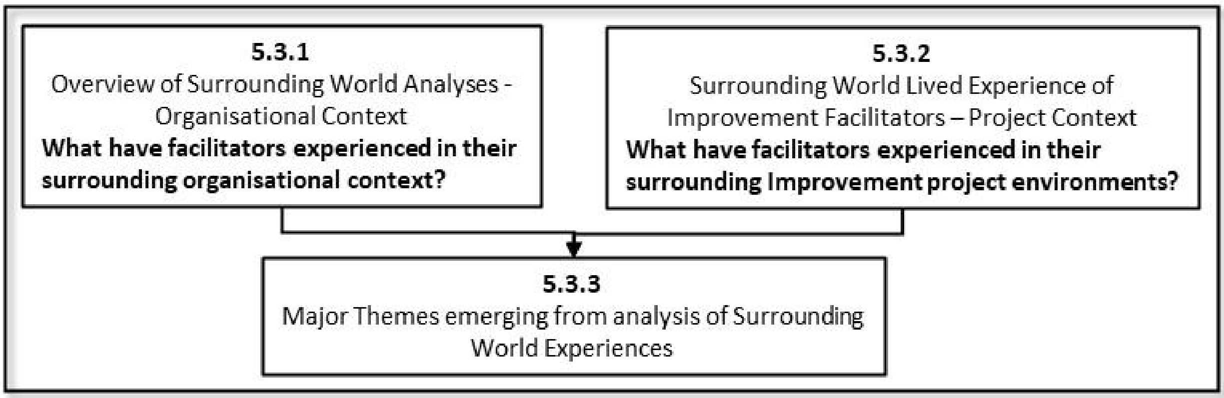
From a phenomenological perspective, consciousness occurs in a context. The previous discussion focused on the reported influences on the facilitators in their personal context. Drawing on Heidegger's thinking, this section explores the context in which improvement facilitators are coping human beings. This includes the level of support experienced by facilitators within the:

1. broader surrounding environment of the organisation, and
2. immediate surrounding environment of the improvement project.

The characteristics of the surrounding environment illustrate the degree of structural support available to aid facilitators in their work. Personality theory emphasises that both personality and environment influence thoughts, feelings, and behaviour patterns (Wille, Beyers & De Fruyt 2012, p. 308).

The analysis and discussion of the surrounding world experiences are divided into two sections and conclude with a brief summation as shown in Figure 5.10.

Figure 5.10: Structure of Surrounding World Analyses



The first section examines the experiences relating to the organisational context in which facilitators worked and in which projects were situated (5.3.1). The second section deals with experiences within the surrounding project environment (5.3.2). Each section conveys different aspects of the working contexts of facilitators.

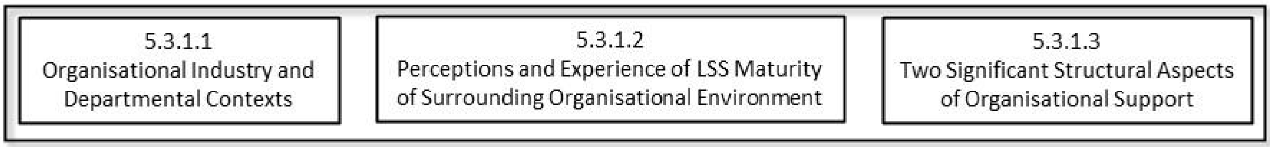
The analysis to follow is largely based on an examination of the facilitators' project diaries or portfolios of work. These provide information on the type of organisation and project, objectives and measures, durations, and the people involved. Additionally, a thematic analysis of the introductory section of the interview accounts is conducted. It will focus on the surrounding organisations and how the project started to identify the characteristics of the immediate contexts.

5.3.1 Surrounding World Analysis – Organisational Context

What have facilitators experienced in their surrounding organisational context?

The analysis covers three aspects of the broader organisational environment in which facilitators worked, as shown in Figure 5.11.

Figure 5.11: Structure of Discussions on Organisational Support for Improvement



5.3.1.1 Organisational Industry and Departmental Contexts

The facilitators worked in various industries and organisations. Table 5.1 below summarises the industries and departmental locations in which research participants worked. The broad industry characteristics can be summarised as follows:

1. educational institutions (2)
2. healthcare organisations (4)
3. financial service organisations (5)
4. food production organisation (1)
5. heavy industry service organisation (1)

The healthcare and finance sectors represent the industrial sectors that have most applied the LSS methodology, as discussed in the literature review chapter. In broad terms, there were two manufacturing organisations and eleven service delivery organisations, which shows again the strong interest in LSS from the service sector.

One organisation was medium-sized, whereas the rest were large enterprises within the Australian context. Two organisations were from the government sector, and the rest were private enterprises. Nine organisations were subsidiaries of multinational organisations operating in Australia. The interest of MNEs' head offices in LSS influenced its take up in the subsidiaries involved. These characteristics show that the research participants were working in enterprises with many employees in multiple locations, which resulted in more complex working environments for the facilitators.

Table 5.1: Industry and Departmental Contextual Characteristics in Which Participants Worked

Customer delivery department of a private, dual-state tertiary educational institution
Manufacturing division in a multinational medical device manufacturer and service provider
Finance division within a subsidiary of a financial services multinational organisation
Practitioner function of a local health services organisation
Human resources division within a subsidiary of a financial services multinational organisation
IT division within a subsidiary of a financial services multinational organisation
Clinical medical service division within a primary centre for a major local health district
Diagnostics division within a subsidiary of a multinational healthcare products and services organisation
Payment department within a subsidiary of a financial services multinational organisation
Finance division within a government education organisation
Manufacturing division in a subsidiary of a multinational food production organisation
Commercial division in a subsidiary of a financial services multinational organisation
Environmental services division in a subsidiary of a multinational waste management organisation

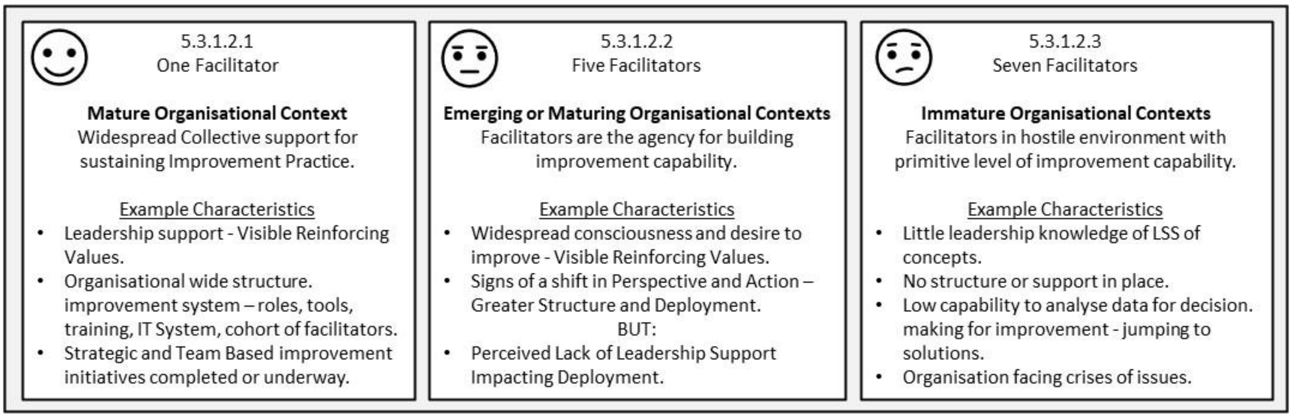
5.3.1.1.1 Departmental Contexts

Irrespective of the industry, the facilitators were also working in a variety of departmental contexts (see Table 5.1). Many of them could be considered 'back office' functions of the organisations, including in human resources, finance, IT, and manufacturing, which illustrates the widespread application of LSS, as indicated in the literature review. Five of the departments could be considered 'front office' functions as they involved direct contact with external customers and the front-line staff involved in the service delivery. This small sample of organisations involved in LSS deployment illustrates the range of contexts to which the philosophy and methodology are being applied. This sample contradicts the myth that the whole LSS approach is manufacturing based.

5.3.1.2 Perceptions and Experiences of LSS Maturity of Surrounding Organisational Environments

The thematic examination of the participant accounts about the level of support they received in the organisational contexts revealed three types (see Figure 5.12). The characteristics of each type and the number of facilitators who experienced the type of environment are summarised in Figure 5.12.

Figure 5.12: Three Levels of LSS Organisational Maturity Experienced by Facilitators



In the following discussion, the level of maturity reflects the discussion on organisational success factors provided in the earlier literature review (see section 2.3.2.4). On this basis, one context clearly appeared as a mature environment in which improvement projects would be encouraged and supported. The second type of context involved organisational approaches to practising LSS that were well on the way to maturing. However, all these accounts also included observations of challenges to the ongoing building and practice of improvement capability. The final organisational type (described by more than half of the participants) was characterised as having little to no capability for LSS in place. The discussion to follow explores these three contexts that participants experienced, as illustrated by excerpts from their accounts.

5.3.1.2.1 Mature Organisational Context

Only one participant described a mature organisational environment surrounding their improvement project efforts. The sense of maturity here stems from experiencing numerous critical success factors, as described in the literature review chapter. The facilitator described a very mature approach to developing and sustaining LSS improvement practices. The characteristics include:

1. Clear leadership support is given through organisational values and goal statements; supporting improvement project IT systems are available; and there is access to training internally and externally.
2. An organisation-wide improvement system is in use to initiate, plan, and monitor minor and major initiatives, which is "pretty much essentially the DMAIC methodology. Its risk and containment".
3. Both major strategic initiatives, as well as minor work at team levels, are called out.

This participant overwhelmingly experienced support for improvement work of various kinds, including theirs.

> The support structures are all around – (access to training, people in improvement roles, etc.). For example, so with the improvement system, we have a fortnightly meeting with senior management. If an improvement opportunity is major, we will manage that which could be a global improvement exercise. They have tollgate reviews, phase reviews. All of those things.

Emphasising the mature nature of the context, the participant also pointed out that the work done linked into "… the overall global strategic imperative of reducing the cost of goods sold by 50% within 5 years".

5.3.1.2.2 Emerging or Maturing Organisational Contexts

Five of the facilitators described contexts that show developing maturity for LSS practice. What appears in these accounts is a planned approach that is partially deployed. Various deficiencies are described in facilitators' experiences that present challenges they must overcome to complete their improvement projects in such environments. These are organisations in the process of establishing a capability of improvement across the organisation. The facilitators are the agency by which incremental progress is being made to achieve the capability.

Widespread Consciousness and Desire to Improve

Facilitator observations included leaders encouraging improvement activity, a growing awareness of opportunities for improvement, and a broad sense of support and intent to drive improvement. In some instances, the organisational focus on improvement is embedded in value statements, which are reinforced via forms of communication within the environment. Example comments from facilitators include: “There are huge amounts of support because people can see; they can hear and understand that there is huge improvement to be made”, “Everyone supports the concept or the idea”, and “Everyone wanted things to be improved and get better”.

Signs of a Shift in Perspective and Action – Greater Structure and Deployment

Reflecting the idea of the organisation developing LSS capability, facilitators drew attention to a shift from an informal commitment to attempts to be more structured in LSS activity. Apart from a broader encouragement to execute improvement, they noticed:

- greater management-stated commitment (policy, vision)
- the introduction of a more structured approach to deciding what to improve
- communication about the commitment
- engagement with staff, and
- training and support structures being made available.

These are elements raised as critical success factors, discussed in the literature review. An example facilitator observation is given below with additional facilitator comments provided in Appendix 13.

> When the leader first came in and set up a lot of the process improvement side of things, she spoke to a lot of team leads, and then there was a lot of interest to just sort of say, ‘Well this is what I’d like to do. This is what I’d like’. So, it sort of was just as an informal list of things to kick off. Then they set up committees and things like that, so there was a lot of change in that area, and the leader had driven a lot of that on how that got set up. They had a number of people from the overseas (parent company) that came over, acting as specialist resources to draw on.

Perceived Lack of Leadership Support Impacting Deployment

The five facilitators who observed emerging characteristics of maturing LSS practice also reported on barriers they saw to a fully mature deployment of LSS within their organisations. In the main, they drew attention to losing momentum from a lack of ongoing involvement and accountability from leadership, which in turn slowed any more widespread deployment of improvement capability. These reports about barriers to LSS within organisational environments present such organisations as not fully mature in sustaining LSS capability. An example facilitator observation is given below with additional facilitator comments provided in Appendix 13.

> So, you start to build a picture in your own head of the level of maturity of different teams. Some teams naively do it, but they don’t have the structure. They don’t know what they are doing; they are just that way inclined and that comes from the leadership, I believe. Other teams just have ‘no want’ or requirement, and you go in there and ask them why they do that, and it is ‘this is the way we have always done it’. There is no challenge against the status quo.

5.3.1.2.3 Immature Organisational Contexts

The remaining seven facilitators (more than half of the research sample) characterised their organisational environments as immature in their development of LSS capability. In many instances, the work of these facilitators is the vanguard in introducing and promoting LSS ideas and capability into the organisation. Facilitators reported the following characteristics:

- little leadership understanding of improvement concepts
- leaders simply changing work practices (or jumping to solutions) as a form of improvement without analysis
- no structure or support in place
- no training in improvement concepts
- no previous improvement project conducted using LSS methodology
- leaders and staff not used to analysing data to help make decisions on what to improve or to identify root causes.

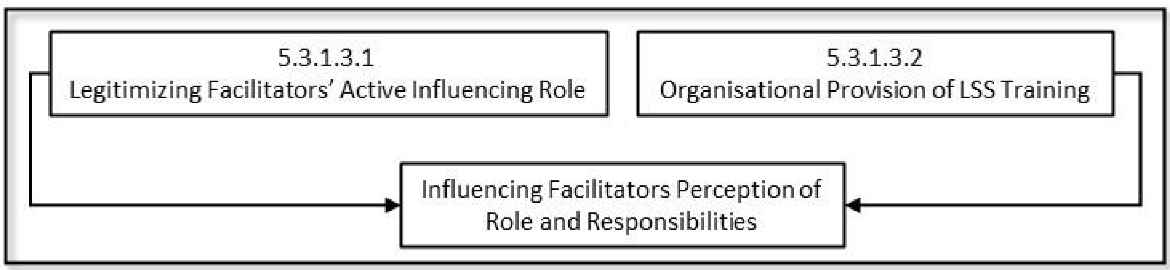
In some instances, these were organisations facing crises or some form of chaos. These contexts present a somewhat hostile environment with a primitive level of improvement capability in which to try and conduct an improvement project. The excerpt from one facilitator below illustrates the lack of organisational conditions for improvement, with additional facilitator comments provided in Appendix 13.

> They knew they needed to improve, but they didn't know anything about how or when. They hadn't done much apart from reasonably conventional sorts of approaches to improving business. There were no existing support structures established – nothing. They didn't look at processes very much. It was a reasonably new concept when I talked to them. Willing but naïve.

5.3.1.3 Two Significant Structural Aspects of Organisational Support

Within the broad range of organisational support highlighted in the previous discussion on organisational contexts, facilitators highlighted two sources in their reflections. One involved the organisational acceptance of the role and the other the training support provided. These are discussed below together with samples of facilitator reflections (see Figure 5.13).

Figure 5.13: Two Significant Structural Aspects of Organisational Support



5.3.1.3.1 Legitimizing Facilitators' Active Influencing Role

A significant influence an organisation can exert in promoting continuous improvement is creating and funding the specific improvement facilitator role. Whether at the mature or immature level of organisational commitment to improvement, the fact that leaders allow facilitators to conduct an improvement project gives legitimacy to the role of the improvement facilitator. The specific and temporal LSS context necessitates acceptance of the facilitator role, else it would appear as if individuals were wilfully wandering the organisation provoking examination of issues (Abdelnour, Hasselbladh & Kallinikos 2017).

The freedom to investigate issues and processes by engaging different stakeholders comes with an agreement over expectations of the role. In contexts where the role is well understood, there is less likelihood of negative reactions to this injection of activity. At the level of the sponsor, a mutual understanding of the role is important to avoid misunderstanding and conflict. It follows then that working within maturing and immature contexts is more difficult because the methodology and the associated role are unknown or not clearly understood. In half the contexts, the facilitators were the first to lead projects applying the LSS methodology and bring certain principles and disciplines to bear with which the organisation would not have been familiar.

The way participants described their experiences and perceptions of the organisational environments they worked in implies challenging circumstances in which to facilitate and bring an improvement project to successful conclusion. Difficulties seemed to stem from facilitators having to communicate and influence leaders at different levels and train and educate teams about their role and the process despite the freedom to exercise their role responsibilities.

Participant accounts echoed this broader role within the organisation as this facilitator's observation exemplifies (additional facilitator comments are provided in Appendix 14):

> Our CFO had got wind of continuous improvement and liked the sound of it, and what it could bring to the department. He then made a commitment that he wanted everybody in the department to be White Belt certified, and he also wanted people to do Green Belt. Because I had done the White Belt already, and no one else had, I was sort of the obvious choice for doing the Green Belt.

Accounts show that facilitators with a proclivity for Compassion, Extraversion and high Emotional Stability have coped well with their organisational contexts. In Chapter 6, the most dominant experience reported by facilitators was the relationship with the sponsor, which often required facilitators to work overtime to contract with the sponsor on the nature of their role and the methodology. This was observed in various organisational contexts, irrespective of the maturity of LSS application.

5.3.1.3.2 Organisational Provision of LSS Training and its Influence on Facilitators' Perception of Role and Responsibilities

Establishing the LSS facilitator role also requires substantial support through training. All the facilitators completed their training and project over a period of at least 12 months at UTS. Making training available costs organisations time and money but supports a continuous improvement program activated by the deployment of facilitators.

The design, content, and process of the training that an organisation accepts have an impact on the mental model facilitators develop of the role. The UTS program is unique, going beyond the traditional focus on LSS concepts and tools based on statistical and analytical skills. The program emphasises observing the social dynamics of the situation and encouraging involvement and collaboration amongst the stakeholders involved. Facilitators are encouraged to leave a legacy where stakeholders eventually drive their own projects without depending on the facilitator. Models and techniques to support this emphasis are included in the facilitators' learning and application experiences. In particular, the facilitators are exposed to the principles, values, and behaviours of 'The Mutual Learning Model' based on the work of Argyris & Schön (1974) and Schwarz (2017).

The personal world experiences previously described show how many of the facilitators found sympathy for LSS ideas, skills, and knowledge covered in the training and coaching on the project. Reflections on the concepts and skills to which they were exposed through the training process illustrate their acceptance of the principles and ideas about the methodology as well as shaping the concept of their role. An example facilitator reflection is given below with additional facilitator comments provided in Appendix 14.

> The ideas of LSS are very powerful because they leverage the human factor in change at both the leadership and the process levels. The people who work in the process become the change agents using the Lean Six Sigma tool kit. Ultimately, to effect cultural change with Lean Six Sigma, it must be aligned with strategy and leadership.

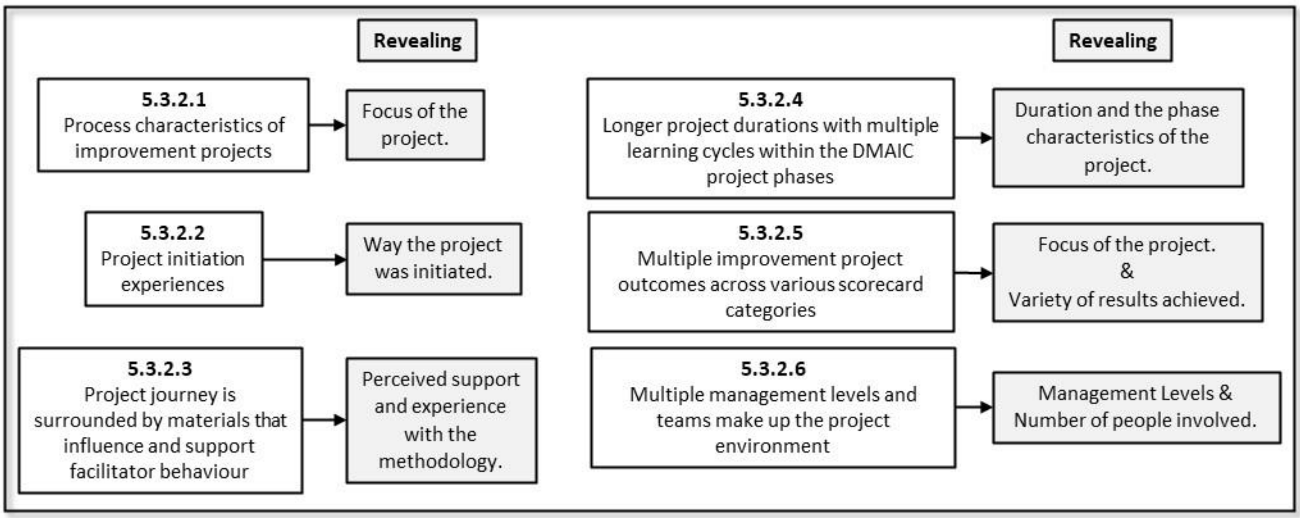
The reflections above and in Appendix 14 show facilitators awakening to the core aspects of their responsibilities in terms of observing and dealing with the social dynamics of their contexts and the need to stimulate engagement and collaboration amongst stakeholders as they improve their situations.

5.3.2 Surrounding World Analysis – Project Context

What have facilitators experienced in their surrounding improvement project environments?

The immediate context for the facilitators was the project on which they were working. This discussion provides an insight into their immediate project environment organised (see Figure 5.14). The diagram below also illustrates what is revealed from each discussion in terms of the characteristics experienced in the surrounding functional environments in which the project was conducted.

Figure 5.14: Structure of Analyses on Facilitators' Surrounding Project Environments



These specific characteristics of the working environments help understand the analytical discussions about facilitators' relational experiences in Chapter 6. Much of this material emerged from analysing the portfolios that facilitators submitted.

5.3.2.1 Process Characteristics of Improvement Projects

Apart from the industry and departmental contexts presented earlier, Table 5.2 illustrates the variety of specific processes in which the research participants were engaged. These processes provided the operational context for specific improvement objectives.

Table 5.2: Process Contexts for Improvement

Customer enrolment and notification processes
Manufacturing process for a component in medical device
End-of-month general ledger reconciliation
Patient treatment process
Staff onboarding process
Server commissioning process
Clinical patient service management processes
Re-warehousing of products
Card transaction dispute resolution process
State-wide organisational funding process
Water management process
Loan application process
Mobilisation & demobilization of work crews

The list shows that most of the contexts were not related to manufacturing but were a variety of service processes. Six of the processes involved the delivery of a service directly to customers external to the organisation. The other seven processes can be classified as internal support processes providing services to internal customers or functions. These operational contexts also reflect the discussion in the earlier chapter on the benefits reported in the extant literature. All these processes would fall into the operational component of the balanced scorecard model. Their immediate effects would flow onto other connected processes, and then impact customers and financial outcomes as discussed in the literature review (2.3.2.3., Figure 2.7).

5.3.2.2 Project Initiation Experiences

Participants recalled how they experienced the improvement project come into being. This involved a combination of influences, resulting in the initiation of the improvement project. The various experiences illustrate some of the organisational influences discussed earlier driving how improvement projects are initiated.

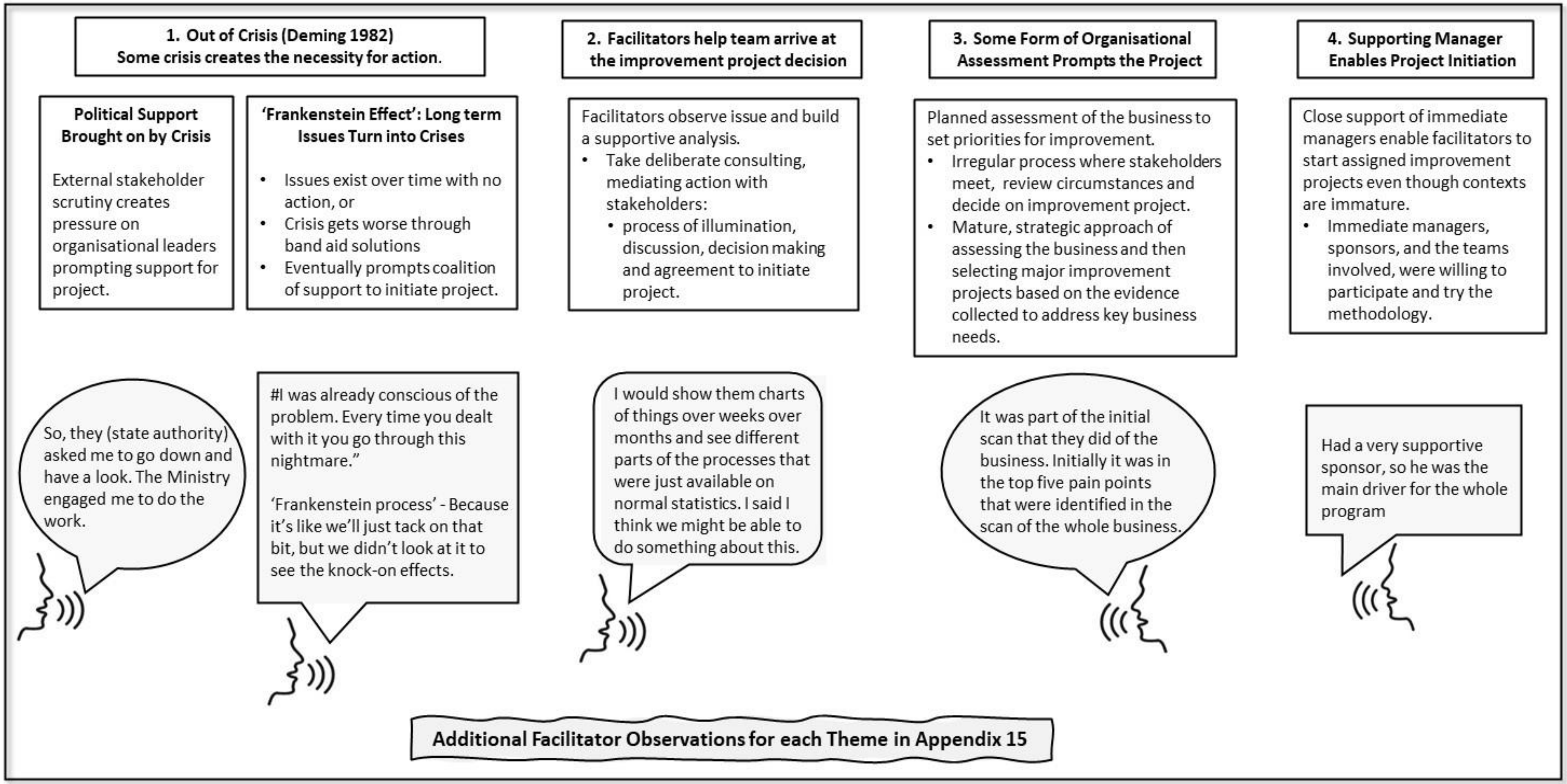
Several themes emerged from the analysis of facilitator accounts of how projects came to be. These themes reflect the level of LSS maturity within the organisations.

1. Some organisations initiate action after a crisis occurs, or the issue has been long standing and eventually prompts systematic action, reflecting Deming's (1982) text *Out of Crisis*.
2. Some organisations are more strategic, analytical, and structured in setting improvement priorities.
3. Key managers have a significant influence on prompting improvement in all contexts, but particularly in immature contexts, and can use their agency to legitimise the role of the facilitator.

4. In all scenarios, some level of angst and disruption within the specific contexts creates motivation for a coalition of agreement to conduct the project.
5. Irrespective of the type of start-up process, facilitators actively influence project initiation. They recall the significant effort made in communication, influencing, teaching, and consulting with stakeholders in seeking formal approval to conduct the project.
6. Elements of the personality traits Intellect, Agreeableness, Extroversion, and Emotional Stability can be seen in such activities.

Figure 5.15 summarises the four forms of improvement project initiation that emerged and offers some facilitator observations. Additional observations are given in Appendix 15.

Figure 5.15: Four Project Initiation Themes



5.3.2.3 Project Journey is Surrounded by Materials that Influence and Support Facilitator Behaviour

Inherent in LSS methodology is a large array of interconnected tools and techniques to support and guide the work of improvement. A summary of the architecture of these supporting methods was offered in the literature review (see 2.2.1: Table 2.3). They range from simple templates and processes to more complicated methods and procedural guides, which can be quite detailed about the types of behaviour required by the facilitator. As supporting aids, they prompt questions, forms of thinking, interaction, and action by the facilitator. Whilst some tools are based on text and other materials, software support is available for analysis and methods.

The lived experience of the facilitator within the life of a project then becomes highly dependent on these guides and templates since the knowledge and skill base is so vast. In addition, facilitators learn to use these techniques in a tactical sequence within each DMAIC phase. Exposure to these elements of LSS methodology is obviously part of the training and coaching process, impacting their role perceptions as discussed previously (see 5.3.1.3.2).

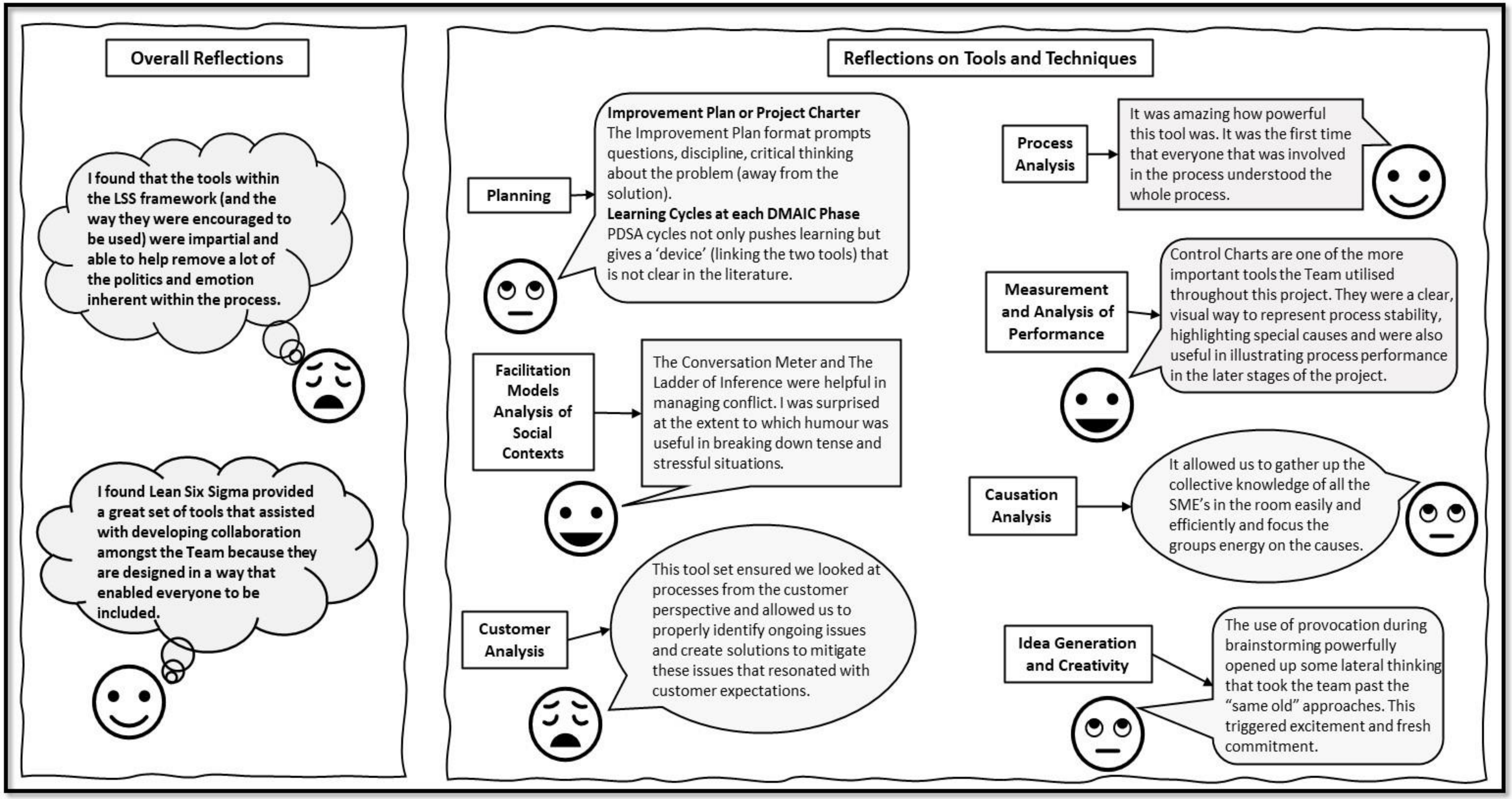
This dominant aspect of the 13 facilitators' lived experiences does not surprise, considering their portfolios of work. The tools and techniques used exert influence on the facilitators' attitudes, values, and behaviours, as their specific reflections on their experiences of the techniques illustrate. The analysis of the 13 portfolios shows reflections on approximately 70 different tools or techniques. The influence of such methodological support prompts facilitators to follow the underlying concepts and principles of LSS holding them to an authentic LSS application in the project experience.

Within their portfolios, facilitators' reflections focus on both the overall value of LSS techniques within the methodology and comments on specific tools. Figure 5.16 provides a brief illustration of these reflections. Many additional reflections on a variety of specific techniques are included in Appendix 16.

Several themes emerged within the sample of comments shown here and in Appendix 16:

- Discussions on personal world experiences show how many of the facilitators found immediate affinity for LSS ideas, skills, and knowledge as soon as they were exposed to the training coaching (see 5.2.1.4). This resonance between personality traits and interests and LSS principles embedded within the function and practice of techniques emerges repeatedly in facilitator observations and reflections.
- Many of the techniques prompt facilitators to relate to the people involved in the project in a certain way and influence how the facilitators guide the relationships between the stakeholders. The techniques shape the way facilitators hold conversations, prompt dialogue, and influence the character of the interactions that frequently occur during the life of a project.
- Irrespective of the specific purpose of the tool or technique, they are seen to enable collaboration between stakeholders to create a sense of mutual endeavour. This orientation emerges as key to the facilitators as many of the reflections point to this additional benefit of using the tools with the people involved.

Figure 5.16: Facilitator Reflections on the Value of the Tools and Techniques



Part of this process of collaboration and communication between the people involves drawing on the stakeholders' observations and conclusions about the process and their work context—tacit knowledge. Many of the techniques help bring out this individual knowledge (tacit) so that there is a shared understanding of the situation that is achieved (explicit knowledge). In some instances, the techniques lead to challenging the tacit knowledge held by stakeholders through the visual presentation of information resulting from the technique. Underlying the use of the techniques is a process of learning, reflection, and further learning, which promotes shared understanding and action amongst the stakeholder group. Reflections on the use of learning cycles emphasise this process.

- Orderliness is not a clear trait in the personality inventories of the facilitators. The reflections suggest that there is a structure and process that stems from using the methodology and associated tools that would compensate for any lower propensity for Orderliness. On the other hand, the techniques would suit the higher tendencies for Industriousness.

These reflections illustrate the degree of dependence facilitators have on the array of techniques described in the materials they use as part of the methodology they acquire. The influence of the techniques on their thinking and behaviour is shown in their comments on the benefits of the use of the technique.

5.3.2.4 Longer Project Durations with Multiple Learning Cycles within the DMAIC Project Phases

Figure 5.17 shows the time spent completing improvement projects as reported in project portfolios. It is not surprising to see the duration given these were projects dealing with more complex issues. Most took close to a year or more to complete.

Figure 5.17: Frequency Histogram of Project Durations

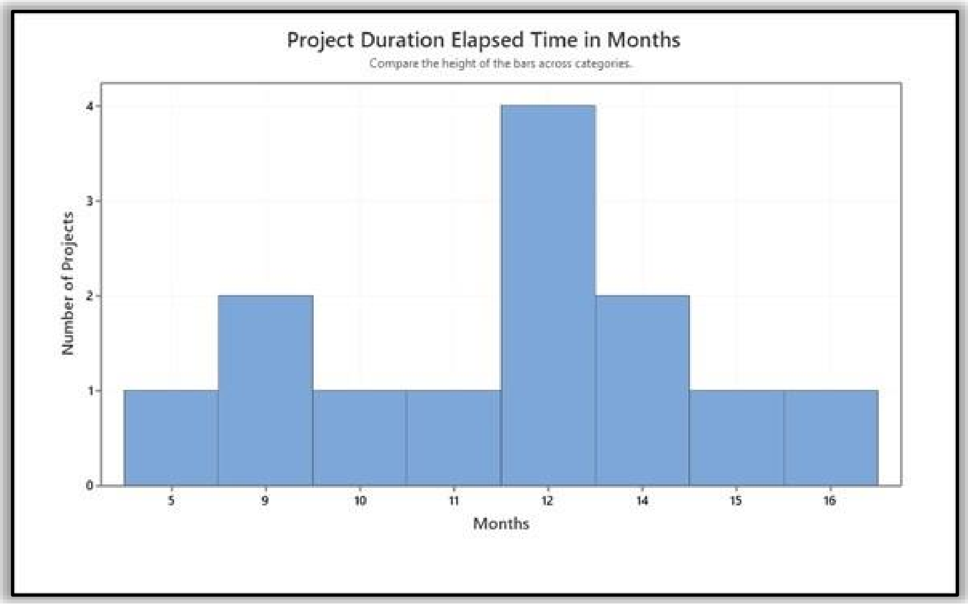


Table 5.3 shows the number of learning cycles (PDSA) completed in each duration within the LSS DMAIC phases. One project based its journey on the design methodology of DMADV. The learning cycles for that project have been shown in equivalent DMAIC phases. The role of learning cycles as experienced by the facilitators has been described earlier. The fundamental complexity of the work is then reflected in the higher number of learning cycles completed. Often the Define phase takes more than one cycle to complete. Reflecting different needs within projects, some journeys require multiple learning cycles in the

Baseline Measurement, Analyse, Solution Development, Pilot, and Implement phases. In three instances, the Pilot phase was not needed.

Table 5.3: Project Durations and Number of Learning Cycles by Phases

Define	Measure	Analyse	Develop	Pilot	Implement /Control	Total Learning Cycles	Project Duration
2	1	2	1	2	1	9	**10**
1	1	2	1	na	2	7	**11**
1	1	1	1	1	1	6	**5**
1	1	1	1	1	1	6	**14**
2	1	1	1	2	1	8	**16**
1	2	1	2	1	1	8	**14**
2	4	3	2	2	2	15	**12**
1	1	1	1	1	1	6	**12**
3	1	2	1	1	2	10	**12**
2	1	1	5	na	1	10	**9**
1	1	1	1	na	1	5	**12**
2	1	1	1	1	1	7	**9**
1	1	1	1	2	5	11	**15**

In three instances, facilitators reported that the project duration was as expected and appropriate for the size of the project. For example, the comment for the situation with the most mature approach to organisational improvement was as follows:

> I project managed it. So made sure that we hit all our deliverables and timelines. We are always looking to improve the time limits of projects. We do something like SCRUM, sprints, retrospectives, and stuff like that to learn so that we can feed into the next project. We did it for this project because that was quite a long time.

5.3.2.4.1 Reasons for Longer Durations

Facilitators often explained why the projects took longer than expected. Various reasons were given, such as changes in the IT systems, regulatory changes, issues in implementation, or underestimating the complexity of the project. Examples of the reasons given by facilitators are in Appendix 17. These accounts illustrate that the complexity of the problem being tackled through the improvement project is not the only challenge that facilitators deal with. It is not simply a case of following the methodology. Other forces interrupt the flow of the methodology that require resolution. These may be external issues that impact the organisation or challenges that emerge within the organisation.

The durations reported together with the reasons indicate the degree of persistence and energy needed to see an improvement project through challenges to its conclusion. Conscientiousness and Extraversion involving both Enthusiasm and Assertiveness are likely to be useful temperaments in such circumstances.

5.3.2.5 Multiple Improvement Project Outcomes Across Various Scorecard Categories

In the literature review (Chapter 2), a summary of the analysis of reported benefits in the literature across the balanced scorecard segments was reported in Figure 2.7. The diagram shows the interrelationship between the benefits reported on improvement projects indicating the flow-on effects of lead and lag performance indicators on which projects focus.

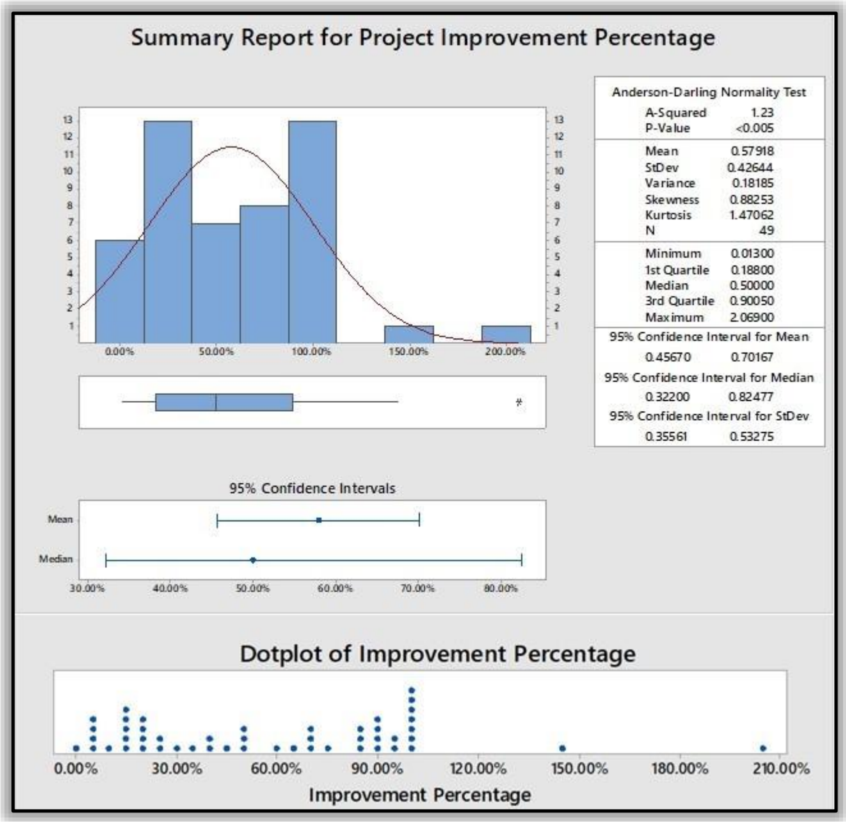
Appendix 18 provides a listing of the outcomes of each facilitator's completed project in tabular format. Forty-nine separate improvement outcomes were identified. For each outcome, the baseline and post-implementation results are shown together with a simple rate of change calculation in percentage terms. A review of these outcomes shows the following:

1. Projects have multiple operational outcomes that are the core, desired, initial effects (lead indicators). Additional operational outcomes and financial consequential effects are also recorded (lag indicators). In a few cases, internal or external customer satisfaction consequential effects were also included in the outcomes. This achievement of flow of effects is reminiscent of Figure 2.7.
2. The percentage improvements range from 1.3% to 206.9%. Figure 5.18 provides a graphical summary of the distribution of the levels of improvements achieved across the projects with the average being 57% and the median about 50%. There is much variation in the rates of change because the nature of the processes and their base states varies. The dot plot shows the range and the frequency of the levels of improvement achieved. Overall, the research participants were involved in projects that delivered substantive improvements.

The literature review chapter (Figure 2.7) illustrated the reported benefits from completed improvement projects, which drives the interest in the application of the improvement methodology. In this sense, the project results demonstrate the efficacy of the improvement projects and add to the support for the proposition implicit in pursuing LSS or Business Excellence:

> *Application of Improvement Methodology led by an improvement specialist structured around DMAIC, employing Lean and Sigma concepts, tools and techniques enables improved process performance leading to improved customer and employee satisfaction.*

Figure 5.18: Levels of Improvement Achieved Across Projects



In almost all cases, the financial benefits stemming from the operational benefits were also assessed (see Appendix 18 and Table 5.4). These benefits were generally calculated as annualised savings in labour (time spent) and material costs. In a few cases, revenue and margin impacts were also calculated. The sponsor for one project required that the calculation not be done, even though there was an obvious area of savings. The variation in the reported benefits is obvious, but for each circumstance the result was impactful. In one case, the reported cost avoidance was very large (estimated at $197 million). The reported outcomes again illustrate the complexity and importance of the improvement projects in which the facilitators were involved.

Table 5.4: Financial Benefits

Project	Reported Financial Benefits	Project	Reported Financial Benefits
1	$21,658.05	8	$957,303
2	$45,000	9	$194,956
3	$33,900	10	$197,000,000
4	$134,000	11	$120,000
5	$41,000	12	$314,683.60
6	$965,000	13	$244,500
7	$44,571		

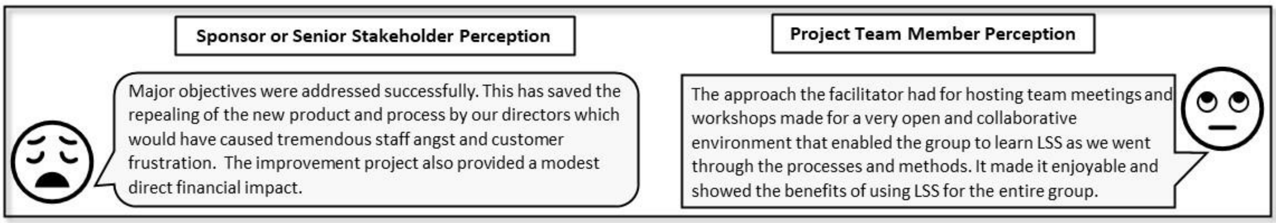
5.3.2.5.1 Sponsor and Team Perceptions of Project Experience and Outcomes

Aside from the stated outcomes of each project described above, the portfolios also contained feedback and reflections from sponsors and staff. This feedback process, based on standard five-point rating scales and associated comments, is required in the submission of the project portfolios for all certification assessments. Different feedback templates for sponsors and team members are used as shown in Appendix 19. The team member feedback form has more items on its scale. Eleven facilitators submitted feedback sheets from a sponsor and team members. The summative analysis of the feedback on these facilitators is based on the submitted feedback sheets contained in their portfolios (see below).

- For sponsors or senior stakeholders, the rating scale canvassed perceptions of a few key aspects of the relationship between the sponsor and the facilitator. For these facilitators, the sponsor perceptions of facilitators rated very highly (average of 4.6). An Individual Moving Range control chart of sponsor ratings is included in Appendix 19.
- The rating scale provided to team members canvassed their perceptions of how their facilitator carried out key responsibilities impacting their relationship with the facilitator. In total, 23 team members provided feedback. The overall ratings across the different dimensions were also very high across the projects (average of 4.6). An Individual Moving Range control chart of team member ratings is included in Appendix 19.

Figure 5.19 has a sample of sponsor and team member feedback. Additional feedback is provided in Appendix 19.

Figure 5.19: Example Perceptions of Sponsor and Team Members



Analysis of senior stakeholder comments shows they were understandably focused on achieving the project objectives and were then surprised by the success achieved. One sponsor drew attention to a stakeholder team who were not happy with changes to the process. The value of the facilitator effort and skills, often under difficult circumstances, were recognised. The collaborative impact of the work was also recognised.

An analysis of team member comments demonstrates the facilitator’s emphasis on building relationships, bringing people together, and creating collaboration whilst achieving the project goals. Many comments indicate an influence to continue applying LSS as an individual or a team. Implicit in stakeholders’ reflections on the experiences are applications of the facilitator personality traits, discussed earlier, such as Compassion, Enthusiasm, Industriousness, Assertiveness, and low Volatility and Withdrawal.

5.3.2.6 Multiple Management Levels and Teams Make Up the Project Environment

Both the interview accounts and the portfolios of work reveal another aspect of the challenging project environments in which facilitators found themselves. Table 5.5 summarises the functional structures in which the participants worked during the improvement project. The table shows the number of management levels across which the facilitators worked, including the number of senior managers with whom they engaged and the number of teams they worked with.

Table 5.5: Improvement Project Structure Characteristics

Project	Management Levels and Locations	Senior Staff	Different Teams involved	Sponsors	Immediate Project Team Numbers	Groups Impacted
1	4 Levels – 2 states, 13 Offices	6	6	2	10	All new customers for a particular service
2	4 Levels	3	6	1	10	Manufacturing division of approximately 100 personnel
3	3 Levels	3	10	1	8	Six teams in finance
4	3 Levels – 2 clinic locations	3	3	1	5	All health professionals and admin staff (about 23)
5	4 Levels – 2 countries	7	11 groups	2	14	About 1000 staff and all departments
6	4 Levels	3	7	2	7	IT division and its internal business customers
7	5 Levels	10	10	2	10	Complete system integrating processes across multiple units, that contribute to outcomes of surgical patients
8	4 Levels	3	3	2	5	Impacts dispatch and receiving teams and customers
9	3 Levels	1	5	4	16	Large volume of external customers
10	5 Levels	4	13	2	6	All teams involved in funding allocations and all customer organisations (2000+)
11	4 Levels	4	4	1	8	Production and quality assurance teams
12	4 Levels	4	3	1	8	Commercial banking teams and all brokers
13	5 Levels – 2 work locations	3	4	1	13	Two departments: all work crews (approximately 100 people) and major customer

Irrespective of variations in the number of people involved, what is apparent after reading the accounts of the working contexts is the range of management levels with which participants engaged. These participants worked with senior and middle managers, first-line supervisors, and teams involved in the activity of the processes. Even in the smaller contexts, the number of people involved was substantial. Apart from working with the specific project team (as shown in the table), participants were engaged with multiple teams involved with the target system of work. In many instances, there was more than one senior sponsor for the project. The table also summarises the broader impact of the work within the organisations where the project was being conducted. As can be seen, in some cases large groups were impacted by the outcomes of the project.

Dealing with multiple management levels, senior staff, many teams, and different locations is characteristic of the increasingly complex nature of the improvement work these facilitators experience. As confirmed in Table 5.5, these are not projects involving a few people in a single intact team dealing with a simple and rapidly solved problem. This was the nature of the sample group on which this research was focused.

The stakeholder analyses that facilitators reported in their portfolios were also analysed. These analyses reveal facilitator observations on the range of staff with whom they engaged, reflecting the multiple levels of staff with whom they worked. Also included in these stakeholder analyses are observations of the social dynamics they confronted.

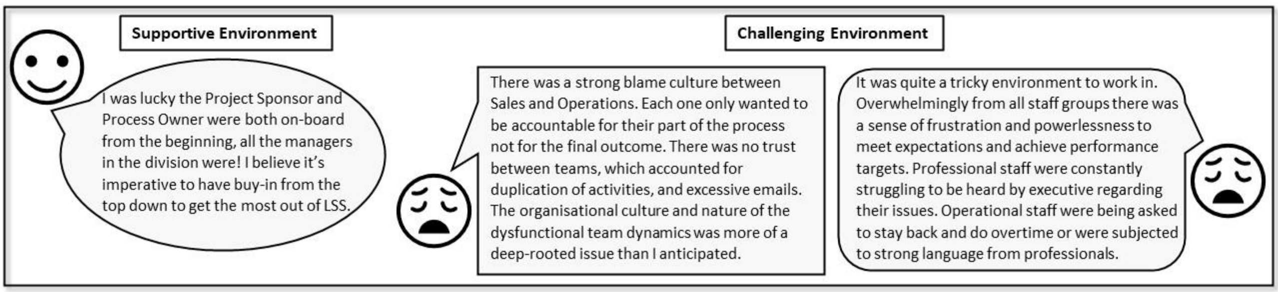
The pre-existing social dynamics within and between people were also an issue with which to contend. Not all facilitators were confronted with such difficulties within working relationships. A range of observations from the facilitators' initial stakeholder analyses, as reported in their diary learning cycle notations within the portfolios, is also shown in Appendix 20.

In many instances, stakeholder analyses showed that the staff involved were supportive of the projects and their objectives. Figure 5.20 illustrates an observation of a supportive environment.

Facilitators also observed a range of small issues in the work environment they had to deal with during the life of the project. However, in two situations the facilitators were faced with much more significant issues (see below). In one situation, the executive were in some turmoil during a turnover of some senior staff, and the other situation involved embedded conflict and distrust between two interdependent teams. In both scenarios, the conflict between the teams or people was significant and required the facilitator to apply long-term strategies to help overcome the barriers.

Figure 5.20 also shows observations from both challenging situations.

Figure 5.20: Example Facilitator Observations from Stakeholder Analysis



These two situations are more extreme examples of prevailing work situations that form the background of an improvement project. Social dysfunction is part of the causation of the performance problem the improvement team is trying to resolve with the help of the facilitator. Understanding the causes behind the conflict and then facilitating solutions also becomes part of the role of the facilitator and the work of the project as a whole. The same challenge applies to lesser issues observed by many facilitators.

5.3.3 Major Themes Emerging from Analysis of Surrounding World Experiences

Two overarching themes emerge from analyses of facilitators' surrounding world lived experiences:

- Improvement Projects Deliver Measurable Benefits for the Organisation

The actual outcomes reported in the project portfolios demonstrate the efficacy of the improvement projects. The literature review chapter (Figure 2.7) illustrated the reported benefits from completed improvement projects, which drive the interest in the application of the improvement methodology. In this sense, the project results support the proposition implicit in pursuing LSS or Business Excellence:

> *Application of Improvement Methodology led by an improvement specialist structured around DMAIC, employing Lean and Sigma concepts, tools and techniques enables improved process performance leading to improved customer and employee satisfaction.*

- Surrounding Organisational, Project and Methodological Support Influences Project Progress

Facilitator observations from the interviews and their portfolios illustrate the range of structural forces or factors that either impede or assist the conduct of the project and the execution of their role. In the earlier literature review, the focus on critical success factors in implementing LSS at the organisational level was noted (section 2.3.2.4 and Figure 2.6). The analysis here amplifies the understanding of some of the success factors at the micro level of an improvement project, which was argued as being absent in the extant LSS literature.

These themes are further discussed below in summarising and interrelating the conclusions from examining both the personal and surrounding world experiences of the facilitators involved in the research.

5.4 Summary and Interrelationship of Facilitators' Personal and Surrounding World Experiences

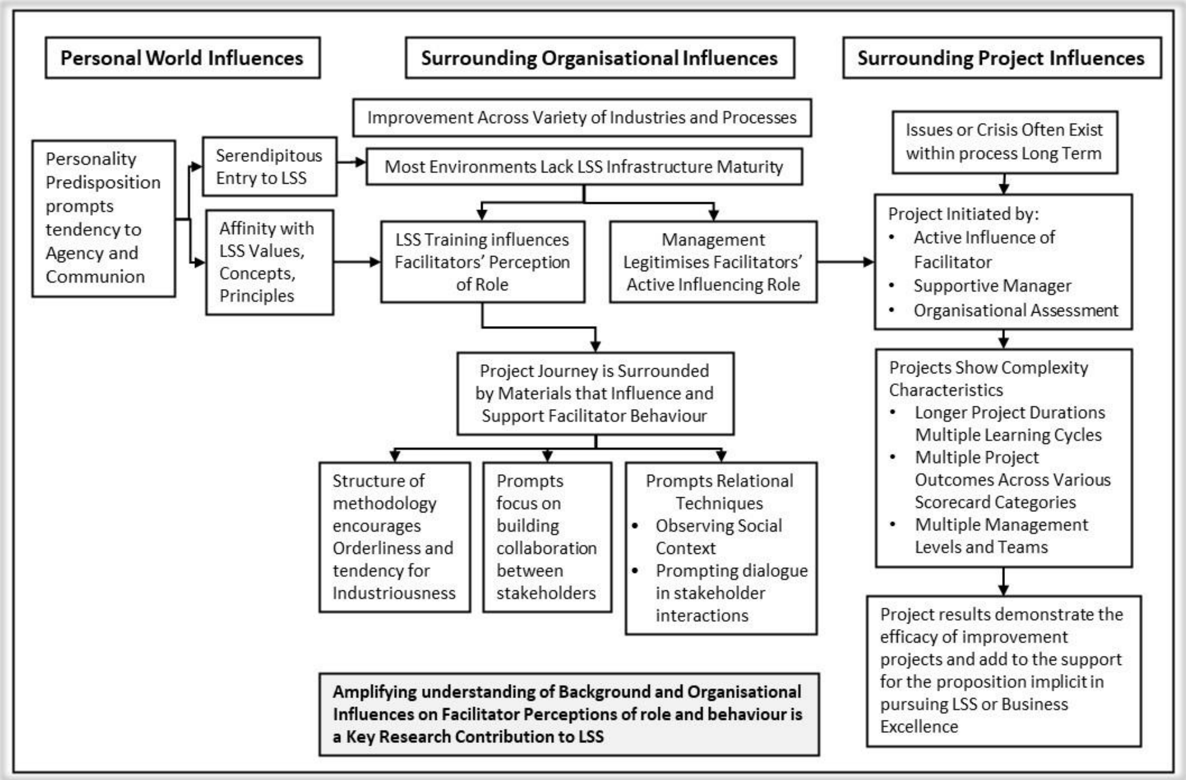
Figure 5.21 summarises the characteristics of both the surrounding organisational environment and the immediate project environment. The model illustrates a network of natural and social constructs in a relationship (Fried 2017), indicating a complex web of interdependencies that help surface the system of influences on improvement facilitators and the successful achievement (or not) of project outcomes. The model interrelates core aspects of facilitators' personal and surrounding world experiences emerging from the analysis.

The overall perspective of the improvement facilitators' surrounding world experiences is one of numerous challenges as shown in the existing work contexts in the diagram. The capability to apply LSS principles and practices experienced within the organisation places greater demands on the facilitator to be the agent of capability development in a variety of ways as they describe.

Despite a lack of support in many contexts, what is significant are decisions to assign and legitimise the role and provide training. Both these organisational actions are key sources of influence on facilitators' perceptions of their responsibilities, which align with their dominant personality dispositions. Based on the reflections of the facilitators, the tools and techniques have a major influence, again reinforcing perceptions of their facilitative role in the context of the improvement project. Often facilitators comment that supporting materials prompted their focus on enabling collaboration and interpersonal communication.

The experience of the project environment makes the dependency on the role of the improvement facilitator even more acute. Crises, large or small, prompt the initiation of the improvement work, often influenced by the facilitator themselves and often in collaboration with supportive managers.

Figure 5.21: Characteristics of Facilitator Experiences of Organisational and Project Environments



The nature of the research focus on complex improvement activity is borne out by the characteristics of the work as shown by the multiple outcomes for the project, longer durations, and the social complexity involved in the relationships with which the facilitators need to cope. The reported outcomes form one of the contributions of the research in terms of supporting the efficacy proposition for instituting improvement capability within an organisation.

These improvement facilitators are dealing with the interactions of the physical work system and the social system within the project working environment. They must grapple with the context and grow their awareness of the forces that are producing the dissatisfying outcomes. They are not trying to do this on their own but are enabling the awareness and knowledge of the relevant stakeholders. Understanding facilitator experiences of both the organisational and project environments brings a realisation of the real role of the improvement facilitator in terms of the pressures they are under and the capabilities they need. The environmental characteristics also reinforce the winnowing effect of the underlying personality aspects necessary to cope with these environments. No wonder Enthusiasm, Assertiveness, Compassion, Emotional Stability, and Intellect are aspects of temperaments associated with people doing this kind of work. Amplifying understanding of the background and organisational influences on facilitator perceptions of their role and behaviour is one of the key contributions of this research to LSS. The model provides categories that have practical application for further research and improvement practice.

Awareness of these characteristics within the working environment of the project highlights the importance of the relational world experiences of the improvement project facilitators. This major aspect of the improvement facilitators' lived experiences is covered in the next analysis chapter. At the conclusion of the next chapter, facilitators' relational experiences will be discussed in view of the contextual experiences discussed in this chapter. A complete model that integrates learning from all three worlds of experience will be proposed as part of the research contribution to LSS.

6.0 Analysis of Facilitators' Relational Experiences and Overall Research Conclusions

Chapter Purpose and Structure
The analyses in Chapter 5 have highlighted the major themes in facilitators' personal and surrounding world experiences, providing a background to the nature of their improvement activity. What is apparent contextually is the significant amount of time facilitators spend engaging different people at different managerial levels within an organisation where improvement is required. It follows then that a central feature of the facilitators' lived reality of improvement emerges from their relational experiences with stakeholders through all their interactions.

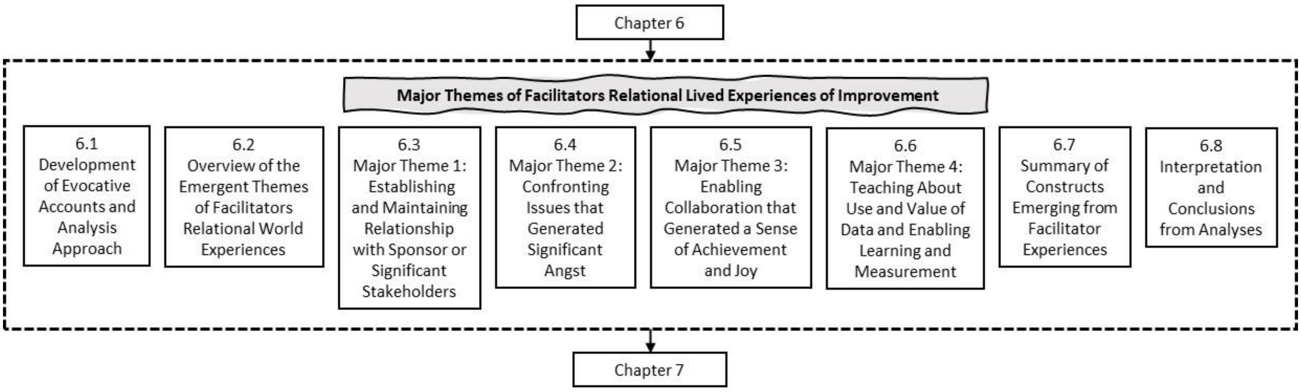
The purpose of this chapter is to provide a coherent account of the structure of improvement facilitators' relational world experiences, which are the prime area of inquiry for the research. Phenomenologically, this dimension of experience (the *Mitwelt*) is key to involving the characteristics of interactions and relationships with all others encountered in lived experience (Boeree 2006, p. 13; Correia 2014, p. 176). Based on the earlier chapter on phenomenological concepts, the core question to consider in this analysis is:

- **What are the nature and types of relational experiences that predominate in the social world of facilitators whilst being involved in improvement projects?**

The structure of the chapter is given below and illustrated in Figure 6.1.

1. The effort and process for developing and analysing evocative accounts of relational experiences are outlined in 6.1.
2. The macro themes emerging from the analysis of relational experiences are summarised in 6.2 together with the approach to the detailed analyses and discussion in the following sections.
3. Sections 6.3 to 6.6. are analyses of the four major themes of relational experiences.
    a. 6.3 presents an analysis of accounts dealing with the predominant theme 'Establishing and Maintaining Relationship with Sponsor or Significant Stakeholders'.
    b. 6.4 presents an analysis of accounts dealing with 'Confronting Issues that Generated Significant Angst'.
    c. 6.5 presents an analysis of accounts dealing with 'Enabling Collaboration that Generated a Sense of Achievement and Joy'.
    d. 6.6 presents an analysis of accounts dealing with 'Teaching About Use and Value of Data and Enabling Learning and Measurement'.
4. Section 6.7 integrates and summarises the core findings across all three worlds of experiences by presenting the essential elements of experiences in a model of constructs. The discussion extracts the constructs Antecedent, Moderating, Process and Outcome from the analysis to build the integrated model of constructs.
5. The final part of the chapter (section 6.8) is a summation of the conclusions emerging from the analyses, reflecting the constructs in the model and answering the prime research questions for the thesis.

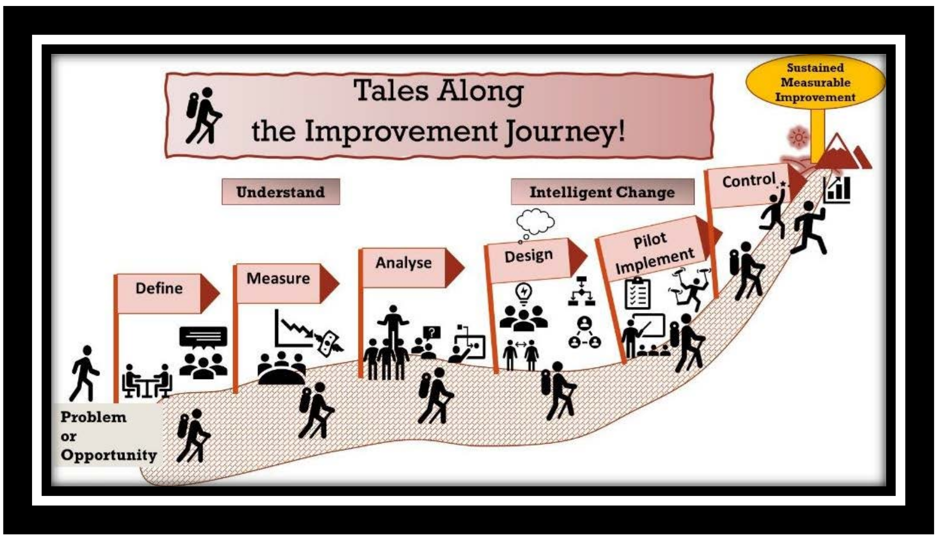
Figure 6.1: Outline of Chapter 6



6.1 Development of Evocative Accounts and Approach to Analysis

The interview was deliberately designed to seek out the relational experiences of facilitators (see 4.3.4). Given the long project duration, facilitators were asked to recall three significant experiences during the project that stood out for them and that characterised their project experience. Hence, there were 39 separate significant experiential accounts in total. The design of the collaborative discussion around these experiences focused on one experience at a time (Figure 4.4, Table 4.2). These discussions produced facilitator accounts of what was experienced, how it was experienced (what they saw, heard, thought, said, felt, and did), and finally how they interpreted the experience. This material constituted the bulk of edited interview transcripts (see 5.1.6), which was the focus of the analysis of the relational world experiences.

Figure 6.2: Thirty-Nine Tales Across the Improvement Journey



The analysis and phenomenological writing process followed the methodology outlined in Chapter 4 (see 4.4.2.1 and 4.5). The experience of completing the analysis reveals the iterative process between immersion in thematic analysis and expressing lived experience in the most evocative manner possible. Van Manen's (2016, pp. 271-4, 336) encouragement to create concrete, evocative vignettes of the experiences under study that resonate with readers prompted me to spend time creating such descriptions without changing the structure and meaning of each of the 39 significant experiences recounted by participants. However, as phenomenological writing occurred so did reflection and analysis, thereby drawing out themes.

Figure 6.3 summarises the approach to the development and analysis of these 39 accounts as a four-stage process, outlined below.

- **Extraction and Initial Editing of Accounts**

1. Each significant experience was separated from the rest, leaving 39 separate accounts of relational experiences.
2. The initial editing removed duplication and unessential phrases, ensuring clarity of the essence of the experiences and reducing the quantity of material to about 120 A4 pages.

- **Editing to Create Evocative Accounts**

1. A more immersive analysis and editing process was then completed for each account to produce more poignant, graphic, and impactful descriptions by focusing on the events (what was seen, heard, thought, and felt) and facilitators' actions and reflections. The final structure of each account follows this pattern, shown by subheadings and as illustrated in Figure 6.3 (about 80 A4 pages in total).
2. Informal feedback sought from colleagues on a sample of accounts gave me confidence that the editing process produced evocative tales!

- **Thematic Analysis of the Evocative Accounts**

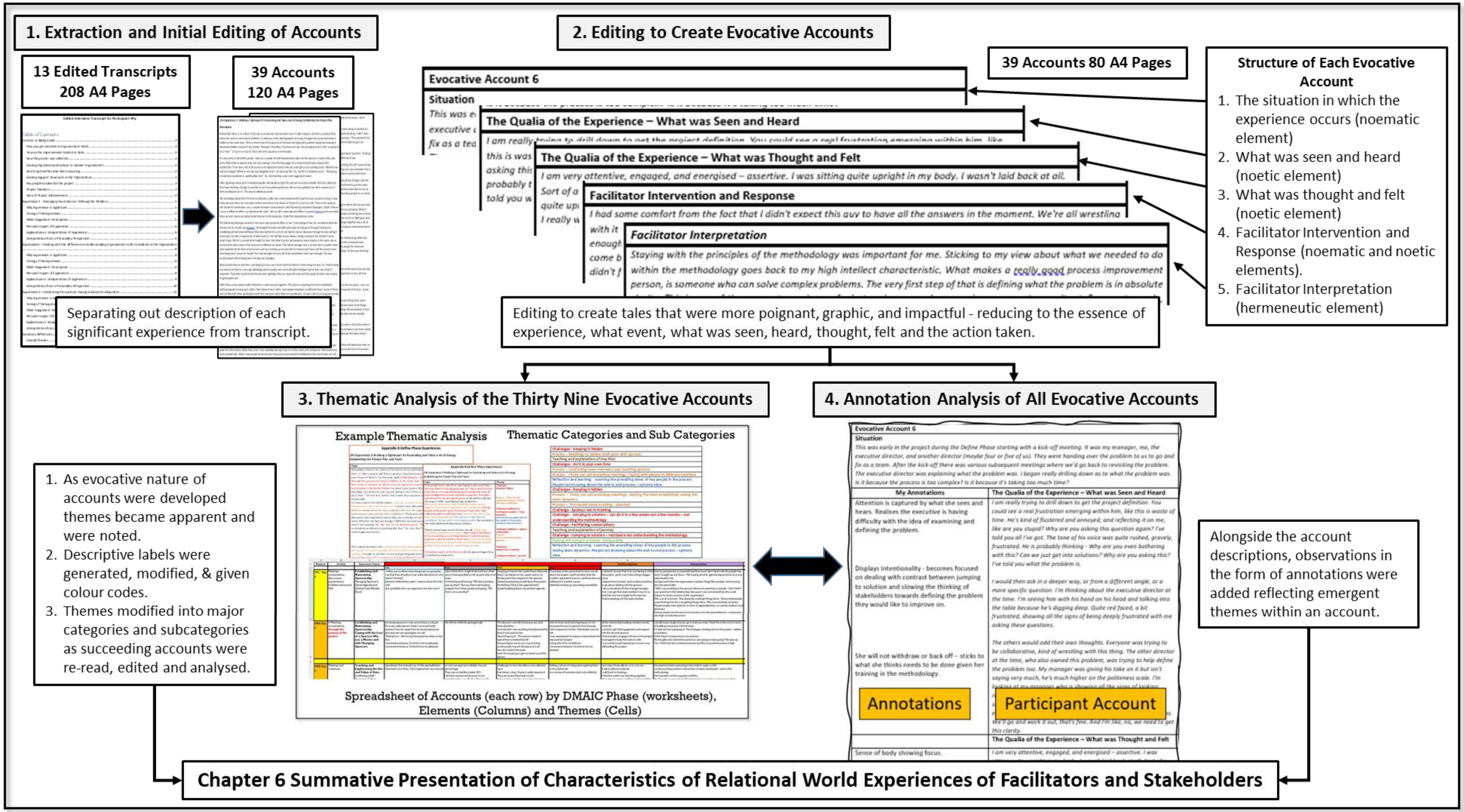
1. At the same time as the editing occurred, themes were noted. Descriptive labels were generated, listed, and colour-coded, beginning with the first account read (see Figure 6.3). As the analysis proceeded, themes were summarised and reorganised in a spreadsheet by project phase, account, and associated theme (Figure 6.3).
2. This immersive process created an overview of the macro and micro characteristics of the experiences within and across accounts and by project phase. This in-depth structuring of experiences revealed similarities and differences surfacing the dominant themes of facilitators' relational worlds as encountered during improvement projects. A summary of these macro characteristics follows below.

- **Annotation Analysis of All Evocative Accounts**

1. As evocative accounts were being created, observations in the form of annotations were added to the drafts of accounts. These notations supported decisions on themes of experience within and across accounts. This iterative and intense process continued until each annotated account description was finalised and linked to the tabular summary (see Figure 6.3).
2. Based on this analysis, conclusions about macro and micro themes within and across accounts were drawn. The material is the basis for the detailed analyses to follow and the final interpretations and conclusions at the end of Chapter 6.

The process of creating evocative accounts and analysing and identifying experiential themes occurred simultaneously and iteratively, reflecting the sensemaking process referred to as "…the hermeneutic circle…"(Frechette et al. 2020, p. 3). As I repeatedly read and analysed each account, the whole sense of the lived experiences of facilitators shined forth, evoking a strong sense of empathy in me for the work in which they were engaged. This immersive process created a *Gestalt* of the facilitators' lived experience beyond the individual elements of each experience. The reductive and reflective work helped me appreciate the notion of prereflective experience in a much more concrete manner as the nature and meaning of the facilitator's lived experience was revealed or disclosed as the final versions of accounts were produced (van Manen 2016, p. 360). This experience of analysis, reflection, thematic formulation, further reflection, and evocative form of written expression to observe experiences confirms van Manen's (2016, pp. 394-6) observations and advice on the distinct nature of phenomenological analysis and writing.

Figure 6.3: Summary of Approach to Development and Analysis of 39 Evocative Accounts



6.2 Macro Patterns of Relational World Experiences and Structure of Detailed Analysis Discussions to Follow

The events that facilitators were experiencing in each account illuminate the character of the experiences across all 13 facilitators. In that sense, a deeper, richer, more nuanced, and more accurate representation of what is involved in the journey of improvement emerged. The research intended to obtain a deeper view of the improvement process, in contrast to the extant LSS literature, and at the same time to see the life world of the facilitators.

Before discussing the analysis in detail, an overview of the major patterns found in the facilitator accounts of relational world experiences is presented as a form of advanced organiser to the more detailed analyses to follow. This overview illustrates the emerging character of the experiences. The discussion introduces the detailed analysis by:

- identifying the distribution of experiences across project phases (see Figures 6.4 and 6.6)
- introducing the four macro-experiential themes that emerged and are subsequently analysed in detail (see Figures 6.5 and 6.6).
- noting the distribution of macro-experiential themes by phase to indicate the nature of those experiences (see Figure 6.6), and
- describing the pattern of analysis and discussion by exploring each of the four experiential themes in detail.

6.2.1 Experiential Accounts by Project Phase

The described experiences are a sequence of events that make up an overall experience. This could be a sequence of meetings, conversations, tasks, or workshops. Although the 39 experiences were associated with one project phase, the events described in four accounts crossed over from one project phase to the next. This gives a cumulative count of 43 stories across different project phases (see Figure 6.5 – crossover shown by arrows).

Arranging the accounts by each phase of the improvement journey is an organisational form revealing noematic themes within the phases. Identifying the characteristics of the experiences by phase provides insights into the predominant experiences as the project progresses. Seeing what facilitators experience helps recognise the reality of what they may have to deal with during an improvement project phase and so aid preparation and practice.

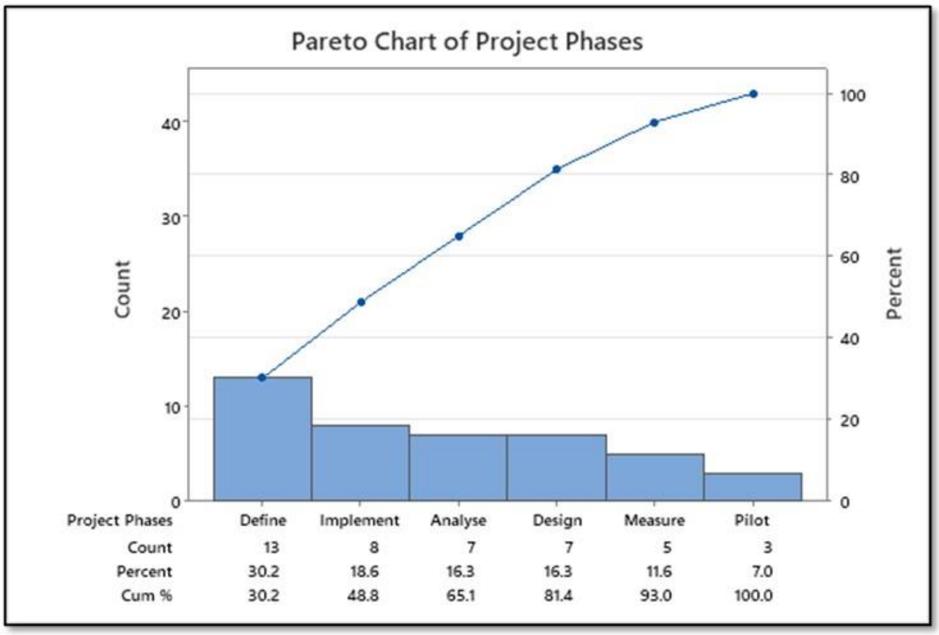
The Pareto chart (based on the cumulative count) illustrates the distribution of accounts by phases (see Figure 6.4) and shows that:

1. over 80 per cent of relational accounts are in the Define, Implement, Analyse and Design phases, illustrating the Pareto Principle
2. the beginning and end stages appear as the most memorable periods in the improvement journey with nearly 50 per cent of the significant experiences occurring in these phases.

In the study by Shaw et al. (2010) discussed earlier, interventions were most frequent at the beginning of the improvement project and decreased towards the end. The high proportion of experiences in the Define phase reflects this pattern of interventions, but unlike the study by Shaw et al., this research suggests a high frequency of experiences in the end stages of the projects.

Appendix 21 contains a detailed listing of the noematic character of each of the 39 accounts in each phase. The brief descriptors indicate the noematic and noetic character of the situations confronting the facilitator in the experience. These noematic descriptors resonate with improvement facilitators and shed light on their role by hinting at the deeper facilitative nature of the activities necessary to accomplish tasks that are relational as well as analytical. Further insight into the nature of these experiences in project phases is gained after considering the major relational themes that emerged from the analyses discussed next.

Figure 6.4: Distribution of Evocative Accounts by Project Phases



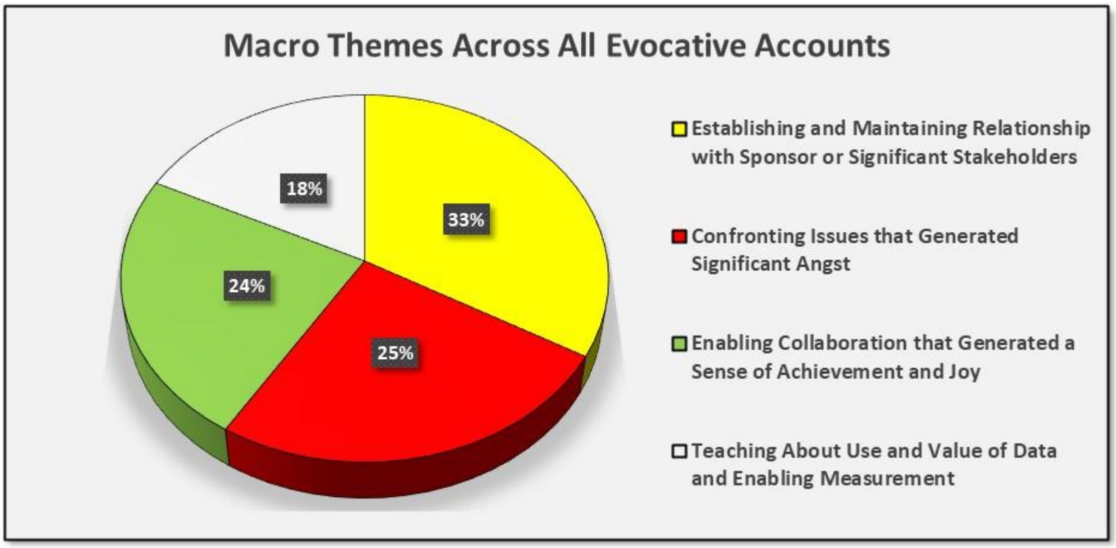
6.2.2 Macro Themes Reflecting Facilitators' Relational World Experiences

As the analysis proceeded, it became clear that similar themes were present in accounts in other phases. Therefore, analysing and discussing thematic characteristics by phase would create duplication by repeating the analysis and discussions in succeeding phases (see Figure 6.6). I also realised that continuing to rearrange and reword themes and associated accounts did not matter so long as I established a valid representation that illustrated the essence of what these facilitators were experiencing in the lifeworld of conducting improvement projects.

Ultimately, the repeated scrutiny of the material and themes led to four macro themes across all accounts within which there were sub-themes. These macro themes (see Figures 6.5 and 6.6) are the core organisational form for discussing the relational characteristics of the accounts in detail. A summary of these themes follows.

Whilst most accounts were categorised into one relational theme, twelve accounts had characteristics that were linked to two themes. On this basis, the cumulative number of accounts associated with macro relational themes was 51. The pie chart in Figure 6.5 illustrates the proportion of accounts associated with each theme outlined next. Using colour coding, Figure 6.6 shows the distribution of macro themes across accounts within phases. This highlights the degree to which particular themes are associated with project phases.

Figure 6.5: Major Themes Across All Evocative Accounts



The four macro themes are as follows:

- **Establishing and maintaining a relationship with the sponsor or significant stakeholders**

  Looking across all the accounts within phases reveals the dominance of relational experiences involving engagements with sponsors and other senior stakeholders over a variety of issues. As Figure 6.5 shows, this theme constituted 33 per cent of the cumulative count of experiences. Figure 6.6 shows that many relational experiences with sponsors occurred during the initial project phase of the Define phase. The nature of these experiences varies and will be explored in the detailed discussion to follow.

  The next two themes were based on the evocative aspect of the accounts, reflecting their noetic component. Facilitators were asked to discuss their most significant experiences based on their memory of their project journey. Memory theory and research point out that emotionally charged experiences are burned into long-term memory (Tyng et al. 2017, p. 2). Given that facilitators were asked to discuss three key experiences from their project, it is not surprising that the nominated experiences have a strong noetic character.

- **Confronting issues that generated significant angst**

  These evocative accounts set themselves apart because of the highly emotional and stressful situations with which facilitators had to contend. They reflect particularly difficult situations facilitators faced where the interventions were not always successful. Descriptions also include facilitators' expressing heightened negative emotions. This theme involved 25 per cent of the cumulative count of experiences with more of the challenges occurring in the Define or Implement Phases (Figure 6.6). The study by Shaw et al. (2010) reported that the frequency of interventions dealing with conflict peaked in the middle stages of the project. Here the experiences dealing with conflict were predominantly at the beginning and end of the projects.

  The evocative nature of these accounts, which are emotional for both facilitators and stakeholders, generates a degree of empathy for the facilitators. Despite the crises faced, these accounts reflect the actions and energy devoted by facilitators attempting to execute therapeutic or healing interventions for the benefit of their organisations.

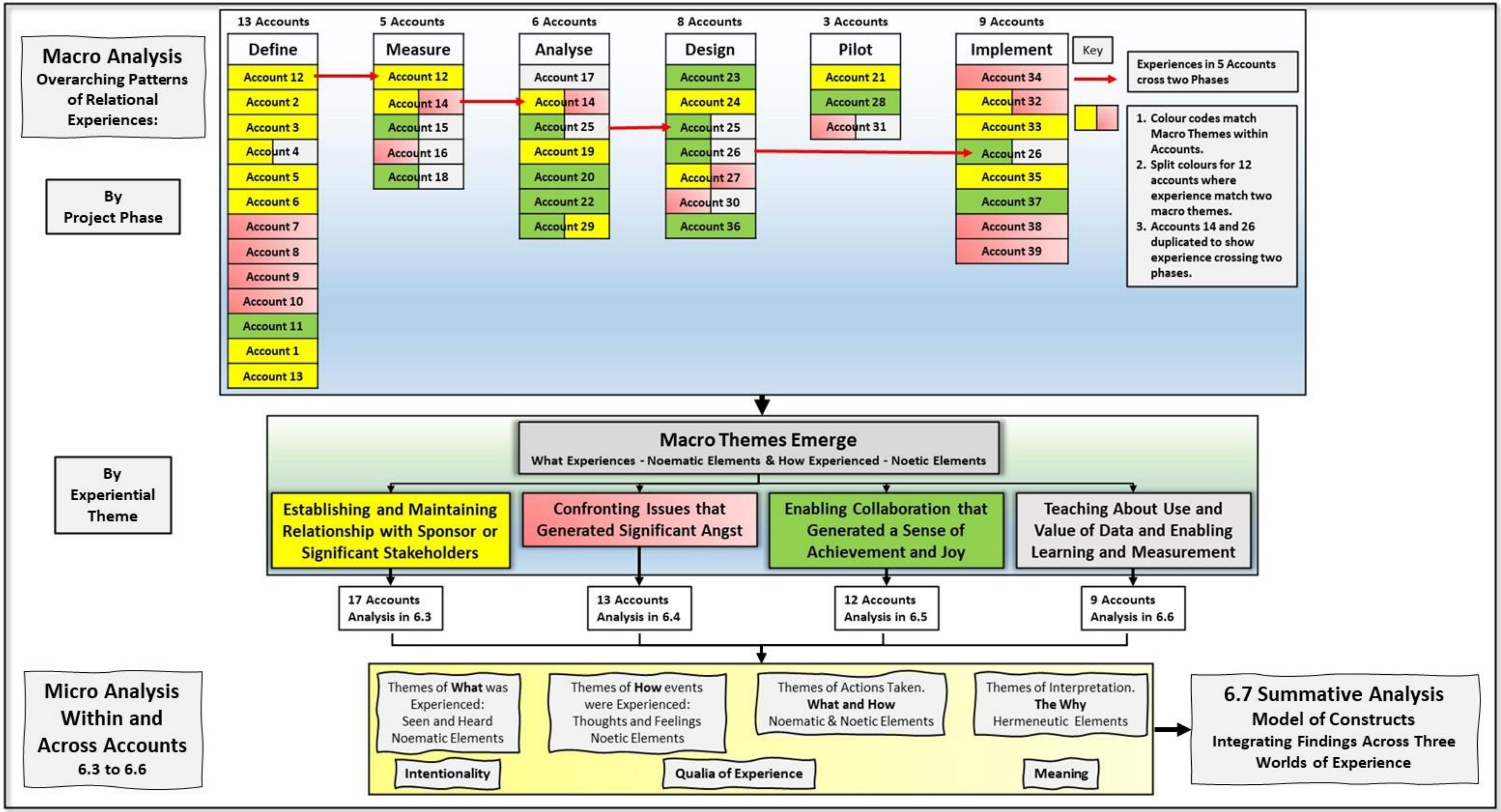
- **Enabling collaboration that generated a sense of achievement and joy**
  In contrast to the theme generated above, this collection of experiences, whilst challenging, engendered collaboration and positive emotional reactions from both facilitators and those involved. As Figure 6.5 shows, this theme also involved 24 per cent of the cumulative count of experiences, which were spread across all phases with the greatest frequency occurring in Design (see Figure 6.6). Both the collaboration engendered and the positive response from stakeholders created fond memories of these encounters for the facilitators. These accounts also reflect a therapeutic and healing force that facilitators bring to bear within organisations. The resultant effect was also emotional for facilitators as they produced great satisfaction with the outcome achieved.

- **Teaching about the use and value of data and enabling measurement**

  The final theme reflects the significance of the teaching and coaching role the facilitators adopted in certain situations. In several accounts, facilitators were involved in enabling measurement and an understanding of the value data to guide decision making at various points in the improvement journey. As Figure 6.5 shows, this theme involved 18 per cent of the cumulative count of experiences with the bulk linked to the Measure, Analyse, and Design phases (see Figure 6.6).

  Many accounts associated with the three other macro themes reflect this mentoring and coaching role that facilitators carried out as part of their interventions. These situations dealt with other learning needs with which facilitators were confronted in the improvement journey. These will be highlighted in the discussions to follow.

Figure 6.6: Distribution of Macro-Themes Across Accounts Leading to Detailed and Summative Analyses



6.2.3 Approach to Detailed Analysis Presentation on Each Macro Theme

The intent of this research has been to reflect the essence of the relational experiences and life world of improvement facilitators as they navigate the project journey. Each macro theme will be examined in further detail by drawing on noematic and noetic elements within the associated accounts to illustrate the theme and characterise the essence of the facilitator's life world. The bottom of Figure 6.6 visualises four elements broadly summarising the structure or sub-themes emerging within and across each account and indicating the interactive and social character of improvement activity. These elements surfaced by the phenomenological interview structure are briefly outlined below.

- **Intentionality – What was experienced? (see Figure 6.6)**
  The pattern across all accounts illustrates facilitators' consciousness becoming focused and intentional as they are impacted by what they see and hear in their relational encounters (Heidegger's 'present at hand' consciousness (Dreyfus & Magee 1987, pp. 14.09-16.01)). These elements of the accounts capture what facilitators, who were influenced by their personal (personality) and surrounding world experiences and their training and use of LSS tools, noticed. As each macro theme is explored, the range of what came to facilitators' attention will be summarised to illustrate both the commonalities and variations in described scenarios.

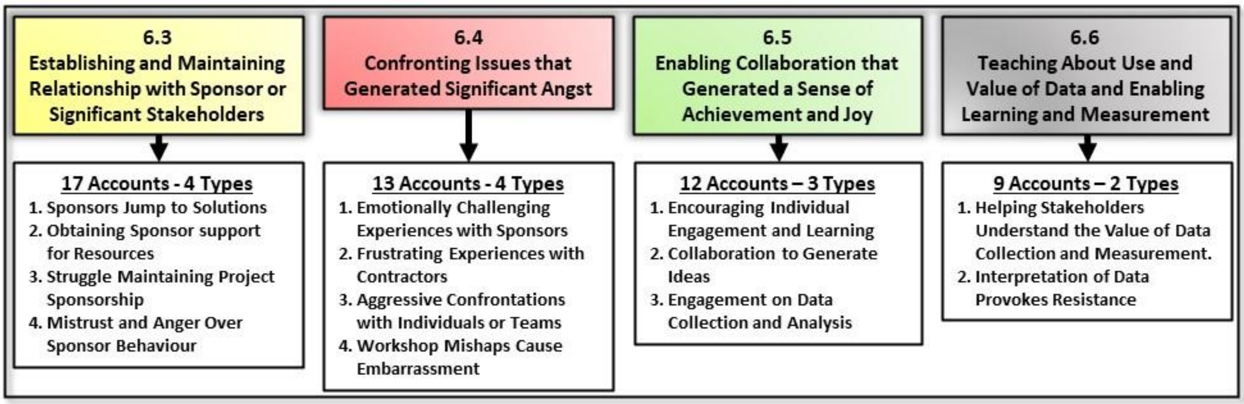
- **Qualia of Experience – How was it experienced? (see Figure 6.6)**
  Descriptions illustrate what facilitators saw and heard and how this provoked their thoughts and emotions. The 'qualia' or noetic elements embedded in the experience can be observed here. The influence of facilitators' training and use of tools is also reflected in these descriptions. As each macro theme is explored, the way the experience was felt by both facilitators and stakeholders will be summarised.
- **Qualia of Experience – What was done in the experience? (see Figure 6.6)**
  The experiences include how facilitators responded through the interventions they pursued and the reactions provoked in others involved in the events. Revealed in these experiences is the astounding breadth and depth of the actions these facilitators pursued to aid their organisations. Inherent in these descriptions is the expression of their dominant personality traits and their pathic responses. This is another significant noematic element of the experiences shining light on the lived world of facilitators. As each macro theme is explored, the way facilitators responded to the scenario will be summarised.

- **Meaning – Why was it experienced? (see Figure 6.6)**
  Facilitators' reflections and interpretations of the experiences constitute the hermeneutic element of the accounts. These self-reflections reveal how they interpreted what they experienced. Reflections also reveal the developmental processes that facilitators were going through as they learned from experiences and developed their own model of acting in the role. As each macro theme is explored, the way facilitators responded to the scenario will be summarised.

Therefore, the next four sections in chapter 6 (6.3, 6.4, 6.5, 6.6 – see Figure 6.6) will entail major discussions based on the analysis of the accounts, which presents the characteristics of relational experiences within each major theme. Understanding the structures of the facilitators' reported experiences significantly contributes to representing the improvement experience from the perspective of the facilitator. Comprehending the range of activities and efforts by the facilitators as well as the personal impact on facilitators during a project enables a more holistic understanding of the significant and valuable role they perform within organisations. The analysis discussions of each of the four major themes are structured as follows:

- Each theme is introduced with an overview of characteristics as they emerge across all accounts and project phases.
- The types or sub-themes of experiences within each theme that emerged are identified (see overview of types in Figure 6.7).

Figure 6.7: Types or Sub-Themes Within Each Major Theme



- The structure of each type of experience that emerged when analysing each set is summarised with reference to short excerpts from experiences.
- After all types of experiences are discussed within a theme, the section concludes with a summary of the pattern in the structure of experiences across all types. Also included in the conclusion on each theme is a diagram illustrating the characteristics of the analysed experiences (e.g., scenarios experienced, characteristic facilitator responses, emotional reactions, and characteristics of interpretations).
- Four appendices (22, 23, 24, and 25) include additional accounts referenced in discussions on each type of experience within each theme.
- One detailed and annotated account is included in each appendix as an exemplar for the theme. Additional annotated accounts in summarised form are also provided.
- Accounts from all 13 participants are referenced in the analyses, covering the majority of the 39 accounts.

After all the macro themes have been discussed in detail, the findings across all three worlds of experience are integrated into a model (Section 6.7), showing interrelationships between constructs emerging from within each world of experience. The chapter ends with a summary of conclusions about facilitators' lived experiences across all three worlds (Section 6.8).

6.3 Major Theme 1: Establishing and Maintaining a Relationship with the Sponsor or Significant Stakeholders

The most prominent theme across all facilitators and their experiences involves engagements with sponsors or senior stakeholders. This is a principal relationship for the facilitator during any improvement project. The analysis of these experiences reveals strong noetic elements, indicating the affective impact of sponsor relationships on facilitators.

In total, 17 accounts (33 per cent – see Figure 6.5) were associated with this theme showing the following overall characteristics:

- The distribution across project phases shown in Figure 6.14 indicates that most experiences involving sponsors were in the Define or Implement phases.
- The experiences in two accounts crossed over into the next phase as shown in Figure 6.6.
- Five accounts are classified under two themes, indicating the affective impact of sponsor experiences. Three accounts discussed in 6.3.1 are examples of significant angst generated in the facilitators and so are also linked to Theme 2. Two accounts (4 and 29) are linked to memorable experiences that were very positive because of the success the facilitator had in generating collaboration (Theme 3) in difficult circumstances and are referenced in 6.3.5.1.

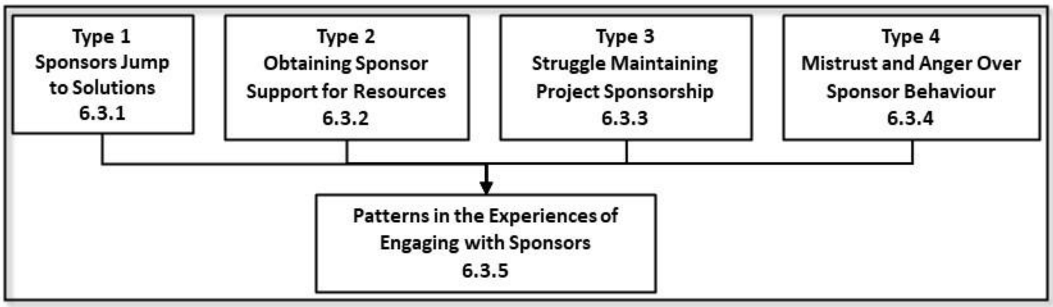
Figure 6.8: Distribution of Accounts Across Phases Dealing with Establishing and Maintaining a Relationship with the Sponsor or Significant Stakeholders

Theme 1: Establishing and Maintaining Relationship with Sponsor or Significant Stakeholders							
Project Phases	Define	Measure	Analyse	Design	Pilot	Implement & Control	Total
Scenarios	8 Experiences	1 Experience	2 Experiences	2 Experiences	1 Experience	3 Experiences	17
1. Sponsors Jump to Solutions	6			1			7 Accounts
2. Obtaining Sponsor support for Resources			1	1	1	2	5 Accounts
3. Struggle Maintaining Project Sponsorship	2					1	3 Accounts
4. Mistrust and Anger Over Sponsor Behaviour		1				1	2 Accounts

Four types (sub-themes) of relational experiences were identified illustrating what captures facilitator attention during interactions with sponsors as shown in Figure 6.8 (left-hand column). As can be seen, the main types of relational experiences with sponsors involved dealing with sponsors jumping to solutions, particularly in the Define phase, or seeking resources from sponsors.

The dominant characteristics for each type of experience (sub-theme) will be summarised (see Figure 6.9) and supported by excerpts from facilitator descriptions. After the four types of experiences have been outlined, a concluding summative discussion of characteristics across all sponsor relationship experiences is provided together with a visualisation of these findings (6.3.5). Appendix 22 contains additional supportive account materials, organised by type of experience and referenced in discussions.

Figure 6.9: Structure of Analysis Discussions on Theme 1: Establishing and Maintaining Relationship with Sponsor or Significant Stakeholders



6.3.1 Type 1: Encounters Where Sponsors or Senior Stakeholders Jump to Solutions

The predominant situation facing facilitators in their engagements with sponsors was the tendency of senior stakeholders to immediately move to solutions rather than seek to understand the issue. Six of the accounts from the Define phase (from six different facilitators) are tied to the prime outcome of establishing a clear plan for the project, gaining senior staff agreement on the problem and related objectives and measures, and socialising the plan amongst staff stakeholders. During initial sessions, facilitators were confronted by stakeholders proposing solutions to be implemented, often setting unreasonable time frames for the project. The situations generated a degree of tension for facilitators given their training emphasised leading a team to understand the situation through the Define, Measure and Analyse phases to understand the major root causes of the problem before jumping to solutions. These experiences occurred in organisations with little or developing maturity in applying LSS. The accounts describe what the facilitators encountered and what they did in response.

Account 6 is included in detail at the beginning of Appendix 22, exemplifying how sponsors jump to solutions. Appendix 22 has several additional accounts (1, 2 and 27) of facilitators facing similar situations. Account 4 is included in Appendix 25 since it also demonstrates teaching on the use of data (Theme 4). The following excerpts from Accounts 6 and 2 illustrate the type of experience (Figure 6.10).

Figure 6.10: Excerpts From Facilitators' Observations on Sponsors Jumping to Solutions

Theme 1: Establishing and Maintaining Relationship with Sponsor or Significant Stakeholders	
Experience Type 1: Sponsors Jump to Solutions	
Evocative Account 6	
My Annotations	**The Qualia of the Experience – What was Seen and Heard**
Attention is captured by what she sees and hears. Realises the executive is having difficulty with the idea of examining and defining the problem.	*I am really trying to drill down to get the project definition. You could see a real frustration emerging within him, like this is waste of time. He's kind of flustered and annoyed, and reflecting it on me, like are you stupid? Why are you asking this question again? I've told you all I've got. The tone of his voice was quite rushed, gravely, frustrated. He is probably thinking - Why are you even bothering with this? Can we just get into solutions? Why are you asking this? I've told you what the problem is.*
	The Qualia of the Experience – What was Thought and Felt
Sense of body showing focus.	*I am very attentive, engaged, and energised – assertive. I was sitting quite upright in my body.*
Persistence - Will not withdraw.	*On the one hand, I am calm and determined because. It feels like a dentist that's doing a tooth extraction.*
Begins to feel anxiety about her Career and Reputation	*I am feeling anxious, thinking 'shit! if I don't get the gold nuggets I need out of this guy and he walks out the door .... We all will look stupid, and it's a waste of time.'*
	Facilitator Intervention and Response
Displays empathy in her thinking. Spends much time and energy coaching and teaching about a critical thinking skill in follow up meetings. Achieves shared understanding amongst senior stakeholders.	*I had some comfort from the fact that I didn't expect this guy to have all the answers in the moment. We're all wrestling with it.* *I actually spent weeks of wrestling with it and writing different statements. I'd take elements back to them and say, Does this define the problem? Have I heard you right?* *It took several weeks of work to get to a point where we got a clear definition. And then they eventually looked at it and said 'Yeah it's obvious.*
	Facilitator Interpretation
Her assertiveness and facilitative behaviour are interpreted in terms of sticking to LSS principles and her personality.	*Staying with the principles of the methodology was important for me. Sticking to my view about what we needed to do within the methodology goes back to my high intellect characteristic.* *You need some degree of agreeableness and compassion to listen deeply, to connect with people...*
Evocative Account 2	
My Annotations	**The Qualia of the Experience – What was Seen and Heard**
Reaction of anxiety and panic.	*As soon as he started jumping to solutions, I felt a little unsettled and began questioning myself. All eyes are on me waiting for a response. There was that sort of initial, panic, sort of initial anxiety as it started first happening.*
Self-reflection in the moment leads to asserting the process.	*I thought 'oh hang on I better start writing this down' and then thought 'this is what I want to get over'. Then switching in my mind and saying, no actually let's bring it back to the methodology. Bring it back to him and get him on board.*

One experience of senior stakeholders jumping to solutions occurred in the Design phase (Account 27 – Appendix 22), which created emotional turmoil for the facilitator and other stakeholders. This account was classified as Theme 1 but also as Theme 2 because of the angst generated by the experience. It is briefly discussed with two other experiences with sponsors that had a similar emotional impact (see 6.34 below).

All seven accounts involving experiences with senior stakeholders jumping to solutions share several common elements.

1. The obvious one is the noematic character of the experiences. Irrespective of LSS maturity, facilitators encounter senior people who want to immediately envision improvement work in terms of solutions without any analysis of the situation. This stimulates the facilitator to try to slow down the thinking through various means to understand the problem (see Figure 6.9).
2. Facilitators see this process as key in contracting the project process (and underlying LSS concepts) with the sponsor and senior stakeholders and so persist in the face of sponsor frustration (see Figure 6.10).

3. These situations involving senior staff are anxiety provoking for facilitators as they must display courage and assert their training and thinking with people who can affect their reputation and career (see Figure 6.10).
4. Facilitators expend significant effort through various activities to coach the stakeholders about the process and gain definition and acceptance of the project purpose (problem, objectives, measures) (see Figure 6.10).
5. The underlying personality dimensions appear to influence facilitator behaviour (see Figure 6.10).

6.3.2 Type 2: Obtaining Sponsor Support for Resources

Five accounts from four facilitators describe their encounters with sponsors when asking for resources. These emerged as challenging experiences since facilitators worried about upsetting sponsors and not receiving the necessary support.

Three of the experiences resulted in receiving support for obtaining resources. The excerpt from Account 21 is an example of a positive outcome (Figure 6.11). Two experiences did not result in a successful outcome, exemplified by the excerpt from Account 35 (Figure 6.11). Appendix 22 has additional material and accounts (19 and 24) of facilitators confronting similar situations.

These accounts show that approaching sponsors for resourcing support, often in the second half of projects, generates anxiety about asking for the support and worry that the support will not be provided. Various characteristics are seen in these experiences.

1. There is an affective dimension to seeking resources from sponsors. Approval for support generates relief almost as a surprise. Refusal generates frustration, particularly when support was expected.
2. The efforts of the facilitators and the team can be seen in the preparation to seek resources and in presenting a rationale for seeking resources.
3. Refusal by sponsors produces sacrificial effort from the facilitator since they are driven to get the job done. This seems congruent with their personality profiles showing high scores for Enthusiasm, Orderliness, and Assertiveness, indicated in reflections by facilitators.
4. As part of their interpretation, facilitators explain the behaviour of leaders by attempting to understand an annoying situation. There is a display of empathy in facilitator thoughts, despite finding the sponsor challenging.
5. Reactions and reflections by facilitators show the importance of positive interactions with sponsors and other senior stakeholders in generating confidence and trust within the facilitators for the ongoing relationship with their sponsors. Conversely, sponsors who are participative communicate interest in the success of the project through support for resources, which generates confidence in the facilitator.

Figure 6.11: Excerpts From Facilitators' Observations on Obtaining Resources From Sponsors

Theme 1: Establishing and Maintaining Relationship with Sponsor or Significant Stakeholders	
Experience Type 2: Obtaining Sponsor support for Resources	
Evocative Account 21 – Support Given	
My Annotations	***Summary of Experience***
Facilitator emotions and thoughts anticipated a negative outcome. Surprised by the positive reaction of the sponsor. Appreciates the trust given which strengthens his relationship with the sponsor.	*Prior to asking the sponsor for more resourcing, my mental state was he is not going to be happy. He will think I am doing a bad job. This was in a peak time. Everyone is really busy at this time. So, I was anticipating him saying no.* *I was nervous and anxious so probably short of breath. I sit down in the meeting. Immediately I relax a bit because I can sense my sponsor smiling and cracking like mini jokes. I remember being grateful. I kind of set the scene of where we were up to and then just said we are going to need another workshop and more resources. Without any hesitation he was like yep, no problem. It was a proud moment for me because it's like he actually trusts me enough to go ahead on my advice. It was such a relief and surprise.*
Evocative Account 35 – Support not provided	
My Annotations	***Summary of Experience***
Facilitator expects resource request to be approved. Surprised by the resistance with role not accepted. Shows empathy for the manager. Facilitator frustrated but perseveres to the point of taking ongoing responsibility for the task.	*People agreed that part of the solution should sit with a specific team, because they already did it every month. The leader had participated in all the past meetings and not said a word.* *So, we set up a meeting with the head of the team to get their endorsement and go over the training plan thinking this is already sorted. I explained the plan, things she had heard before during the project meetings. There was that sort of deflection, it's not me. And then it was oh I haven't got any resource; my team is too small, being evasive. The meeting closed with no resolution.* *She is very protective of her team. Maybe she had bad experiences in the past where they had things happen to them that caused problems for them, in the workplace, and they are resisting.* *There's initial frustration. I don't get thrown by stuff too much even though it might upset you a little bit. I can cope with things that don't quite fit with what I am trying to do.* *I actually did the work.*

6.3.3 Type 3: Struggle to Maintain Project Sponsorship

Facilitators understand that having an assigned, supportive sponsor who is invested in the project over its life cycle is critical for successful completion. Not being able to get or maintain sponsorship is very unsettling for facilitators as it threatens the life of the project. Three accounts from three facilitators describe such circumstances.

The excerpt from evocative Account 12 (Figure 6.12) is an extreme example of this type of experience, given the facilitator had to cope with several changes in sponsorship over the life of the project. The story communicates the importance of trust between the sponsor and facilitator and the negative impact on the facilitator when the sponsor leaves. When this transpires, the facilitator takes on leadership responsibility to cope with successive changes of sponsors. Appendix 22 contains a fuller account of the experience, including excerpts from two similar experiences in Accounts 13 and 33.

Appendix 22 provides two further excerpts from additional accounts dealing with difficulty in maintaining sponsorship. Both these accounts show the following similarities to account 12.

- There is a clear belief in having a strong relationship with the sponsor, which drives the desire to maintain contact.

- There is a strong sense of the personality of the facilitator driving their feelings and motivating their actions. They don't give up but continue to exercise initiative to seek sponsorship.
- The facilitators display leadership in continuing to guide the team in the absence of a sponsor.
- There is both Industriousness and Compassion behind their actions, which also reflects a strong commitment to the methodology.
- Again, the coaching and communication efforts of facilitators are significant.

Figure 6.12: Excerpt From Facilitators' Observations on Maintaining Sponsorship

Theme 1: Establishing and Maintaining Relationship with Sponsor or Significant Stakeholders	
Experience Type 3: Struggle Maintaining Project Sponsorship	
Evocative Account 12	
My Annotations	***Summary of Experience***
Strong empathy and compassion for the sponsor leaving because of the past relationship.	*I found out about the initial sponsor leaving in a one-on-one meeting with him in a quiet room early on in Define Phase. It was a shock and had a big impact on me because we had developed a very close working relationship. He understood in detail what I did. I am deeply sorry. I just simply had to accept I'll be operating without this very supportive and understanding sponsor.*
Confidence is shaken but changes to determination to continue. Plans next steps.	*I'm losing a bit of my confidence. Immediately I start thinking about; where do I go, who do I escalate to if I do hit roadblocks? And all the relationship building needed outside what I do.*
Continues to show empathy for the team. Exercises leadership and coaching.	*Immediately I start thinking about all the relationship building needed outside what I do. Then I thought about how I comfort the team and give them the confidence and essential security to continue the journey - we're not stopping.*

6.3.4 Type 4: Mistrust and Anger Over Sponsor Behaviour

Three experiences from three different facilitators typify this type of experience, suggesting it is a rare event. The previous experiences indicate the importance of facilitators feeling confident and supported in their relationship with sponsors. These experiences are examples of interactions with sponsors that generated deep feelings of anger and mistrust in the facilitator. It appears the sponsors were unaware of the impact of their behaviour on the facilitators. These accounts typify two themes – one involving relationships with sponsors (Theme 1) and the other being in highly emotional and stressful situations (Theme 2), which is explained next in 6.4.

Thematically, these experiences are more an expression of the noetic aspects of the experiences (how deeply they were felt) rather than the noematic elements since they occur under different circumstances. Figure 6.13 is a summarised excerpt from Account 14. Further detail of the account is given in Appendix 22 together with a similar experience in Account 32.

The experience in Account 27 is also summarised in Appendix 22 (Section 1). Here the project team had tested several alternate solutions with good results but had not reached the point of selecting one. Suddenly, an executive with little understanding of the work pressured the team to jump to a solution and proceed to implementation. The account records feelings of rage and frustration and a sense of the success of the project being threatened by the facilitator and other team members.

These accounts illustrate how trust between the sponsor and the facilitator can be broken. The various experiences share the following similar characteristics:

- They are intensely emotional events for the facilitators, to the extent that there is a sense of betrayal and their sense of contract with the sponsor and organisation is damaged. Both accounts capture the depth of emotion created by difficult experiences.
- Facilitators seek solace and advice from colleagues.
- When faced with a damaged relationship, these facilitators remained somewhat stoic in their attitude and continued to work until the end of the project within adjusted behavioural parameters in the relationship.
- They reveal the facilitator's explanations for their loss of respect for the sponsors and articulate their perceived beliefs and values about relationships in their rationale. The facilitators also express insights about the experience from the perspective of their personalities and those of the sponsors.

Figure 6.13: Excerpt From Facilitators' Observations of Emotionally Challenging Experience With Sponsor

Theme 1: Establishing and Maintaining Relationship with Sponsor or Significant Stakeholders	
Mistrust and Anger Over Sponsor Behaviour	
Evocative Account 14	
My Annotations	***Summary of Experience***
Gets a shock from the sponsors words.	*During the Measure Phase I was doing a check-in because I wanted to get support to influence some people to come on the journey with us. Her words that stick with me is, "Do you think this person is someone I want to keep in this organisation. Come back and tell me whether you think they fit in".*
Immediately pays attention to dealing with it. Feels manipulated and angry.	*I realised there was another agenda - have me provide intel on her staff to help identify people that she felt didn't fit within her structure. I'm frustrated and angry. I began to sense that, "I'm going to have to be careful here otherwise there's an impact on my career and so on."*
Loses respect for the sponsor.	*At that point I lost respect for the sponsor because of the ulterior motive she had. She wasn't being open and honest - underhanded and went right against my values.*
Modifies approach to sponsor after consulting with trusted others.	*I consulted my team about dealing with the sponsor. I decided I'm going to address getting team member's buy in myself. I start to become less open with her in meetings which was a challenge because she was one of the main sponsors. In meetings, she acted like she was supportive, but she wasn't.*
Appreciates the relationship with the other sponsor. Learns about listening to the concerns of others.	*My other sponsor was so supportive. He saw the value. I was more spending a lot of time with both, so I had to really keep her buy-in. I learned I just had to sit back and go, "Okay, let me listen to your concerns." - it made it a lot easier.*
Explains sponsor behaviour based on context of the organisation and sponsor's personality.	*There was a restructure going on in the background within this division. The combination of new people, restructuring, plus her personality perhaps explains why she's doing this and can't separate that from the project.*

This sub-theme of difficult experiences involving sponsors leads to the next major theme across the accounts, which deals with emotionally challenging engagements with team members and team leaders.

6.3.5 Patterns in the Structures of Facilitators' Experiences when Engaging Sponsors

Paying attention to the immediate conscious reactions of facilitators (behaviours, thoughts, and interpretations) to relational experiences helps reveal phenomenological ideas. The process of facilitators' attention being captured (intentionality) and their subsequent response can be seen in the accounts. These dimensions may not have emerged if the interview design had not deliberately sought to surface these thoughts and feelings.

The analysis of the experiences of engaging with sponsors across all 17 accounts occurring under different circumstances reveals several overall characteristics illuminating the structure of facilitator and stakeholder experiences. These are discussed in the summary below and are illustrated in Figure 6.13 at the end of the summary. Short excerpts to illustrate the emerging characteristics of facilitator and senior stakeholder experiences are included. This pattern of discussion will be repeated for the remaining three themes.

In the literature review (2.3.2.4), reference was made to the extant LSS literature focusing on critical success factors in implementing LSS programs. Management support was consistently reported as being the key success factor (Abreu-Ledon et al. 2018, p. 93). The structure and characteristics of experiences relating to facilitator relationships with sponsors provide an experiential definition of this topic, often described in the LSS literature in broad terms and borne out of survey research rather than experiential evidence.

6.3.5.1 Significance of Interpersonal Relationship with Sponsors and Senior Stakeholders

The accounts across all sub-themes raised the importance of supportive relationships with sponsors. The relationship is key for the facilitators' sense of wellbeing and for the project. The process of contracting with the sponsor through planning is a crucial time to align the mental improvement models of the facilitator and stakeholders. This process takes time, is subject to conflict, and generates a depth of anxiety and relief within the facilitator. The facilitator seeks to actively maintain this relationship throughout the project, but it is subject to moments of further frustration and anxiety when resources are needed, the sponsor changes, or the sponsor's behaviour causes mistrust. There is an emotional high expressed (happiness, pride, sense of being protected) when facilitators feel confident in their relationships with supportive sponsors (see Figure 6.13). The reflections in Account 29 below illustrate the significance of facilitators achieving a productive and supportive working relationship with a sponsor over the life of the project.

> *This is a significant experience because of the big positive shift in the sponsor. She did become an advocate. Initially, it was very stand-offish and very closed on both sides, to eventually just much more relaxed, much more open to communicate with. (Account 29)*

6.3.5.2 Significant Teaching, Coaching, and Communication Effort by Facilitators

The effort by facilitators to address, intervene in, and resolve issues is significant and not always seen by the sponsor. Facilitators take on leadership roles in many instances, sometimes even to act in functional roles outside of their responsibility, which significantly adds to their own workload (see Figure 6.13). They spend effort in a variety of ways. They:

- explain and respond to queries and questions
- teach sponsors and stakeholders about the whole journey to help sponsors understand that causes need to be learnt before jumping to solutions
- patiently coach sponsors on their role
- enable dialogue, listen actively and decide how to adapt to what is being heard
- learn about prevailing views, the process under study, and the needs of the sponsor – 'seeing the system context'
- reflect on this depth of effort in terms of the tiredness and frustration facilitators feel.

This coaching and communication effort is captured in the excerpt below from Account 4.

I say, "When I look at the data this is what it says." And I began to do the presentation of the data analysis. This was a teaching/learning moment for the leadership team in developing a better management style. Hopefully, that was a step into their realm of consciousness. At least some of them understood that data is important. I was using the data to speak (rather than jumping to costly solutions without looking at the data). And eventually leading them to come up with options themselves. (Account 4)

6.3.5.3 Visibility of Intentionality and Reciprocity in 'Seeing the Other'

Facilitator's descriptions and reflections also suggest that they open themselves up to others (pathic responses) and so seek to understand others and respond to their needs. Two aspects can be observed here. Rather than express a degree of judgement on the ignorance of stakeholders involved, facilitators often demonstrate 'systems thinking' by explaining what happens from the perspective of the organisational context or the complexity and scope of the situation. They also attempt to take the stakeholder perspective in explaining responses showing a pathic interpretation and response to the challenging encounter. This characteristic of openness to sponsors reflects Levinas's caution on totalised forms of interaction. There is often a depth of patience and calm observed in the interactions as described by the facilitators (see Figure 6.13). The excerpt from Account 29 shows the facilitator's active listening and empathy.

I let her provide her perspective and download a bit, and that's when I started understanding a lot of... it's projection of something else that she's bringing into this. She was feeling very vulnerable because of what was happening in the broader division and the fact that there was this restructure going on. So, I think some of her vulnerability was playing out in this initial meeting. (Account 29)

6.3.5.4 Affective Impact on Facilitators During Relational Experiences with Sponsors

Facilitators are often subject to emotional responses, both negative and positive (see Figure 6.13), illustrating the highly affective nature of their experiences with sponsors. These feelings stem from their anxiety about dealing with senior staff and their desire to perform well to protect their careers. Emotions include:

- fear, anxiety, coping anxiety for reputation
- frustration, anger, mistrust
- emotionally draining
- compassion – patience and generosity – seeing others as different
- relief, pride.

The excerpt from Account 4 illustrates some of these emotions.

I started just sitting and talking to the slides, but then stood up midway and walked around a bit to diffuse the tension in me. I am presenting the data and challenging their assumptions. So, this experience is a highlight for me. I was able to facilitate their understanding and learning and so change their perspective (slow them down), whilst protecting reputation and at the same time help with the next stage. (Account 4)

6.3.5.5 Facilitator Self-Awareness and Interpretations Through the Lens of Personality

Quite often facilitators explain their own behaviour from the perspective of their personality. The degree of drive, extra effort, and persistence to endure challenges with sponsors and senior stakeholders is a significant commonality within the accounts and is often explained with their high Enthusiasm, Assertiveness, and desire for Orderliness within the methodology structure. Sometimes their degree of compassion and level of politeness is raised as an explanation for their behaviour. Most often they point to their low degree of volatility and withdrawal to explain their lack of visible emotional reaction to difficult and frustrating circumstances and their patience. However, this is often in the context of them being open to others and new experiences (see Figure 6.13).

Facilitators seem very aware of the social and organisational context as part of the explanation of experiences and the behaviour of sponsors.

Their interpretations also illustrate their awareness of their own learning and the growth and development that emerge from the experiences. Sometimes, the reflections show recognition of their need to go beyond their own behavioural and personality tendencies. These meanings gained from experiences express a sense of authenticity in their own development, which is encouraged in the philosophical aspects of the phenomenological literature.

The two excerpts from Accounts 3 and 5 illustrate this self-awareness of facilitators in their experiences with sponsors.

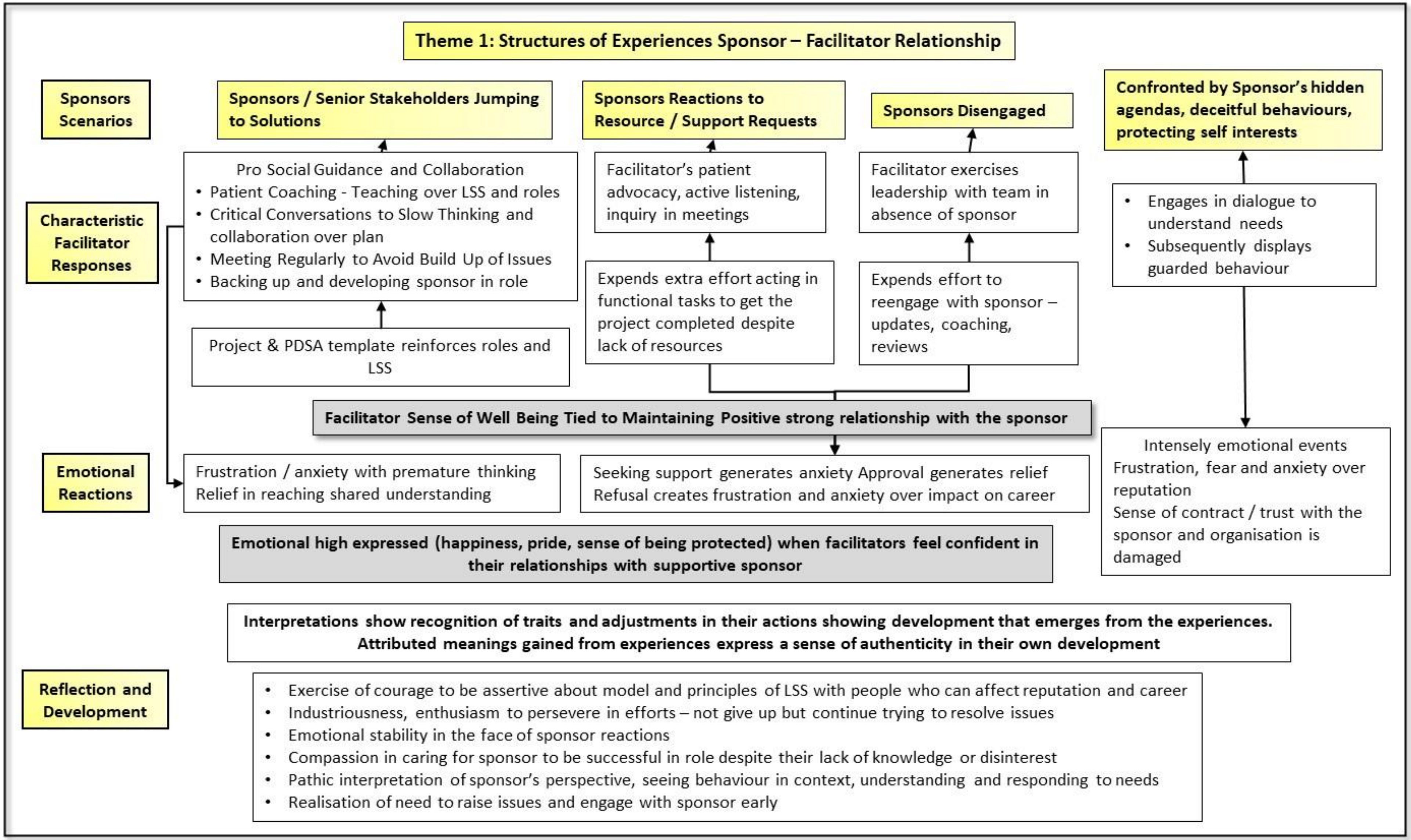
> *This was significant for me because it was the 'maker or breaker' initial experience in getting the project going. It was a pretty steep learning curve. You do all the theory and everything, then, all of a sudden, there you are and people have different ideas about things and you need to step in and define the space. It was difficult, but it was invigorating. (Account 3)*

> *I'm probably not the most assertive person, and I'm aware of that. I tend to be pretty prepared for things and pretty organised [conscientiousness piece]. I guess that through that discussion, I was being more assertive given my understanding of the situation and methodology. 'Okay well, this is the way it is and this is how it's going to run'. I don't tend to lose my cool and go into a state of panic in general around things. (Account 5)*

6.3.5.6 Visualisation of Charateristics of Facilitator Experiences with Sponsors

Figure 6.14 encapsulates the structure of relational experiences with sponsors organised around the scenarios experienced. The characteristic facilitator responses in each situation are summarised reinforcing the patterns discussed above. The pathic nature of these experiences can be seen in the emotional reactions associated with the experiences demonstrating the link between facilitator wellbeing and the positive relationship with sponsors. Common aspects of facilitator interpretations suggest self-awareness of the impact of personality traits.

Figure 6.14: Characteristics of Facilitator Experiences With Sponsors



6.4 Major Theme 2: Confronting Issues that Generated Significant Angst

The next major theme across accounts is characterised by the noetic aspects of the experiences (how they were felt). Many accounts record the tension and low levels of anxiety facilitators feel in their encounters with stakeholders. What differentiates these accounts is the deeply negative affective impact on facilitators (fear, anxiety, threat, anger), irrespective of the noematic context. The emotions are often descriptive of stakeholder reactions as well.

In total 13 evocative accounts (25 per cent, see Figure 6.5) were associated with this theme showing the following overall characteristics.

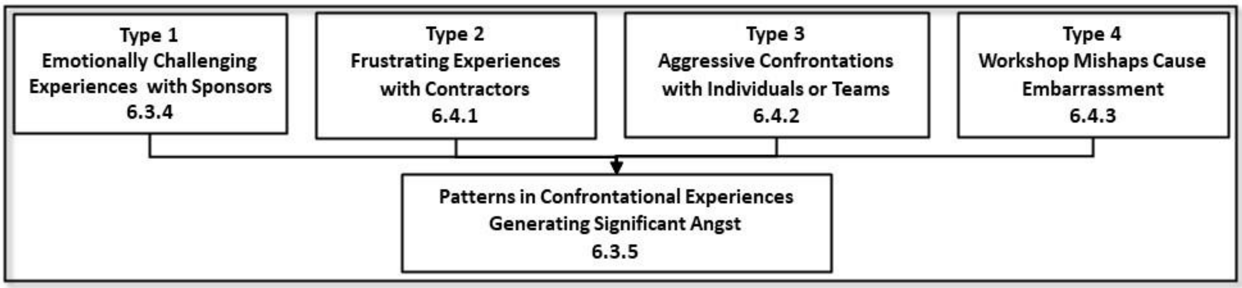
- The distribution across project phases is shown in Figure 6.15 and indicates that more emotional experiences occurred in the Define or Implement phases.
- The experiences in one account crossed over into the next phase as shown in Figure 6.6.
- Six accounts are classified under two themes. Three are associated with sponsor relationships (Theme 1, discussed in Section 6.3.4), and three are associated with the use of data (Theme 4). These cross-theme associations indicate the likelihood of deeply emotional encounters during experiences with sponsors or when using data with stakeholders.

Figure 6.15: Distribution of Accounts Across Phases Involving Confronting Issues That Generated Significant Angst

Theme 2: Confronting Issues that Generated Significant Angst							
Project Phases	Define	Measure	Analyse	Design	Pilot	Implement & Control	Total
Scenarios	4 Experiences	2 Experiences	0 Experiences	2 Experiences	1 Experience	4 Experiences	13
1. Emotionally Challenging Experiences with Sponsors		1		1		1	3 Accounts
2. Frustrating Experiences with Contractors	2						2 Accounts
3. Aggressive Confrontations with Individuals or Teams	1	1		1	1	3	7 Accounts
4. Workshop Mishaps Cause Embarrassment	1						1 Account

Four types of experiences emerged as shown in Figure 6.15 (left-hand column), illustrating the contexts that stimulated the affective reactions. Confrontational situations with individuals and teams (Type 3) were the most common context facilitators found emotionally challenging. Scenarios (Type 1) involving emotionally challenging situations because of sponsor behaviour were already discussed in Section 6.3.4 (Accounts 14, 27, and 32). The dominant characteristics of the remaining three types of experience will be summarised and supported by excerpts from facilitator descriptions. Appendix 23 contains additional supportive account material organised by the three types of experiences and referenced in discussions. After the types of experiences have been outlined, a concluding summative discussion of characteristics across all 13 accounts of experiences that generated significant angst is provided together with a visualisation of these findings (see Figure 16).

Figure 6.16: Structure of Analysis Discussions on Theme 2: Confronting Issues That Generated Significant Angst



Type 1 previously discussed (see Section 6.3.4)

6.4.1. Type 2: Frustrating Experiences with Contractors

In two cases (Accounts 7 and 8), facilitators reported difficult engagements with people who were involved with the improvement project and employed as contractors by the organisation. The emotional impact on the facilitator emerged from the lack of knowledge and skill about improvement that these people bring to the process but who resist the work of the facilitators. The contractors' own agendas appear in the facilitators' observations of the two experiences, resulting in meetings and discussions initiated by the facilitators to help the contractors understand the process and engage them in it. Unfortunately, in both situations, the facilitators found the engagements frustrating and threatening to the progress of the project. They escalated the issue to the sponsors and requested that their involvement be limited or stopped, which was the resulting outcome. Figure 6.17 is an exemplar from Account 7 summarising the experience structure. Appendix 23 contains an extended description of the experience.

Figure 6.17: Excerpt From Facilitators' Observations on Emotionally Challenging Experience With Contractor

Theme 2: Confronting Issues that Generated Significant Angst	
Type 2: Frustrating Experiences with Contractors	
Evocative Account 7	
My Annotations	***Summary of Experience***
Confronted by contractor, naive about LSS and own strong opinions.	*The team included an administrator on contract. She came across as incredibly defensive seemingly trying not to have something to do that was part of her responsibility.*
Conversations to educate and influence the contractor.	*To work through this, I had a couple of one-on-one meetings with her in a café to make it more relaxed. There were flash points. I thought, oh! oh!! She is getting defensive again, making it difficult for significant application of the methodology.*
Realises the contractor feels threatened. Shows Empathy for the contractor.	*I began assessing the possibility of my working relationship with her on the project. I felt we weren't going to be able to work together. It was quite emotional, a bit yucky. I was expectant and optimistic because she was gifted and talented and then became frustrated and a bit aggravated. It got to a point where I realised that I needed to talk to the partner because it wasn't going to work and would become a hindrance to the project. I remember her talking about her need to support her children. It went through my mind that if she's displaced, then this will be a real impact on her. I thought I need to do this in a way where she doesn't lose her job. That was important to me.*
Concludes that involving the contractor will create ongoing difficulties and so escalates to sponsor who releases her from the project.	*I met with partner and explained what I felt and suggested she be released to keep doing her other consultant work. He agreed and that is what happened.* *She was supportive during interaction for the rest of the project.*
Reflects on the sponsor's lack of engagement early on and own decisions from a personality perspective.	*Part of the issue is that the sponsor delegated to her without any realisation of her attitude and mind set.* *I realised I needed to be more assertive if I was going to get anywhere. I needed to find a way to define my own space otherwise I wasn't going to have one. I also think it was my feeling of compassion for her. So those two things in balance was me trying to make this real and work.*

6.4.2. Type 3: Aggressive Confrontations with Individuals or Teams

Most of the remaining accounts (from four facilitators) are situations where facilitators are confronted with staff and team leaders disagreeing and resisting the information and work emerging from the project at different phases. These are not situations that involve sponsors. Disagreements occur in response to conclusions drawn from data analysis or in response to proposed solutions. Stakeholder reactions are provoked by a sense of threat or blame from management or the preservation of their own interests. These experiences occur across many phases and typify the whole theme.

Appendix 23 includes several summarised accounts (9, 16, 34, and 39) and a detailed annotated account (38) as an exemplar of the structure of these experiences. This Account 38 is one of the most emotional and traumatic experiences provided by a facilitator and so has been selected as an exemplar. Two other experiences (Accounts 31 and 39) are tied to the same context as that experience in Account 38. Figure 6.18 summarises the experience structure of Account 38. Apart from the highly emotional atmosphere, the account shows the degree of empathy the facilitator exercises even for the protagonists!

Figure 6.18: Excerpt From Facilitators' Experience During an Aggressive Confrontation With Individuals and Teams

Theme 2: Confronting Issues that Generated Significant Angst	
Type 3: Aggressive Confrontations with Individuals or Teams	
Evocative Account 38	
My Annotations	***The Qualia of the Experience – What was Seen and Heard***
Focus is immediately heightened by seeing and hearing abusive interaction.	*When the analyst and I walked into the meeting, they were having quite a heated conversation and suddenly everyone went quiet. The team lead is sulking in the corner, arms crossed, face all red and aggressive, not sitting at the table. He immediately says "What are we going to F' up now?".*
My Annotations	***The Qualia of the Experience – What was Thought and Felt***
Feels very anxious but shows concern for analyst.	*Feeling, very anxious - knot in my stomach. Such a surprise, it's not how you expect people to behave in the workplace. So much conflict. I felt for the analyst who had worked really hard.*
My Annotations	***Facilitator Intervention and Response***
Empathy pushes facilitator to be assertive beyond her tendency to avoid confrontation. Facilitator interrupts aggressive behaviour and redirects the exchange to encourage listening.	*I thought, "I'm not going to deal with that child-like behaviour," because I was feeling very protective of the analyst. She was doing a really good thing.* *I directed the conversation to the lady responsible for the work because she was willing to listen. I kept saying "Let's just listen and understand, and if you're not happy we can discuss this further.". That sort of shut the leads down a couple of times. But they continued saying "You're wasting our time". It was a long intense meeting and subsequently they rejected it.*
My Annotations	***Facilitator Interpretation***
Shows insight into the interpersonal dynamics. Moves out of her comfort zone, engages in conversations with protagonist, giving feedback, counsel, and encouragement in therapeutic form. Reflects on own expectations for behaviour. Interactions show how power is exerted individually or collectively to resist changes even when they appear logical and beneficial.	*In hindsight the lead was attacking the analyst personally, because they had not got along. Maybe he felt like "You're betraying me."* *Later I met with the specialist lead. I said, "Look, that was really unacceptable the way you behaved. It was unnecessary. Your knowledge, and skill set is very valuable." He was honest about what happened. He was very threatened and full of anger and really striking out because he had been told his role was gone.* *There's a certain level of professionalism, that no matter what you're going through, you can still carry on with your job, and do the best for the company.* *All the sales team leads didn't like what was happening. They were worried they would get a negative reaction from their customers and that would impact their commissions. These are supposed to be customer-oriented people but could not realise that the specific change was going to have a positive impact on their customers.*

Whilst a summary of the patterns of these experiences is discussed below, several features of Account 38 are worth highlighting to illustrate this deeply social and relational dimension of improvement activity. The facilitator is confronted by displays of unprofessional stakeholder behaviour exerting power individually or collectively in the experience. Demonstrating courage and empathy, the facilitator stood up for an individual and managed the aggressive behaviour. Both in post-event actions and in reflections, the facilitator displayed further empathy through therapeutic interaction with a manager to understand and direct more positive forms of behaviour. This account reflects the structure of difficult experiences illustrating the social dynamics embedded in improvement activities and the demands on facilitators beyond the narrow application of LSS analytical techniques.

Four additional accounts are provided in Appendix 23 (Accounts 9, 16, 34, and 39) to illustrate aspects of the pattern discussed above. The annotations against the experiences highlight characteristic emotions, reactions, and reflections of the facilitators. A summary of the patterns based on the analysis of accounts is discussed below.

6.4.3. Type 4: Workshop Mishaps Cause Embarrassment

This experience is based on one account (10) that is different in terms of the stimulus to the facilitator's strong emotional reaction. It's the first one-day workshop the facilitator runs involving the sponsor, team leads, and staff. Several things go wrong, resulting in the facilitator feeling very embarrassed. The short excerpt illustrates the situation:

> *It just started off on the worst possible foot. Walk in and it all goes downhill from there. Initially, the laptop just breaks down. Not everyone knew each other, so there is awkward silence. No emotions in the facial expressions – very reserved. I am trying to make small talk while I am trying to fix it. I get the laptop up and running, plug it into the projector, and the projector dies. It was a memorable experience because it was scarring but also because it was such a big learning experience. (Account 10)*

6.4.4 Patterns in Confrontational Experiences Generating Significant Angst

The analysis of experiences where facilitators had to deal with staff and team leader resistance reveals several characteristics of the structure of these experiences. These are discussed in summary below and are illustrated in Figure 6.19 at the end of the summary. This pattern of discussion is repeated for the remaining two themes.

6.4.4.1 Emotional Impact on Facilitators and Stakeholders

The qualia reported in these experiences highlight the depth of feeling that emerged within facilitators (see Figure 6.19), which form the basis for Theme 2. These were particularly anxiety-provoking sessions for facilitators – to the point where two facilitators found the environment too stressful and eventually left the organisation. Often facilitators expressed a sense of being under pressure to be successful in influencing staff through these points of resistance so that the project is completed without delays. Facilitators are conscious of their reputations in front of sponsors and senior staff as well as with team leaders and team members. These perceptions add to their own sense of threat and anxiety. In many of these evocative accounts, facilitators sought some form of relief from the stress after the incidents.

Example excerpts are shown in Table 6.1. Stakeholders who share the perspective of the facilitator show similar emotional reactions. The challenging experiences were caused by other stakeholders' volatile emotional reactions, which are reflected in the excerpts.

Table 6.1: Excerpts From Facilitators' and Stakeholders' Emotional Reactions

Excerpts From Facilitators' and Stakeholders' Emotional Reactions		
Facilitators	**Account 14**	I'm frustrated and angry. I lost respect for the sponsor.
	Account 32	I was pretty angry afterwards without a doubt. Could feel the clamminess in my palms.
	Account 8	I got frustrated. I withdrew a bit, sitting down without talking.
	Account 31	It was quite confrontational, quite volatile. I did feel very protective of the operations team.
	Account 34	I got quite defensive, feeling very hot and getting a bit sweaty on my head and thinking, I need a bit of a timeout. Get a drink!
Stakeholders	**Account 27**	I could sense it in the team – elements of anger, frustration, and rage.
	Account 9	His posture and his energy that he was emitting was very negative.
	Account 16	It was hostile, a bit cold. Two dominant voices, both very senior guys.
	Account 31	Sales team badgering and bullying the production team in the stand-up meeting.
	Account 34	Feeling they were going to be blamed if there were errors because their name was on the file.

6.4.4.2 Exercise of Power by Staff

Often staff were able to exercise power over decisions by collectively raising objections to what was being proposed. Sometimes, despite facilitator attempts to logically explain the project ideas, the views of staff resulted in stopping or modifying the solutions being implemented. In some instances, actions taken by team leaders went to the extent of misrepresenting information or communicating actions to be taken to protect and achieve what they wanted. In other instances, staff simply refused to cooperate and implement the ideas (see Figure 6.19).

6.4.4.3 Sense of Threat of Blame Drives Resistance

Many accounts share experiences where staff resist the outcomes of the project based on wanting to protect themselves from being blamed by management or because they fear loss of reputation or remuneration. This was one of the major attitudes Deming (1982, pp. 59-65) cautioned managers about. Perceptions of data analyses or solution selections or even the idea of the project generated feelings of threat, which in turn produced forms of resistance (see Figure 6.19).

6.4.4.4 Ingrained Beliefs Based on Long Term Tacit knowledge.

In many of the experiences, facilitators attempted to enable learning by providing results or information and so build explicit knowledge based on evidence. In these circumstances, the tacit knowledge gained by staff over time came into conflict with the explicit knowledge presented, which created a challenge to long-term beliefs. Stakeholders can still resist the shifts in knowledge despite the attempts by facilitators to sway views through data, logic, and presentation (see Figure 6.19).

6.4.4.5 Interventions by Sponsors

Frequently, the conflicts described in these experiences are partially resolved by sponsorship interventions. These often occur in prescriptive forms, illustrating a form of support to overcome project barriers. Facilitators reflected on the value of sponsor engagement with stakeholders much earlier in the project (see excerpt below) to hear the concerns of staff, particularly their feelings of threat, and reassure them that the improvement project is not meant as a 'finger-pointing exercise' to attribute blame and penalise staff. This was a key message promulgated by Deming (1982, pp. 315-22). The idea of early engagement of sponsors is to avoid prescriptive interventions that leave latent feelings of dissent despite the logic of the ideas (see Figure 6.19).

> *So, one of my reflections is escalating and getting the sponsor involved a lot earlier, keeping him engaged, not just at the steering committee meetings where it's all nice and pretty, but having those one-on-ones, giving him that real what-to-know type of stories and depth of understanding so he was fully aware and involved. (Account 39)*

6.4.4.6 Characteristics of the Facilitators' Interpretations of Challenging Experiences

1. Growing Self Awareness and Development

When interpreting what happened in these difficult situations, all the facilitators saw the experience as helping them learn and get better at their role in the future (see Figure 6.19). The learning is often about empathising with staff and investing time in understanding their needs and issues. Part of the process of empathising is an attempt to see the system and its pressures on the people in the situation. Facilitators did not display an ingrained attitude of blame and judgement when explaining the stakeholder reactions they faced.

> *If the senior managers had got together with the key supervisors to get them on board at the start instead of pretty much prescribing to them all, I think it would've been a completely different picture. I've learned a bit more about people. I understand now that they were threatened. (Account 16)*

2. Self-Awareness of the Negative Impact of Strong Personality Traits

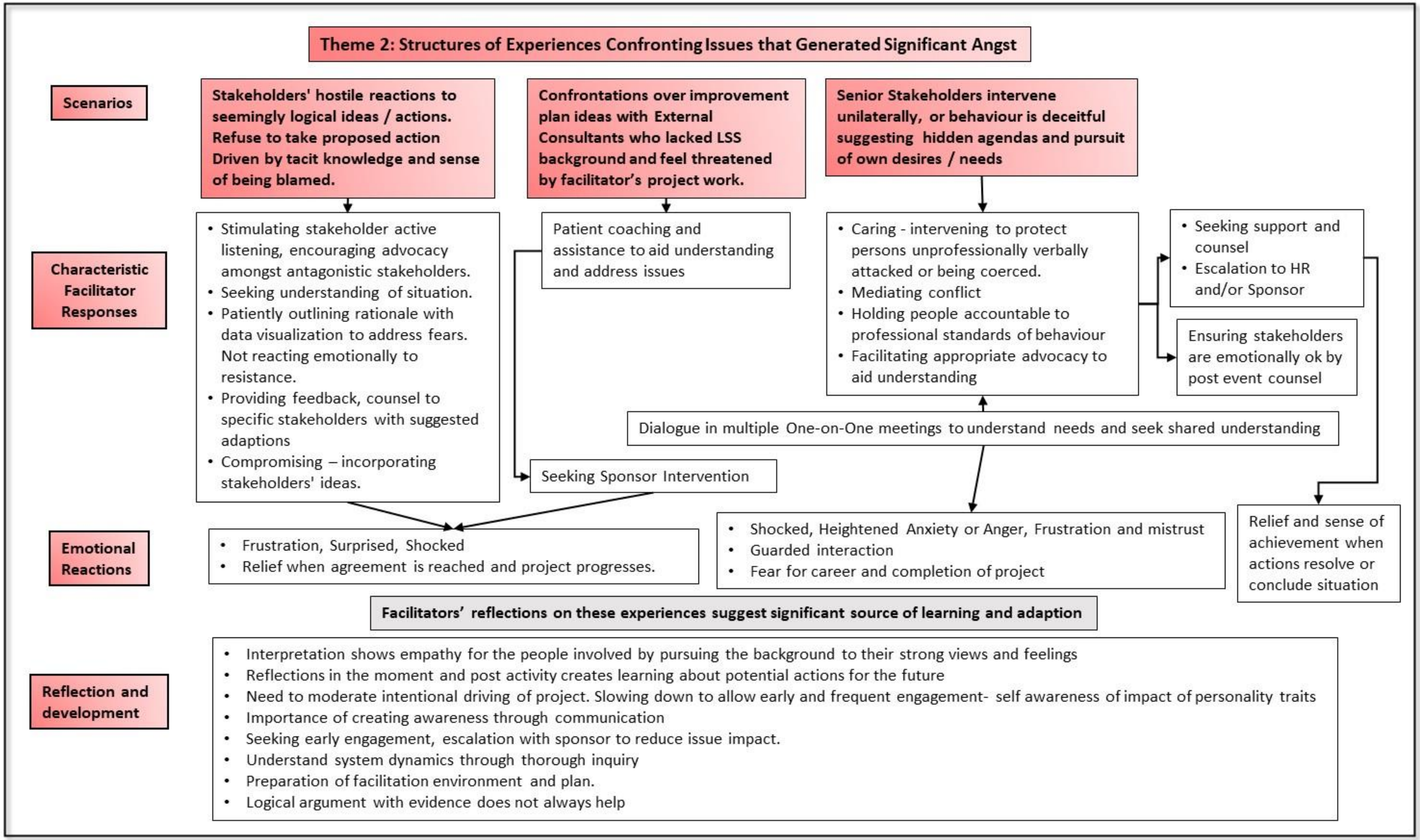
There is an expression of self-awareness in the recognition that their own personality strengths in the areas of extraversion and conscientiousness can become a hindrance to the process of engagement with people in the firing line. The drive to get the project done can force the progress of the project without face-to-face engagement, which in turn creates obstacles and delays the project (see Figure 6.19 and excerpt below). There is a sense that the prescriptive use of sponsor power should be a last resort. This self-awareness is also reflected in the need to be more assertive earlier in the process in engaging sponsors and staff over their needs and involvement. Facilitator observations also show a recognition of the personalities of the people involved given their behaviours and, therefore, the need to engage with them appropriately.

> *Because of my drive to get it done, I get frustrated with people who are not pulling their weight, or sort of trying it on. The lesson for me was about engagement and awareness. (Account 34)*

6.4.4.7 Visualisation of Characteristics of Facilitator Experiences that Generated Significant Angst

Organised around the experienced scenarios, Figure 6.19 summarises the characteristics of these confrontational experiences with stakeholders. The characteristic facilitator responses in each situation are summarised, reinforcing the patterns discussed above. There is an emotional characteristic to stakeholder reactions together with the depth of emotional impact on facilitators. Despite their feelings, there is an extraordinary degree of facilitator patience and understanding, which illustrates an underlying sense of care for stakeholders. This is reinforced in reflections and learnings taken from the experiences to be carried forward in future work.

Figure 6.19: Characteristics of Facilitator Experiences Generating Significant Angst



6.5 Major Theme 3: Enabling Collaboration that Generated a Sense of Achievement and Joy

This major theme across accounts is also characterised by the noetic aspects of the experiences. Whereas previous themes have been characterised by difficult and sometimes confrontational experiences, the experiences here are a contrast because the qualia are positive emotional reactions. This theme is more about the facilitators' efforts leading to engagement and collaboration and positive outcomes. Facilitators' own sense of enjoyment, satisfaction, and achievement in stimulating openness in dialogue and collaboration emerged in the experiences. Additionally, this produced team learning and a shift in tacit knowledge, creating an example of high-performance teamwork. Consequently, facilitators often cited these experiences as highlights. Amid intentionally driving the project, they indicate enjoyment of a relational form of agency.

In total 12 evocative accounts (24 per cent, see Figure 6.5) were associated with this theme showing the following overall characteristics:

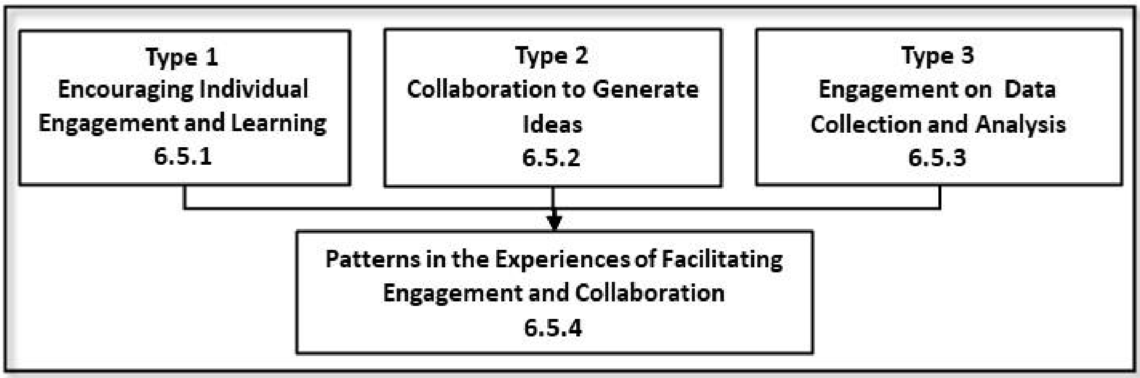
3. The distribution across project phases (see Figure 6.20) shows these engaging positive experiences occurred more often in the Analyse and Design phases. During these phases, collective analysis and idea generation are pronounced, so it is not surprising to see the preponderance of experiences in these middle stages of the improvement journey.
4. The experiences in two accounts crossed over into the next phase as shown in Figure 6.6 (Analyse to Design and Design to Implement).
5. Five accounts are classified under two themes. One involves sponsor relationships (Theme 1), and four are associated with the use of data (Theme 4). This association with the use of data hints at a common situation where collaboration was encouraged.

Figure 6.20: Distribution of Accounts Across Phases Enabling Collaboration That Generated a Sense of Achievement and Joy

Theme 3: Enabling Collaboration that Generated a Sense of Achievement and Joy							
Project Phases	Define	Measure	Analyse	Design	Pilot	Implement & Control	Total
Scenarios	1 Experience	2 Experiences	3 Experiences	4 Experiences	1 Experience	1 Experience	12
1. Encouraging Individual Engagement and Learning	1		1	1	1		4 Accounts
2. Collaboration to Generate Ideas			1	2		1	4 Accounts
3. Engagement on Data Collection and Analysis		2	1	1			4 Accounts

Three types of experiences (of equal numbers) emerged (see Figure 6.20 – left-hand column), illustrating the forms of engagement and collaboration stimulated by facilitators. Each type of experience will be briefly outlined with illustrative excerpts. The underlying structures of the experiences in each type show many commonalities as demonstrated in the concluding summative discussion (see Figure 6.21 – Section 6.5.4). Appendix 24 contains additional supportive account material, organised by the three types of experiences which are referenced in discussions.

Figure 6.21: Structure of Analysis Discussions on Theme 3: Enabling Collaboration That Generated a Sense of Achievement and Joy



6.5.1 Encouraging Individual Engagement and Learning

Three different facilitators were involved in these four experiences. The accounts (11, 28, 29, and 36) illustrate how the facilitators felt the need to engage specific individuals to encourage participation as well as develop their understanding of improvement. The empathy and persistence displayed by the facilitators through their patience, repeated conversations, teaching, and active listening to stimulate engagement and learning stand out in these experiences. In all cases, facilitators were somewhat anxious about the process they needed to go through, but they emerged with a sense of satisfaction about successfully engaging the interest and participation of the stakeholders. This process in staff engagement produces stakeholder advocacy for the project. The excerpt below (Account 28 – Figure 6.22) typifies the experience. Further detail is given in Appendix 24 with additional summarised experiences of similar accounts.

Figure 6.22: Excerpt From Facilitators' Successful Experiences in Generating Participation and Advocacy in Key Stakeholders

Theme 3: Enabling Collaboration that Generated a Sense of Achievement and Joy	
Type 1: Encouraging Individual Engagement and Learning	
Evocative Account 28	
My Annotations	**Summary Experience**
Realises the challenge in getting two key staff members to conduct a pilot where extra work is required.	*I was getting these two admin ladies to try the idea in the pilot which required them to do more work on top of what they were already doing.*
Initial resistance from key role in the office. Creates tension and anxiety.	*The initial response was get 'f', sort of stuff pretty much straight away. There was a lot of emotion coming back at me which made me quite anxious. She had all the power in the office because everything went through her even the boss was kind of scared of her.*
Invests time in visits, explanations on benefits and practical help in carrying out the changes.	*Over a week I had multiple face to face daily visits trying to convince her of the benefits of the changes to their workload. A strong part of the message was acknowledging her efforts and reminding her of the headaches and pressure caused by the old process.*
The effort creates enthusiastic support. Facilitator feels relief and elation in achieving engagement and support.	*I kept giving daily refreshers and tips on how to go through the new process. We began to quickly see the process easing the workload and then it did not take long to start putting a smile on the dial. She was ecstatic - turned from enemy to prophet telling the other lady "you've got to give it a go".*
Produces greater confidence in capability in the facilitator.	*There is a sense of elation and relief. It is pretty satisfying in a lot of ways. You realise you can deliver in a place where people have never heard about it before. Navigating that human response and not backing down that is the thing that I remember most about it and their flip from negativity to positivity when it was working. They got control of their workplace back that is what stands out to me.*

6.5.2 Collaboration to Generate Ideas

This type of collaborative experience created by four facilitators involves engaging stakeholders in generating ideas (Accounts 20, 22, 23, and 37). The experiences included collectively generating root causes of problems or creating solutions, and one experience involved generating and synthesising learnings on the project story.

Each situation had inherent issues that created tension for those involved. Facilitators attend to the need for collaboration and intervene to stimulate collective idea generation. Observations of the successful collaborations create a strong sense of achievement and joy in facilitators as well as stakeholders. A detailed annotated analysis of Account 23 is provided in Appendix 24 as an exemplar of this type of experience. It also illustrates other characteristics of the experiences in this theme. An excerpt from the account is provided below (Figure 23), and additional accounts are provided in Appendix 24.

Account 23 highlights the facilitator's concerns about the lack of staff engagement in the work of the improvement project. Observations led the facilitator to be concerned about the sponsor's lack of awareness about the need for collaboration and their dominance in putting ideas forward in the project. Given their underlying personality traits, the facilitator was determined to intervene to draw out staff contributions. It takes courage to ask the sponsors to leave the workshop under the guise of a provocation scenario. Drawing on his Black Belt training, the facilitator designed a process on the spot that encouraged contributions. This opened the eyes of the leaders and the whole event became a catalyst for change in the culture of the organisation. The achievement left the facilitator with a sense of great pride, enjoyment, and satisfaction.

Figure 6.23: Excerpt From Facilitators' Successful Experiences in Stimulating Collaboration to Generate Ideas

Theme 3: Enabling Collaboration that Generated a Sense of Achievement and Joy	
Type 2: Collaboration to Generate Ideas	
Evocative Account 23	
My Annotations	**The Qualia of the Experience – What was Seen and Heard**
Focus is immediately heightened by senior stakeholders dominating with their own ideas.	*We opened it up to brainstorming the solutions. Suddenly, all the partners who turned up are dominating with what the solutions are! I tried to redirect the conversation to others, but they restate partner ideas. This dynamic kept going.*
My Annotations	**The Qualia of the Experience – What was Thought and Felt**
Senses sponsors are caught in their own perspective. Shows empathy for staff. Comes up with a lateral thinking scenario.	*Whilst observing the partners dominate the conversation I'm thinking 'Here we go again'. I realized I needed to get rid of the partners whilst still involving them in the process. In the moment the idea for 'provocation' came from training. I jotted down this provocation - 'the partners are away skiing, and they get badly injured and are out of action'. I took the partners aside and explained it – 'I need you to go for 20 minutes because it would be good to see the dynamics just with the staff and see what they come up with'. They were fine with that and left.*
My Annotations	**Facilitator Intervention and Response**
Staff engagement and collaboration produces visible set of new ideas. Staff worry they will not be heard. Facilitator encourages and coaches them. Staff convince sponsors who observe the excitement and contributions. Deep sense of satisfaction for the facilitator. Sees a shift the work. Sponsor recognises the benefits of staff engagement.	*I explained the scenario to the staff and then we brainstormed. Within three minutes the solutions started to surface. Chalk and cheese!! We came up with a map on the whiteboard where they had drawn things up and connected dots and this whole collaborative idea was just huge. I remember one of them saying "do you reckon this is possible?". I said, "Well if you think it's a real solution and we convince the partners then Yes". You could just see them going 'wow' and just feeling this energy lift in the room. I prepped the staff. "You are in key roles in this business, so you convince them."* *I watched them fight for it when the partners came back in. The chains had been taken off and they did it. In the end partners could see and feel the excitement in the staff and how genuine they were about these ideas.* *I felt jubilation, vindicated and relieved - light all of a sudden. But I remember feeling tired and emotionally drained but very happy and really excited.* *At the end of the project, I sat down for coffee with the sponsor partner. He talked about how all the people had responded - and performance just going through the roof. It was a real feeling of validation, affirmation.*
My Annotations	**Facilitator Interpretation**
The impact on management thinking towards collaboration is seen as a breakthrough for the organisation. Reflects on personality traits underpinning the drive to try the provocation.	*The main difference was that the staff were given a real voice. It's their first opportunity and it's about their work environment. For the partners it opened their eyes - suddenly, they are starting to realise what's driving their business. I think the breakthrough was waiting to happen; it just needed an opportunity and it happened.* *I think in all of it, my low tendency to withdrawal and volatility helped. Then fighting to keep going 'come on - can't you see, wake up' – my strong tendency towards conscientiousness.*

6.5.3 Engagement in Data Collection and Analysis

Facilitators are trained to develop stakeholder skills and ongoing practice in measurement and analysis to maintain monitoring performance. Four accounts (15, 18, 25, and 26) involving three different facilitators show collaboration during measurement and data analysis, illustrating the third type of experience: engagement in data collection and analysis (see Figure 6.24). It is not surprising that these experiences occur in data-rich project phases. Beyond teaching about measurement, these experiences show facilitators involving stakeholders in data collection and analysis. All these accounts also reflect Theme 4, dealing with enabling an understanding and practice of measurement (see Figure 6.6). Two accounts (18 and 25) that illustrate this third experience are included in Appendix 24 and Account 15 is included in Appendix 25.

Account 18 typifies the structure of these experiences as shown in the excerpt below (Figure 6.24). As with the elements of many experiences in this theme, there is tension because union representatives resisted becoming involved in collecting data for fear of the impact on jobs. Similarly, the workforce lacked trust in management and felt frightened to participate. The experience illustrates the process of facilitator communication, building understanding, encouraging participation, and getting stakeholders involved despite their initial resistance. It also shows the facilitator's sense of satisfaction with the achievement.

Figure 6.24: Excerpt From Facilitators' Successful Experiences in Engagement in Data Collection and Analysis

Theme 3: Enabling Collaboration that Generated a Sense of Achievement and Joy	
Type 3: Engagement on Data Collection and Analysis	
Evocative Account 18	
My Annotations	***Summary of Experience***
Realises that there is no culture of measurement. Places emphasis on involvement. Starts the process of engagement and strikes resistance with union reps and staff. Expends effort in discussing the point of measurement within improvement. Reassures them that the focus is on the process rather than looking to blame and cut staff. Invites participation so there is transparency. Overall has a sense of accomplishment and pride in what was achieved in many aspects. There is a sense of compassion as well.	*I talked to the reps showing it was part of improvement and you got to have a baseline so that you know where you are coming from. I argued this was about protecting jobs and the project was not about reducing jobs. I also invited and encouraged them to be part of the process. So, they agreed to participate in getting the data.* *I also spoke to the whole workforce one morning with the same message. My big point was, when you understand the 'Problem', it's not a people issue, it's the process, it's a systems issue and management. I encouraged them to talk to me if they had any problems at all.* *In the end we got a reliable sample size and baseline. All the workforce were collecting data using the time sheets. The results were discussed at our weekly management meetings and then the supervisors would take it back and give the troops an update.* *At the end of the day, we worked through a lot of issues to get the baseline. The feeling was that the information came from the workforce, the people doing the work. I felt really pleased at the time and proud that we engaged the workforce, they trusted us. The customer reps became quite supportive and so they became part of the journey.* *I think it sticks in my mind because it was a journey. It took effort and time We went from no measurements available and established a baseline for the first time. It was a sense of achievement in overcoming resistance. I felt I had done something good with the support of our sponsor.*

6.5.4 Patterns in the Experiences of Facilitating Engagement and Collaboration

Several characteristics emerged from examining experiences across all three forms of engagement and collaboration. There is a pattern of being challenged in some way and then following a process of facilitation that leads to better engagement and collaboration, which is seen in several analysed accounts. The characteristics are discussed in summary below and are illustrated in Figure 6.25 at the end of the summary. This pattern of discussion will be repeated for the remaining theme.

6.5.2.1 Facilitator Consciousness Captured by Lack of Collaboration

Experiences show the facilitator's attention was captured by seeing the need for engagement and collaboration amongst those involved in the improvement project (see excerpts below). The way consciousness is captured often emerges through observation and immersion within organisational circumstances (see Figure 6.25). Once relationships are established, they bring an understanding of people and circumstances that prompts the need for engagement. This awareness reflects facilitator training and orientation towards systems thinking.

> *Given the team's lack of engagement in the past, they were sceptical of what we're trying to do. (Account 36)*
>
> *There was quite a bit of conflict between the heads and their teams partly driven by personality. (Account 25)*

6.5.2.2 Relational, Empathic Agency Encouraging Openness and Care in 'Seeing the Other'

A genuine pathic response to what is seen is reflected in the accounts. Rather than take a judgemental attitude and simply demand collaboration, the facilitators take an empathic approach. They sense the lack of collaboration and the negative impact this has on relationships and the cooperation necessary to work through changes. Descriptions show a determination to engender better relationships among people (see excerpt in Figure 6.23). This orientation towards enabling people to be open in their interactions with one another again reflects Levinas's orientation to 'see the other' (Downs 2010, p. 45). There is a parallel here with the accounts on the use of data (Theme 4) where facilitators expressed a desire to help teams and have a long-term impact on their habitual practices. Similarly, facilitators' reflections also suggest that they open themselves up to others, seek to understand others, and respond to their needs (see Figure 6.25).

They didn't invite the nurse manager, the director of anaesthetics or the director of surgery. Again!! I actually stood my ground and said, "They are fundamental to this. You have to have them in the room. (Account 26)

6.5.2.3 Facilitators' Significant Effort to Encourage Engagement, Openness in Dialogue, and Collaboration

This theme is primarily a reflection of the interventions used by facilitators to promote engagement and collaboration. This characteristic of significant facilitator effort has appeared in many of the accounts analysed under the major themes. Whilst there is a volume of effort involved in close coaching and feedback, here the facilitation is designed to promote engagement. Various approaches are used (lateral thinking, venting and active listening, inquiry and probing, feedback, and use of techniques), but all encourage staff to give voice to their opinions and ideas and engage with others on this basis (see excerpt in Figure 6.20). These efforts often impact the 'percussion discussion' raw forms of interaction that are encountered. So, the facilitation efforts change the way staff interact and enter into dialogue with one another, which then affects the interpersonal relationships amongst staff (see Figure 6.25). For several facilitators, this is the most meaningful aspect of the experience emerging in their reflections.

I gave them about 10 minutes to vent, and I paraphrased back to them. I listened to them! It is not just about listening but showing that you are listening. After that, the brainstorming went smoothly. (Account 20)

I organised a series of one-on-ones. I gave her the opportunity to give feedback. I think that actually helped break down the barrier between us. What that allowed me to do was see a lot more of where her frustrations lay with me. So, because of that, she opened up more. (Account 29)

Many accounts illustrate the dependency the facilitators had on the tools and techniques they had learnt, which in turn encouraged facilitators' focus on building collaboration and relationships amongst stakeholders. This is reflected in facilitators' diarised notes in their portfolios of work, discussed in Chapter 5 (Section 5.5.3)

We got the ideas, ranked them, and put them on a 'doability matrix' and came up with our preferred solutions and wrapped up. (Account 36)

6.5.2.4 Emotional Impact on Facilitators After Seeing Collaboration

As opposed to the experiences dealing with conflict and resistance, these accounts record the most positive emotional experiences for the facilitators. Facilitators experienced relief when their efforts worked. Many connected the success they had in generating collaboration with a strong sense of pride, joy, and enjoyment (see Figure 6.25). They saw a breakthrough in the way staff work together and drew great satisfaction from this achievement. In addition, the stakeholders gave them feedback that reinforced their efforts and gave the facilitators confidence in their techniques and the use of the methodology (see Chapter 5: Section 5.5.5 and Figure 6.25). Many facilitators saw these experiences as their highlights.

Previously there was a lot of hate between orthopaedics and everybody else, but particularly orthopaedics and the anaesthetists. Then we did this project that had them working together. Without this shift in working relationships, we would never have gotten over the line. The head of orthopaedics is actually a happier person now. (Account 25)

6.5.2.5 Characteristics of the Interpretations of Experiences Promoting Engagement and Collaboration

Various themes emerged from examining the ways facilitators reflected and interpreted their experiences with engagement.

- **Systems Thinking**
  As in past discussions, facilitators were very aware of the organisational context including the nature of interpersonal relationships. This prompted their sensitivity to the lack of engagement amongst stakeholder interactions. Such awareness of the broader system is characteristic of many accounts and implies the effects of training on systems thinking. A form of openness to the broader perspective of the system at play is encouraged (see Figure 6.25).

- **Self-Awareness and Development**

  Several facilitators reflected on their appreciation of being open to differences in people and understanding them as part of the way they shape their interventions. This parallels their interest in getting stakeholders to be open in their interactions. This also reinforces the pathic and non-judgemental approach to working with the stakeholders. Facilitators saw this growing orientation as a sign of their own development and confidence in their abilities. Several facilitators became aware of the successful application of their training, again reinforcing their confidence in the methodology (see Figure 6.25).

  I think one of the problems for me is that I can just see things very quickly and jump to conclusions, analyse the stuff very quickly. I have to take people through step by step. So, I have to be patient, which is not necessarily a natural thing for me. (Account 26)

- **Personality**

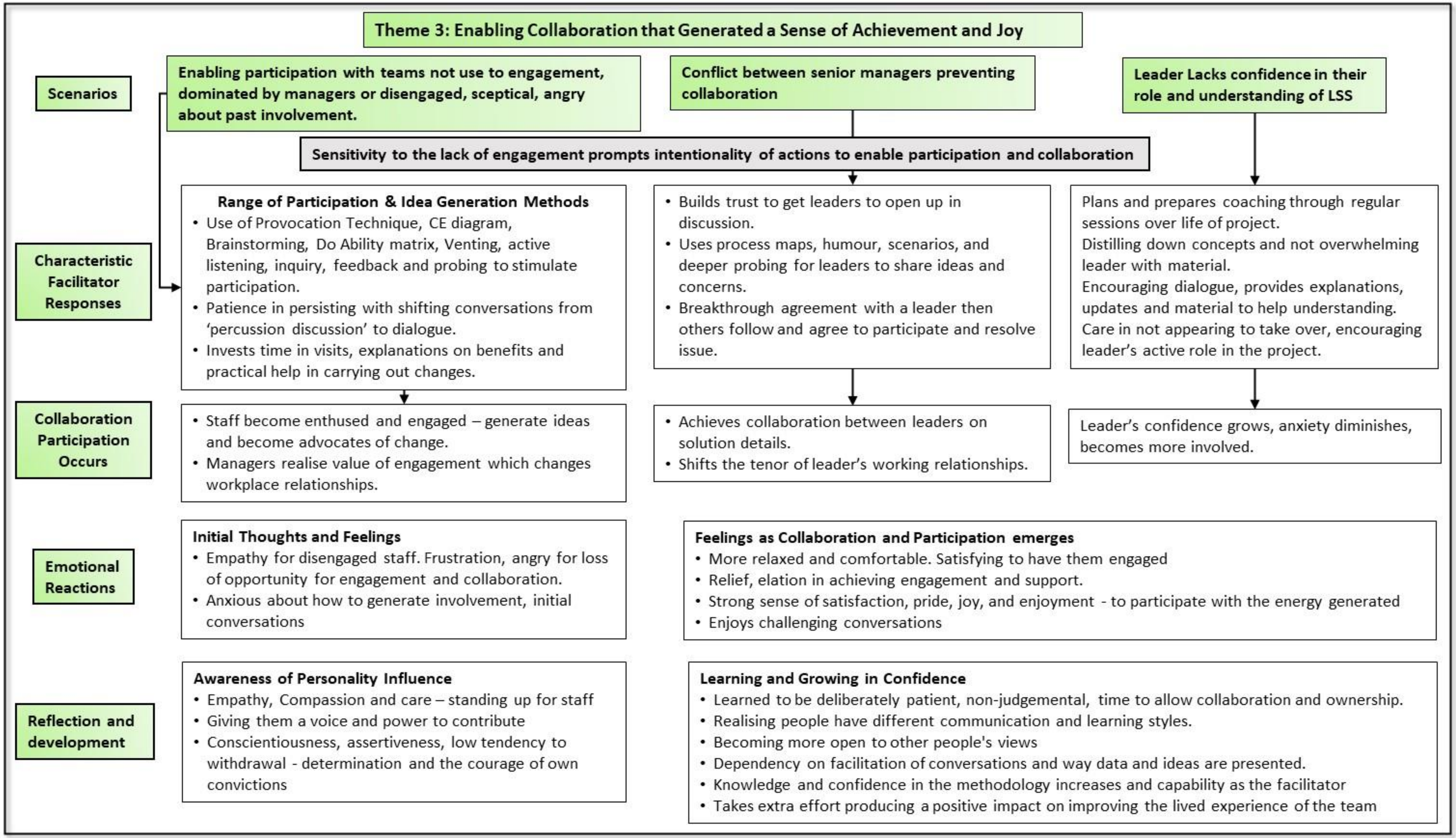
  In the moment of the experience, facilitators saw themselves as having the determination and the courage of their convictions to try out their ideas to promote engagement even when stakeholders and sponsors were not entirely willing. Facilitator interpretations referenced their personality traits drawing attention to their Enthusiasm and Assertiveness. In many instances, they commented on their sense of compassion even when these were not particularly strong traits within their profile (see Figure 6.25).

  There were lessons for me. I had to be deliberately patient. I had to hold myself back from jumping to get things done, which is a very strong trait, and take a different approach to get them to collaborate and take ownership. Trying to be a little bit more open to other people's views despite all the solutions that were in my head. (Account 36)

6.5.2.6 Visualisation of Characteristics of Facilitator Experiences Enabling Collaboration that Generated a Sense of Achievement and Joy

Organised around the scenarios experienced, Figure 6.23 summarises the characteristics of experiences stimulating dialogue and collaboration with stakeholders. Highlighted in these experiences is the therapeutic role facilitators play. They find themselves in situations which stimulate a pathic response, which in turn prompts patient coaching, teaching, and creative and courageous interventions. The prosocial outcomes from these actions stimulate highly positive emotions in facilitators. A growing sense of self-efficacy to be LSS facilitators surfaces in the meaning they give to the experiences.

Figure 6.25: Characteristics of Facilitator Experiences Stimulating Engagement and Collaboration



6.6 Major Theme 4: Teaching About Use and Value of Data and Enabling Learning and Measurement

Given the emphasis on measurement and the use of evidence within the LSS methodology, it is not surprising that several accounts are experiences involving the use of data and information. Underlying the theme are the facilitators' attempts to coach stakeholders on the value of measurement and analysis. These are means to generate learning and drive decision making about what to improve and whether there has been improvement. In this sense facilitators are acting as coaches to embed an evidence-based approach to the management of improvement, reinforcing a core principle of the Organisational Excellence philosophy (see Section 2.1.3).

In total nine evocative accounts (18 per cent, see Figure 6.5) were associated with this theme showing the following overall characteristics.

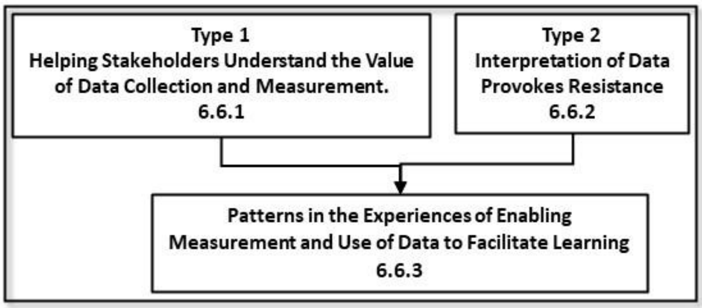
- The distribution across project phases is shown in Figure 6.26, indicating the spread of experiences across project phases.
- The experiences in two accounts crossed over into the next phase as shown in Figure 6.6 (Analyse to Design and Design to Implement).
- Eight of the nine accounts grouped within this theme are also classified with other themes as shown in Figure 6.6 (one in Theme 1, three in Theme 2, and four in Theme 3). These cross-theme associations illustrate the pervading nature of measurement and analysis in improvement projects.

Figure 6.26: Distribution of Accounts Across Phases Teaching About Use and Value of Data and Enabling Learning and Measurement

Theme 4: Teaching About Use and Value of Data and Enabling Learning and Measurement							
Project Phases	**Define**	**Measure**	**Analyse**	**Design**	**Pilot**	**Implement & Control**	**Total**
Scenarios	**1 Experience**	**3 Experiences**	**2 Experiences**	**2 Experiences**	**1 Experience**	**0 Experience**	**9**
1. Helping Stakeholders Understand the Value of Data Collection and Measurement.	1	2	1	1	1		**6 Accounts**
2. Interpretation of Data Provokes Resistance		1	1	1			**3 Accounts**

Previous discussions (see Sections 6.4.2 and 6.5.3) have already outlined the structure of experiences which relate to the two types in Theme 4 (see Figure 6.26). The labels used for the two groups of accounts highlight the experiences from the perspective of measurement and analysis rather than previous classifications. Consequently, each sub-theme or type will be briefly described emphasising the experiences from the perspective of the theme with reference to summarised excerpts (see Figure 6.27). Appendix 25 contains additional supportive account material organised by the two types of experience and referenced in discussions. After the types of experience have been outlined, a concluding summative discussion of characteristics across all nine accounts is provided together with a visualisation of these findings (see Figure 6.30). These characteristics parallel those in the summative discussions for Themes 2 and 3 (see 6.4.4 and 6.5.4) and so will be briefly highlighted from the perspective of Theme 4.

Figure 6.27: Structure of Analysis Discussions on Theme 4: Teaching About Use and Value of Data and Enabling Learning and Measurement



6.6.1 Type 1: Helping Stakeholders Understand the Value of Data Collection and Measurement

In many instances, facilitators observed no measurement within a functional context and, therefore, no work towards establishing a measurement approach and the valuing of data. Their approach always involved the engagement of stakeholders to encourage this practice to continue. Most accounts in this theme reflected this type of experience. In all these situations, facilitators expressed some degree of tension and reservation. Experiences led to increased awareness of the value of the collection and use of data and the learning that emerged to make decisions, which in turn gave facilitators a sense of achievement. The excerpt from Account 4 (see Figure 6.28) illustrates the structure of these experiences. A detailed annotated version of the experience is included in Appendix 25.

Figure 6.28: Excerpt From Facilitator's Experience in Helping Stakeholders Understand the Value of Data Collection and Measurement

Theme 4: Teaching About Use and Value of Data and Enabling Learning and Measurement	
Type 1: Helping Stakeholders Understand the Value of Data Collection and Measurement.	
Evocative Account 4	
My Annotations	***The Qualia of the Experience – What was Seen and Heard***
Focus is heightened by the jump to solution with no evidence.	*As soon as I walked in the door, I am greeted by the solution they are pursuing. "We've got this great idea to solve the problem...it'll only cost us $6 million.*
	The Qualia of the Experience – What was Thought and Felt
Facilitator feels nervous given her conclusions based on analysis.	*I'm feeling a little bit on edge because it's so early on and I am trying to get them to understand and define the problem first based on evidence rather than focusing on the solution.*
	Facilitator Intervention and Response
Presents results in comparison to assumptions. Realises many are not aware of the data. Executives are not defensive and inquire about the observations. Diagnoses that the group were not use to decision making based on data.	*There were 15 People, all the Senior management, in one of the meeting rooms. I am presenting the data. Looking at the reasons for thinking the decision was right and then challenging each of those reasons with the data. I was showing that the assumption of the problem was not true and consequently, the expensive solution was not going to help.* *Many of the executive just didn't know what I was talking about, there was a lot of blank looks. So, they start asking questions reasonably open not necessarily defensive to help interpret the data saying, Yeah. That sort of makes sense".* *To tell you the truth, they don't do anything with data, they were so data starved. I was using the data to speak and eventually leading them to come up with options themselves. Once they saw it, it was a no-brainer. I'm seeing the reaction and my feelings are changing. Forty-Five minutes later I got their agreement not to spend the six million! Afterwards it was interesting that people would come up and say, "Thank goodness you had a look at that"*
	Facilitator Interpretation
The experience is a highlight because of the success in her teaching / coaching role. She reflects on her personality drive to use data and ask questions.	*This was a teaching/learning moment for these guys. At least some of them understood that data is important. So, this experience is a highlight for me. This organization had lots of data but didn't know how to use data. Evidence-based decision-making wasn't strong within the organization.* *Part of my own DNA is to use data all the time. Sometimes you can't get the data but that tells you what's important and missing. I'll always look for something that you can use and extrapolate in some way - triangulating with different sources of evidence so that the jump is not from hearsay or anecdotes to decision.*

The experience highlights the combination of the facilitator's striking personality traits and her training. Her valuing the collection and analysis of relevant performance data in the absence of its use immediately comes to the fore. She realises the lack of leadership practice and experience in this fundamental capability and embarks on the gathering and analysis of data to inform her own understanding of the system of work. Then she proceeds to gently lead the senior leadership in the analysis of the data at the same time educating them about the ongoing value of such a practice. She recognises the significant coaching process that is necessary. In parallel, she notes the lack of collaboration practised by the team in terms of involving staff who know the work system. The experience leads to a completely different conclusion, saving the organisation an unnecessary large expense towards which they were hurtling!

Accounts with similar experiences are included in Appendix 24 (18 and 24) and Appendix 25 (15 and 30). At times, the confrontation with a lack of capability around the use of data leads to some conflict over collection and interpretation. However, in all cases, the facilitators worked hard to improve this aspect of high-performance work and the basis of improvement.

6.6.2 Type 2: Interpretation of Data Provokes Resistance

When confronted with data and information that challenges stakeholders' prevailing views, some form of emotional reaction ensues. In prior discussions (see 6.4.2), experiences which generated significant resistance and angst for the facilitator were discussed. Three experiences illustrate such a reaction when interpreting data to make decisions. In these circumstances, facilitators attempted to overcome the lack of belief or agreement with the information presented. The logic of the evidence was not enough to sway stakeholders' opinions. Reflections by facilitators revealed that confrontational situations dealing with interpretation of data were often driven by the threat of blame for poor performance (see Appendix 23: Account 16). An additional account is referenced below (see Figure 6.29) where the structure of the experience is similar. An extended summary is given in Appendix 25.

Figure 6.29: Excerpt From Facilitator's Experience of Resistance When Interpreting Data

Theme 4: Teaching About Use and Value of Data and Enabling Learning and Measurement	
Type 2: Interpretation of Data Provokes Resistance.	
Evocative Account 30	
My Annotations	***Summary of Experience***
Team is designing improvements to measurement system.	*We are with the production and the engineering teams discussing how to get accurate measurements.*
Confronted by confusion over correlation versus causation.	*Some of the process leaders pull out this page with graphs as the evidence saying, "You can't do that because your efficiencies will go down". People are leaning over the table now quite excited because "there is a fight on". The two graphs just happened to vary on the same page as if there was correlation. There was enough of a psychological link within people to go. "Oh! That might actually be true.". They got stuck on this.*
Struggles to convince the process experts who believe in a graph from the past,	*The process leads continued arguing that's necessary to do. 'This is our process, and no one knows it better than us, right?'*
Stakeholders exercise power by refusing to cooperate. Facilitator feels threatened because project is at risk.	*I'm feeling threatened, disappointed and angry because all I can see is the end of the project. I'm imagining my heart rate's going up. I was a bit stressed and finding it very difficult to maintain control. I had to accept that it was necessary to move the project forward because the engineers and the production team weren't backing down. They felt threatened that if something went wrong, they would be blamed.*
Compromises by conducting an experiment.	*We managed to get agreement that we would try on one line, to prove the concept and minimise risk.*

6.6.3 Patterns in the Experiences of Enabling Measurement and Use of Data to Facilitate Learning

The analysis of these experiences helping teams obtain and interpret data has several common characteristics indicating the structure of the experiences. Many of these elements resemble those emerging from accounts analysed under previous themes. These are discussed in summary below and are illustrated in Figure 6.30 at the end of the summary.

6.6.2.1 Realisation that Data Is Not Available and Is Not Routinely Collected or Used

Facilitator attention is captured by the realisation that data is not available and needs to be collected. The difficulty in gaining data in organisational environments where there is no desire to do so creates a sense of frustration but also anxiety for facilitators. The task may be so difficult that it threatens the progress of the project. Consequently, many of the facilitators' expressed anxiety over the negative impact on their own reputation with senior management and staff (see Figure 6.30).

6.6.2.2 Sense of Threat of Blame Drives Resistance

In the macro-theme on difficult emotional experiences, facilitators were sometimes confronted with resistance based on the perceived threat of being blamed for solutions that result in poor performance. There are similarities with some of these accounts, but here the threat is often perceived as poor performance becoming visible through measurement and analysis, leading to blame and the threat of job loss, which then drives conflict over interpretation of data (see Figure 6.30).

6.6.2.3 Exercise of Power by Staff

In these experiences, stakeholders resisted by refusing to cooperate or be involved. In one situation, this involved both union and customer representatives. In another situation, the team leaders refused to cooperate unless one of their ideas emerging from analysis was pursued. In another, the sponsor did not want the results communicated. These forms of resistance added to facilitators feeling threatened because project completion was at risk (see Figure 6.30).

6.6.2.4 Stakeholder Tacit Knowledge About Data Can Inhibit Learning

In some accounts, beliefs about data created confusion in discussions on the analysis of results. Another major belief that facilitators must contend with is the use of data to blame staff for poor performance. Much effort is expended in explaining the focus on the system of work and not on people in the journey of improvement (see Figure 6.30). Again, this is reminiscent of Deming's argument on combatting the attribution of blame (Langley et al. 2009, p. 84) through developing systems thinking.

6.6.2.5 Significant Effort by Facilitators to Engender Learning

In response to these challenges, these accounts again surface the significant efforts facilitators made and the roles they adopted in helping stakeholders with measurement and analysis of data. Numerous facilitators described taking stakeholders on a journey as well as getting them to understand that it is a journey of discovery, learning, and improvement. Much emphasis was placed on the understanding and learning that is achieved as stakeholders became aware of the levels of performance. The range of facilitators' interventions is listed below (see Figure 6.30).

- Leading teams in designing a measurement system.
- Establishing a measurement practice that is in place for the long term to encourage continued use of data.
- Coaching leadership on management practices emphasising use of data for decision making.
- Teaching about measurement and analysis concepts and systems thinking.
- Monitoring and coaching teams during data collection.
- Analysing and carefully communicating results to all stakeholders.
- Conducting experiments to improve data collection.
- Holding conversations and meetings with stakeholders to build engagement.
- Encouraging transparency and engagement of as many affected staff as possible.

6.6.2.6 Emotional Impact on Facilitators

The qualia reported in these experiences highlight the positive feelings that emerge within facilitators when they are successful in enabling stakeholder ownership of measurement and analysis. Initially, they were frustrated and anxious about the difficult situation that confronts them. However, the success of their interventions in gaining staff engagement and establishing a measurement system generated a great sense of accomplishment and pride in their achievement. For many facilitators, this kind of experience was also a highlight (see Figure 6.30).

6.6.2.7 Visibility of Intentionality and Reciprocity in 'Seeing the Other'

The accounts do not reflect a judgemental attitude by facilitators over the lack of measurement in place. There are many expressions of compassion and desire to help teams address their lack of data and, more importantly, provide a long-term impact on their habitual team practices (see Figure 6.30). Facilitators sense stakeholder needs in terms of the situational problems and pressure they are under. There are instances where facilitators spent time coaching and communicating with individuals who were struggling or had been left out of the initial process of engagement. This inherent pathic attitude reflects their tendency to Agreeableness and Levinas's encouragement to be 'open to the other' and avoid totalised forms of encounters.

6.6.2.8 Characteristics of the Interpretations of Experiences Enabling Measurement and Analysis

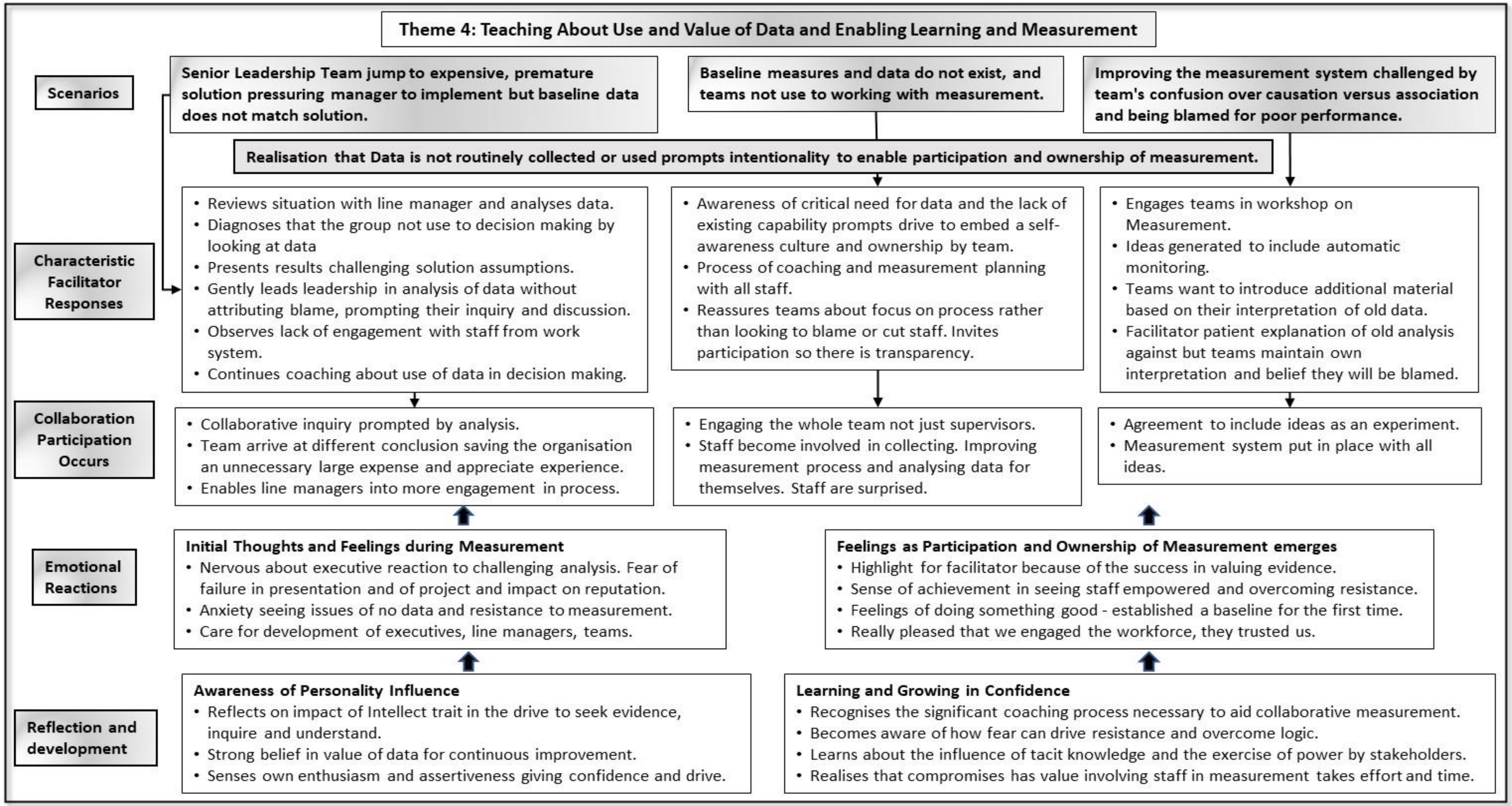
- **Value in Moments of Coaching and Developing Capability**
  Many of the facilitators saw the experience as key in coaching and developing leaders and staff. In this sense, they saw the value in the expenditure of their efforts to help stakeholders establish a routine capability of measurement and analysis to aid decisions and solution choices. In some instances, they reflected on how much effort was needed. For several facilitators this was a peak experience in the project (see Figure 6.30).
- **Reflections on Personality**
  Interpretations of what happened in the accounts often reflected a tendency towards not giving up in the face of difficulty. Facilitators acknowledged their drive to finish in terms of their innate Industriousness, Enthusiasm, Assertiveness, and levels of Emotional Stability. In some instances, there was self-realisation that their traits may interfere in enabling greater collaboration. In other instances, they emphasised showing emotional stability in the face of stakeholders not accepting advice on measurement or analysis conclusions. They reached a compromise with stakeholders to allow some form of measurement to be practised (see Figure 6.30).
- **Value Data Themselves**
  Reflecting the Intellect trait and training, many facilitators expressed their belief in the principle of understanding variation and the value of measurement and analysis being a capability for all teams. The swift diagnosis of this lack of capability in their project situations drove their intentionality in building the practice with the teams with whom they worked (see Figure 6.30).
- **The Drive for Collaboration**
  Several facilitators observed a lack of engagement of key stakeholders they were working with and deliberately chose to get them involved in the measurement and analysis process (see Figure 6.30). This contrasts with acting unilaterally and doing all the work themselves given their expertise.

6.6.2.9 Visualisation of Characteristics of Facilitator Experiences Enabling Measurement and Use of Data to Facilitate Learning

Figure 6.30 summarises the characteristics of experiences with stakeholders to enable measurement and learning. What emerges is a strong intentionality to close gaps in situations where measurement is inadequate. This again highlights the therapeutic role facilitators play as they engage staff, coach sponsors, and strengthen stakeholder measurement capability. Rather than simply doing all the work themselves, they enable collective measurement action to promote continuity of the capability amongst stakeholders.

The patterns reported across the four macro-themes found in relational experiences is summarised and integrated within the next and final discussion of Chapter 6. This draws together the characteristics of facilitators' experiences of improvement projects across the personal, surrounding and relational dimensions.

Figure 6.30: Characteristics of Facilitator Experiences Teaching About the Value of Data and Enabling Measurement



6.7 Summary of Constructs Emerging from Facilitator Experiences

Overview of Structure of Discussion on Summative Model of Constructs

So far, this chapter has focused on surfacing the characteristics of facilitators' relational experiences whilst guiding an improvement project to successful completion. Four dominant themes were presented based on the analyses of experiences described by facilitators. As each theme was explored, attention was drawn to emerging characteristics of the experiences which were summarised and portrayed in Figures 6.14, 6.19, 6.25, and 6.30.

The final section of the chapter draws together all the core elements of the analyses across the personal, surrounding and relational world experiences into an integrated view. As this discussion proceeds, emerging constructs will be linked to conclusions from discussions on each of the three dimensions. In this way, an overall model showing a set of interrelated constructs is proposed at the end of the chapter. It presents the inductive knowledge gained about the structure of facilitators' lived improvement project experiences and addresses the overarching question of the thesis (Figure 6.51). In parallel, the model portrays the structure of improvement project experiences for all stakeholders. Additionally, the model proposes an explanatory view of the factors impinging on the micro-level conduct of improvement projects.

Figure 6.31 shows the overarching relationship between five construct families and the order in which each group of constructs will be discussed. The figure also shows the different worlds of experience that prompted the development of the constructs.

Figure 6.31: Outline of Structure of Constructs Emerging From Facilitators' Personal, Surrounding, and Relational World Experiences

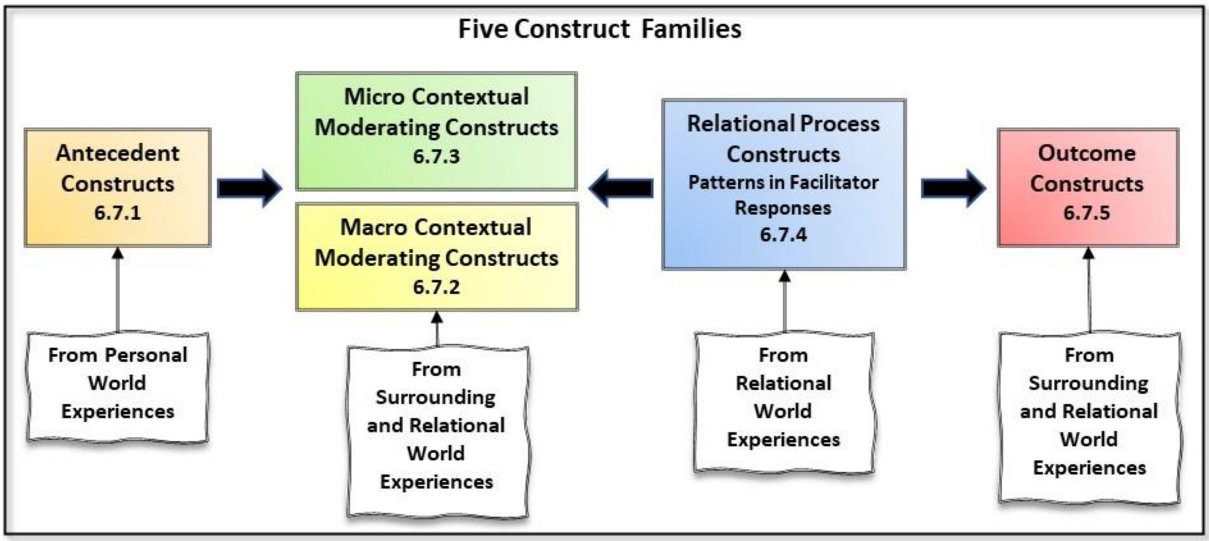


Figure 6.32 shows the number of individual constructs proposed in each group. These specific constructs form the core characteristics of the structure of experiences arising out of the analyses. As can be seen, the largest number of constructs emerged from the analysis of facilitators' relational experiences, which are organised into three subgroups of constructs.

The structure of discussion for each group of constructs will be as follows:

- Each family of constructs will be introduced through an image showing the interrelationship between constructs within and across families. Each image will focus on constructs within the family.

- Each proposed construct will be briefly explained referencing analyses in Chapters 5 or 6 to support the proposition.
- Each construct represents a dimension of experience from each world. The degree of presence of the construct has a negative or positive impact on other constructs. Therefore, explanations of constructs will emphasise the interrelationship with other constructs within and across families.
- In this way, the images and discussions on each family of constructs reference and build towards the final model illuminating the lived experience of improvement (Figure 6.50).

Figure 6.32: Summary of Specific Constructs Linked to Each Family and World of Experience

Construct Families	Sources of Constructs		
	Personal World Experiences	Surrounding World Experiences	Relational World Experiences
6.7.1 Antecedent Constructs 3 Constructs	1. Personality Meta Traits - Agency and Communion 2. Affinity for LSS Principles 3. LSS Ethic and Intentionality		
6.7.2 Macro Contextual Moderating Constructs 7 Constructs		1. Industry and Functional Situations 2. Project Complexity 3. LSS Organisational Maturity 4. Issue Criticality 5. Project Initiation 6. Authorising Facilitators Role 7. Access to Training	
6.7.3 Micro Contextual Moderating Constructs 2 Constructs			1. Project Situational Issues 2. Existing Group Pathology
6.7.4 Relational Process Constructs – 3 Sub-Groups of Constructs			
1. Facilitator Interventions 4 Constructs		1. Influence of LSS Tools and Techniques	2. Enabling Dialogue and Participation 3. Teaching, Coaching, Mentoring 4. Pro Social Orientation and Therapeutic Behaviours
2. Traits in Behaviour and Orientation 3 Constructs			1. Sacrificial Orientation and Behaviour 2. Facilitator Resilience and Behaviour 3. Empathic Orientation and Behaviour
3. Self-Reflection and Learning 4 Constructs			1. Self-Awareness and Confidence 2. Plasticity and Adaptability of Behaviour 3. Identity 4. Balancing Project with Pro Social Intentionality
6.7.5 Outcome Constructs 4 Constructs		1. Project Objectives	2. Shifts in Stakeholder Perceptions and Actions 3. Facilitator Skill and Development 4. Pro Social Outcomes

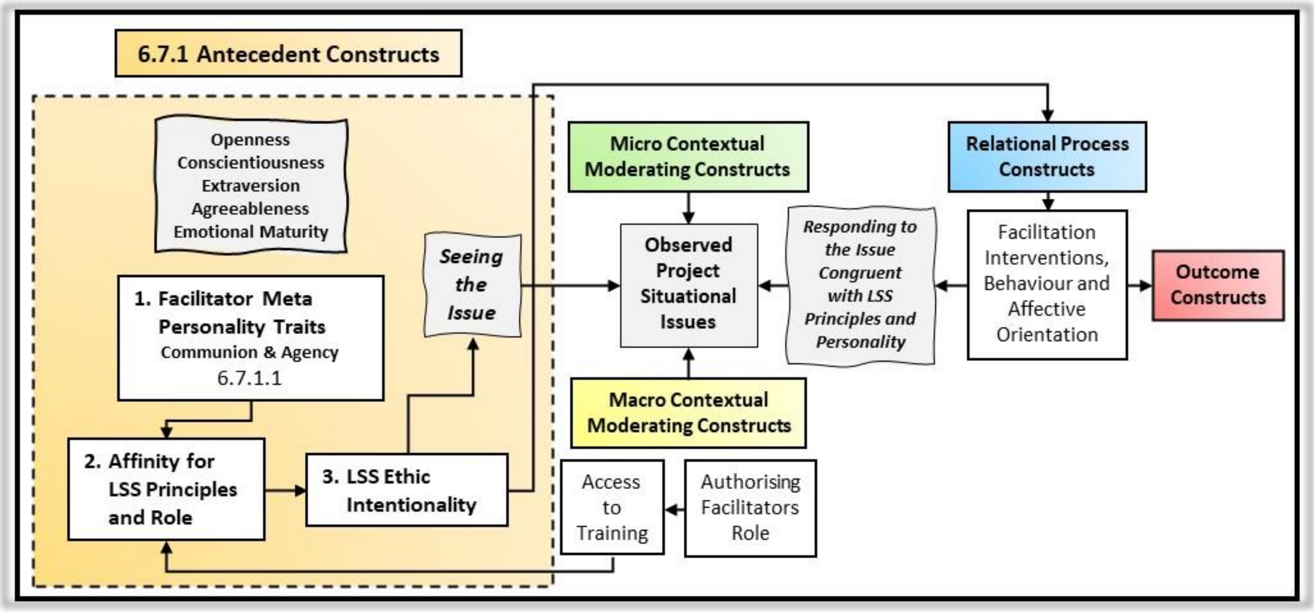
6.7.1 Antecedent Constructs Influence 'Seeing and Responding to the Issue'

Three constructs (see Figure 6.33) reflecting aspects of the personal world experiences constitute latent or a priori influences on the way facilitators see and respond to the project situations they face. The figure illustrates the interactive effects of these antecedent constructs with contextual constructs and their consequential influence on process constructs.

6.7.1.1 Personality Traits (Communion and Agency) – Antecedent Construct 1

Personality traits (5.2.2.8) orient facilitators towards forms of intentionality and action. Stronger traits of Agency and Communion predispose facilitators to relational and intentional forms of action during improvement projects (Figure 6.33). Facilitators who lack strength in these traits need to rely more on self-awareness and LSS tools to prompt behaviours consistent with meta-traits.

Figure 6.33: Antecedent Constructs and Their Influence



6.7.1.2 Affinity for LSS Principles – Antecedent Construct 2

The opportunity to be exposed to LSS practices is afforded by organisational influences through the explicit authorisation of the facilitator role (5.3.1.3.1) and access to training (5.3.1.3.2). Based on reported experiences, an affinity between meta-traits in personality (5.2.2.8) and LSS principles is stimulated when facilitators are exposed to training (Figure 6.33). Facilitators report a growing sympathy with the ideas and principles to which they are exposed during their training experiences. Their pre-existing orientations to take action to improve situations by working with people gels with the concrete guidance on how to conduct improvement work. Lacking strength in personality meta-traits would make it harder for facilitators to persist in the role because of extra cognitive, affective, and behavioural demands placed on them.

6.7.1.3 Emerging LSS Ethic and Intentionality Expressed by Facilitators – Antecedent Construct 3

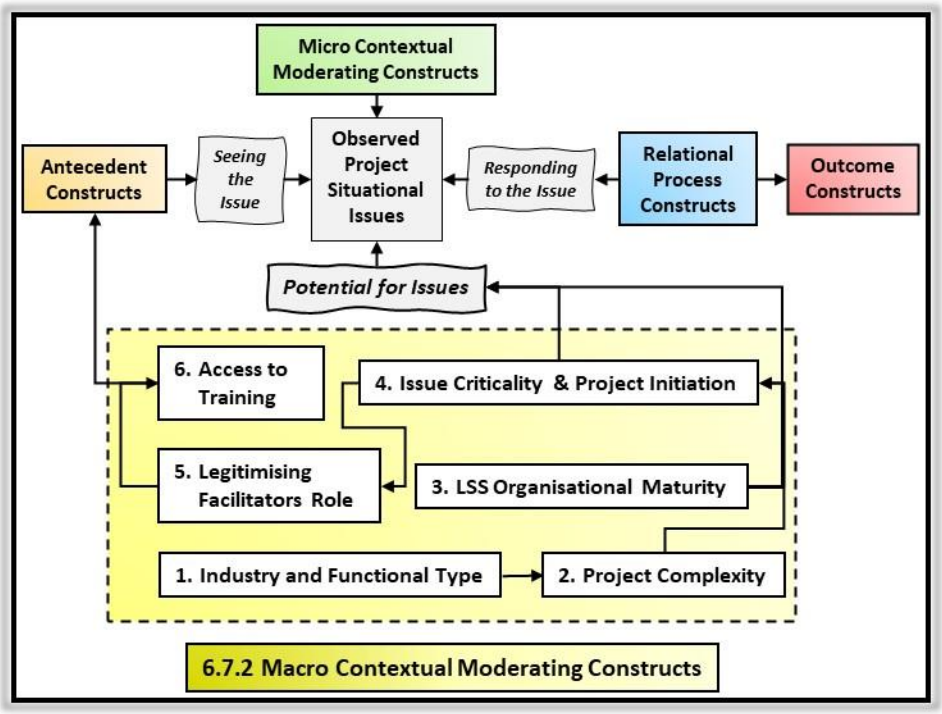
This sympathetic response emerging out of training creates an ethic and intentionality drawing facilitators into ongoing involvement in their assigned role (5.3.1.3.2). Through the lens of LSS values, principles, and practices, facilitators express intentionality during the project experience by noticing issues (see Figure 6.33) both project (5.3.2.1) and pathological characteristics of the specific situation (6.3-6.6, Table 6.3). These interactions will be discussed further when the contextual and process constructs are examined.

As Figure 6.33 illustrates, facilitator responses to issues in the project environment, interventions, pathic responses, and reflections are shaped by the facilitators' personality traits, developed by LSS ethic, and reinforced by their use of LSS techniques (see Figures 6.14, 6.19, 6.25, 6.30). Lacking a developed LSS ethic and intentionality would place greater demands on facilitators to persist in the role.

6.7.2 Macro-Contextual Moderating Constructs Influence Support and Problem Characteristics

The surrounding world experiences discussed in 5.3.1 show the broader structural influences within organisational settings that influence the nature of the project work and may hinder or help the improvement activity and the work of the facilitator. Based on these experiences, six macro-contextual constructs have been identified, showing their interrelationship as well as their influence on other constructs (see Figure 6.34). These constructs enable and give expression to facilitators' desire to get involved in improvement activities and influence the potential for issues, challenges, and support to be found in the situations in which facilitators work. The previous discussion on antecedent constructs has already identified the impact of two of these structural constructs. Each construct and its likely interaction effect are briefly described below.

Figure 6.34: Macro-Contextual Moderating Constructs and Their Influence



6.7.2.1 Industry and Functional Type – Macro-Contextual Construct 1

A variety of industrial and functional contexts were experienced, indicating the broad applicability of the methodology (5.3.1.1). Naturally, these settings dictate the industry and functional nature of issues worked on in projects, which in turn influence the complexity of the issue to be addressed (see Figure 6.34).

6.7.2.2 Project Complexity – Macro-Contextual Construct 2

Project portfolios showed characteristics of complexity such as multiple outcomes, longer durations with multiple cycles of learning, and socially complex situations involving a large span of relationships with which the facilitators had to cope (see 5.3.2.4, 5.3.2.5, 5.3.2.6). These characteristics can increase or simplify the complexity of the project and, therefore, impact the demand for facilitator skill and effort (see Figure 6.34).

6.7.2.3 LSS Organisational Maturity – Macro-Contextual Construct 3

An influential construct that emerged from facilitators' surrounding world experiences was the maturity of the organisation in implementing LSS. Most facilitators conducted their projects within LSS-naive organisational contexts or where support for LSS was emerging across the organisation. The existing environment and its maturity influenced the nature and difficulty of the situations confronting facilitators within and outside of the projects (see 5.3.1.2 and Figure 5.12). The capability to apply LSS principles and practices in such environments placed greater demands on the facilitator, making the dependency on the role of the improvement facilitator even more acute (see Figure 6.34).

6.7.2.4 Issue Criticality and Project Initiation – Macro-Contextual Construct 4

The level of organisational LSS maturity impacted the extent to which issues were addressed proactively or left until they became a crisis needing attention (see 5.3.2.2 and Figure 5.15). In rare instances, projects begin through some formal analysis of the needs within the organisation. In most cases, facilitators report some form of crisis, which creates the necessity for action. The continued experience of the issue finally compels managers, often influenced by the facilitator, to initiate action to resolve the situation. The demand on facilitators in terms of effort and skill will be greater in crises and where planning for project decision-making and initiation is lacking. The decision to initiate a project leads to authorising the facilitator role and access to training if required (see Figure 6.34).

6.7.2.5 Legitimising Facilitators Active Influencing Role – Macro-Contextual Construct 5

Facilitators' experiences drew attention to the importance of their role being formally authorised and communicated to stakeholders (see 5.3.1.3.1). This gave facilitators the freedom to investigate issues and processes and engage with different stakeholders. Working within maturing and immature contexts would be more difficult where the methodology and the associated role are unknown or not clearly understood. Legitimising the role includes sponsors approving access to training which then initiates the interest to pursue the role professionally. (see Figure 6.34).

6.7.2.6 Access to Training – Macro-Contextual Construct 6

Involvement in LSS training appears as a seminal experience for facilitators (see 5.3.1.3.2). The melding of the training experience with facilitator personality traits seemed to be a trigger for their active interest in improvement work and establishing a perception of the role and its responsibilities. As the affinity for LSS grows through exposure to the training experience, an ethic based on LSS principles and values develops and is exercised in their perceptions and interventions as an improvement project facilitator (see Figures 6.33 and 6.34).

6.7.3 Micro-Contextual Moderating Constructs Influence Problem and Latent Situational Characteristics

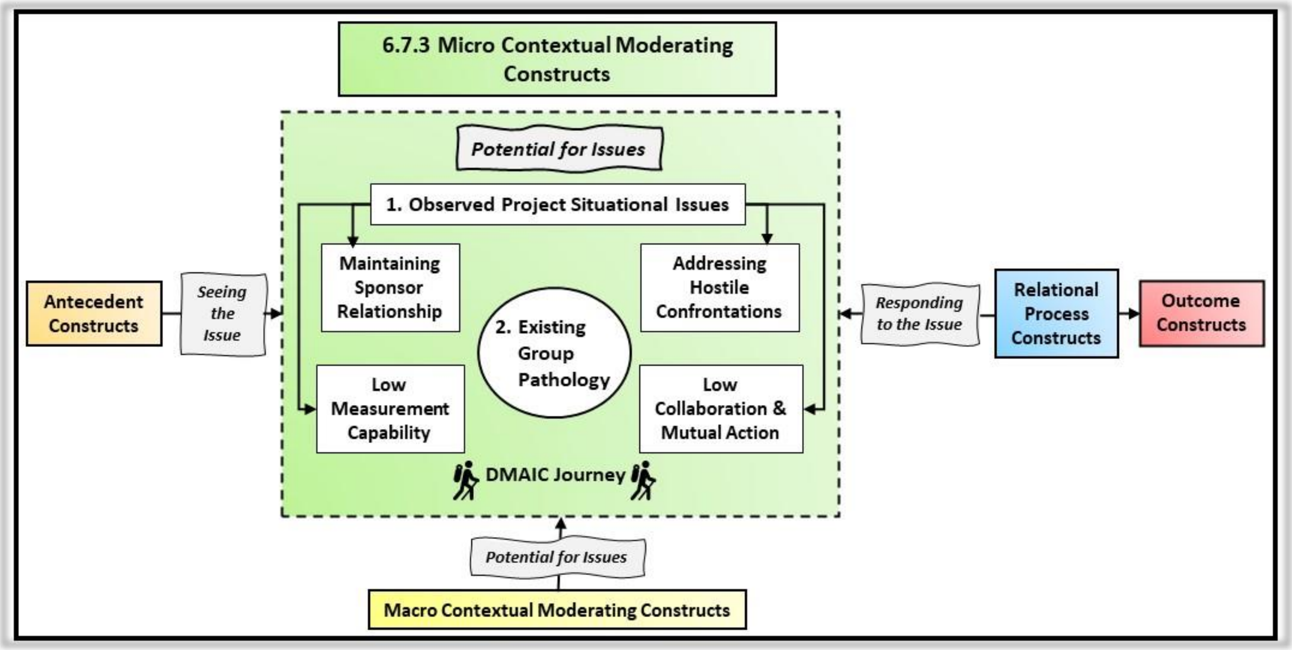
In contrast to the macro-organisational structural issues discussed in 6.7.2, this construct family focuses on the micro-characteristics of the functional environment in which the project and stakeholders are located. Figure 6.35 shows that the level of LSS maturity inherent in an organisation clearly had an impact on what facilitators experienced in a functional setting (see 5.3.1.2). Another type of influence on situations facilitators encounter is the pre-existing relationships, capabilities, culture, and management approaches that stakeholders have developed and lived with over time.

Reflecting these notions, two micro-contextual constructs are proposed in the model (see Figure 6.35). One construct relates to the four major themes emerging from the analysis of the facilitators' relational experiences in Chapter 6 (see 6.3 to 6.6) termed 'Observed Project Situational Issues'. The other construct termed 'Existing Group Pathology' also references experiences reported in Chapter 6. Here facilitators were coping with issues inherent within the workplace but not directly related to the improvement problem being addressed. Both these characteristics embedded in the micro-project context were the most significant influences on facilitator experiences. These included stakeholders' knowledge, skills, and attitudes about improvement, stakeholder personalities, prior social dynamics, pre-existing forms of dialogue and collaboration, experience with data collection, and ingrained stakeholder concerns and fears. Facilitators attended in a 'present at hand' form of consciousness as they perceived things going wrong (based on their mental models), and intentionality kicked in to solve the issue (Dreyfus & Magee 1987, pp. 14.09-16.01). Making use of tools and techniques, facilitators then responded to these situations (see Figure 6.35).

These characteristics indicate the distinctly social and relational nature of improvement projects that are not surfaced in much of the case study research or attended to in reviews of the LSS literature. They support the contention by Langley and Denis (2011), raised earlier in 2.3.2.5, that there are deeply personal, relational and political dimensions to the experience of conducting improvement projects.

Each of the two constructs is briefly defined below with examples from accounts referenced in Chapter 6.

Figure 6.35: Micro-Contextual Moderating Constructs and Their Influence



6.7.3.1 Observed Project Situational Issues – Micro-Contextual Construct 1

The noematic landscape of facilitators' relational experiences is populated by themes illustrating situations they felt required their attention (6.3 to 6.6 and Figures 6.14, 6.19, 6.25 and 6.30). These predominant situations navigated by facilitators are a further contribution of this research as they provide specificity about the nature of improvement activity and indicate the socially complex dynamic of the journey of improvement. The four types of situations are briefly explained including specific scenarios as shown in Table 6.2 (See Figure 6.35).

Table 6.2: Example of Situational Issues by Macro Relational Experiential Themes

Maintaining Sponsor Relationship **(6.3 – Figure 6.14)**	**Addressing Hostile Confrontations** **(6.4 – Figure 6.19)**	**Low Collaboration & Mutual Action** **(6.5 – Figure 6.25)**	**Low Measurement Capability** **(6.6 – Figure 6.30)**
Maintaining senior stakeholder relationships was the most dominant relational experience	Stakeholders exercise power often based on tacit knowledge, fears, or self-interest	Stakeholder interaction and engagement stifled, reducing collaborative learning and action	Practice of measuring and analysing performance results is inappropriate or absent
• Senior stakeholders frequently jumping to solutions • Sponsor reactions to resource requests	• Stakeholders' hostile reactions to ideas & actions • Confrontations with external consultants lacking LSS knowledge	• Enabling participation with teams dominated by managers or disengaged, sceptical, angry about past involvement	• Senior leadership do not refer to baseline data jumping to expensive solutions. • Teams inexperienced

• Disengaged sponsors • Confronted by sponsors' hidden agendas	• Senior stakeholders intervene unilaterally • Confronted by sponsors' hidden agendas • Conflict between senior managers preventing collaboration	• Conflict between senior managers preventing collaboration • Leaders lack confidence in their role and understanding of LSS	with measurement and measures and data do not exist • Stakeholders' confusion over analysis concepts interpret results as blaming them for poor performance

6.7.3.2 Existing Group Pathology – Micro-Contextual Construct 2

There are many additional events facilitators experience whilst addressing the thematic issues discussed above. In many instances, these forms of organisational pathology (Pasieczny 2017) have become invisible as they have been evolving for some time. While facilitating an improvement project, facilitators encounter latent issues that create small or significant crises. There is an overlap between these issues and those discussed within the four major relational themes shown in Table 6.2. because they surface as facilitators work on the improvement issue with stakeholders. The distinction being made is that they are latent, building up over time, and characterising stakeholders' working milieu.

Accounts suggest existing interrelationships, tacit knowledge and beliefs, as well as inherent fears and specific interests, prompt these dysfunctional behaviours. Often, they capture the attention of facilitators on a pathic level, prompting prosocial responses. Sponsors, senior stakeholders, team leaders, and staff do not realise that conducting an improvement project will surface these latent issues.

A sample of issues that were observed by facilitators in their experiences, drawn from accounts (6.3 to 6.6 and Figures 6.14, 6.19, 6.25 and 6.30), are listed below (Table 6.3).

Table 6.3: Example Stakeholder Pathologies (Summarised) by Type

Lack of Systems Thinking	Dysfunctional Interpersonal Relationships	Disruptive Personality Types and Behaviour	Immature Leadership Practices	Immature Team Capabilities
• Lack of knowledge and analysis of workflows • Lack of collective engagement and reflection on systems of work, performance, and causes • Lack of engagement of people who know the system of work	• Conflicts between individuals or groups • Leadership conflicts • Interpersonal dynamics lack openness in dialogue and are oriented to attributing blame • Abusive and threatening behaviour	• Personality types and associated dominant, disruptive or withdrawal behaviours • Abusive and threatening behaviour	• Leadership teams who lack cohesion, planning and decision capabilities • Tendency to unilateral forms of decisions • Dominating discussions • Ignoring engagement and collaboration of key staff • Driving self-interests and agendas	• Poor planning capability including visual management • Lack of measurement and reflection on performance • Lack of dialogue and openness in communication • Avoidance from within and between collaborative work

A review of these situational issues described in facilitators' relational experiences illustrates the distinctly social-political character of the process of improvement at the project level. Continuing to describe such activity at the descriptive level of DMAIC, as indicated in the literature review (Section 2.5), belies the underlying dynamic argued by Langley and Denis (2011).

Facilitator observations of these issues stimulate facilitator actions, pathic responses, and a sense of self-efficacy to carry out their role. This involves the major group of constructs discussed next.

6.7.4 Relational Process Constructs Indicate Influences on Facilitator Interventions

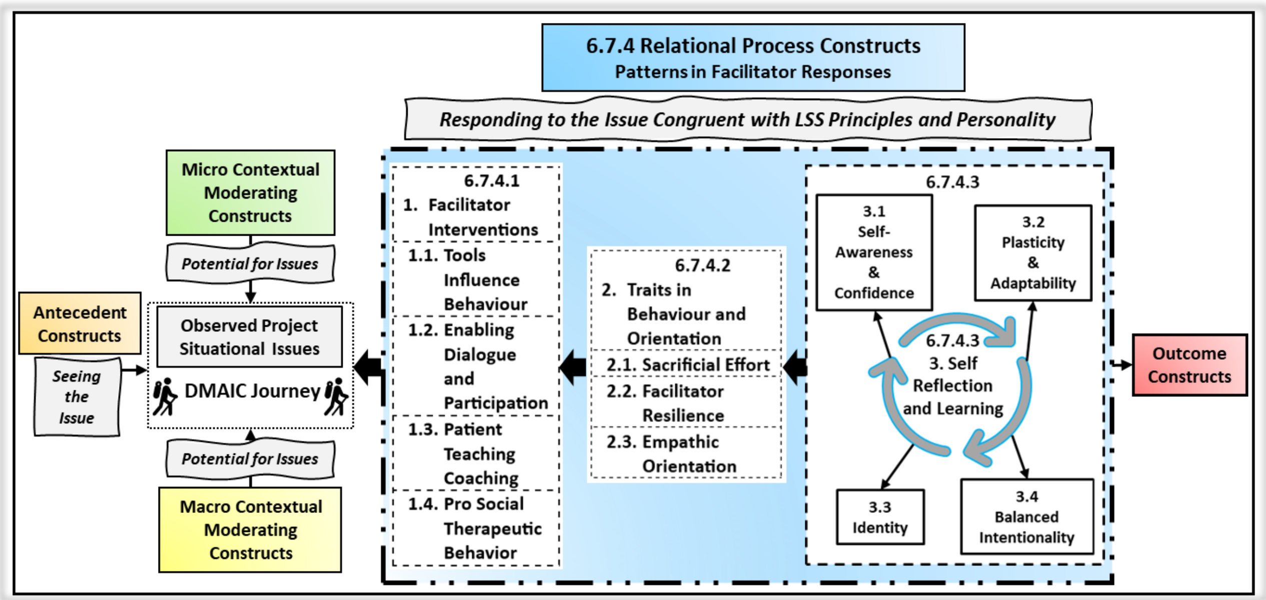
This family of constructs primarily emerges from facilitators' relational world experiences. They reflect the way facilitators responded to the core situations that drew their attention. Based on the experiences within accounts, analysed in Chapter 6 (6.3 to 6.7), three interrelated subsets of constructs representing facilitator actions and reflections emerge (see Figure 6.35). The subsets are discussed in the following order:

- Dominant Forms of Facilitator Interventions – Relational Constructs Type 1 (6.7.4.1)
- Underlying Traits in Behaviour and Orientation – Relational Constructs Type 2 (6.7.4.2)
- Cycle of Self-Reflection and Key Learning – Relational Constructs Type 3 (6.7.4.3).

The interventions influenced by LSS tools form the responses to specific situations in the project environment. These interventions are influenced by the personality traits and pathic orientation revealed in facilitators' reflections on the events. An underlying process of self-reflection emerges through the experience also borne out in facilitators' retrospective interpretations of events. This process of action and learning engenders a sense of self-efficacy and realisations about the nature of their role.

The specific constructs within each subset are also shown in Figure 6.36. Each group will be discussed below with examples of facilitator behaviours and reflections taken from the accounts.

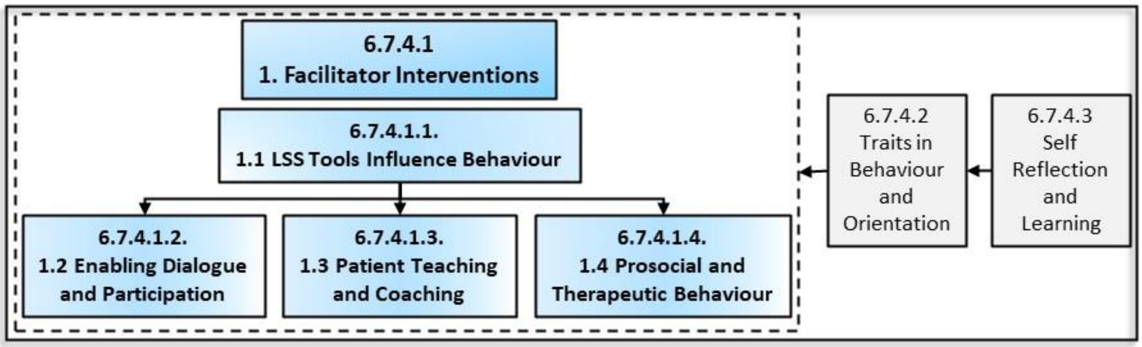
Figure 6.36: Relational Process Constructs and Their Influence



6.7.4.1 Facilitator Interventions – Relational Constructs Type 1

Across all relational world themes, patterns emerged in the thoughts, feelings, and activities facilitators brought to bear to resolve the situations they faced (see Figures 6.14, 6.19, 6.25 and 6.30). This sub-category of relational constructs is shown as four interrelated constructs in Figure 6.37, indicating the order of discussion. Techniques used enable and influence facilitators' intervention behaviours. In turn, these behaviours are influenced by their personality traits, self-awareness, and orientation to learn as discussed in the next two subgroups of constructs.

Figure 6.37: Four Constructs of Facilitator Interventions



Each construct is discussed drawing attention to example behaviours that emerged from the analyses. The display of these constructs through facilitator behaviour impacts the extent to which project outcomes are successfully achieved.

6.7.4.1.1. Influence of LSS Tools and Techniques on Facilitator Interventions

The earlier discussion in Chapter 5 (5.3.2.3) drew attention to facilitators' experiences using the large variety of tools and techniques embedded within the macro LSS methodology. Reflections by facilitators in their project portfolios (see Figure 5.16) drew attention to their dependence on, and the value of, the guides to correctly apply specific techniques. Facilitators' experiential accounts also referred to the use of techniques during specific interventions (see Figures 6.14, 6.19, 6.25, and 6.30). Facilitators described the value of the techniques as reinforcing the principles of LSS to prompt stakeholder engagement, collaboration, and collective decision-making and action. An important dimension of using LSS tools is their influence on mutual learning by stakeholders. This observation by facilitators is consistent with the study by Leon et al. (2012, p. 134) who draw attention to the value of using LSS tools to stimulate an active learning process to create knowledge (see 2.4.3). Table 6.4 summarises frequently used techniques and the learning impact on stakeholders reported in experiences. This construct highlights the effects of facilitators' insightful use of techniques to engender learning and collective action rather than using tools in a mechanistic fashion.

Table 6.4: Types of Tools and Their Influence on Facilitator Behaviour and Stakeholder Learning

Types of Influence of LSS Tools on Facilitator Intentionality and Behaviour and Stakeholder Learning			
Understanding the System of Work – Systems Thinking	**Understanding Variation in Performance of Work System**	**Collaboration and Mutual Action**	**Planning Tools**
• Process mapping techniques • Value stream analysis • Process stability analysis and causation analysis	• Stability, capability and cost analyses	• Techniques of communication and dialogue • Idea generation techniques	• Improvement plan • Learning cycles
Stakeholders learning about their systems of work and becoming more conscious of influences in the work system	Stakeholders learning about how to measure and interpret performance and continue monitoring results	Stakeholders learning and practising effective dialogue to enable team and individual learning and engage in constructive conflict	Stakeholders learning how to define problems, objectives, and measures to plan a project and avoid jumping to solutions Learning agility in planning short bursts of action learning to progress a project
Techniques help engage staff, generate participation, and promote mutual learning and action.			

6.7.4.1.2 Enabling Dialogue and Participation

Whether discussing the project intent with sponsors or prompting teams in analysis discussions, facilitators modelled aspects of dialogue as well as coached stakeholders into this form of interaction in meetings. This process was repeated in multiple meetings and workshops (see Figures 6.14, 6.19, 6.25, and 6.30 and Section 6.5.2.3). This active form of interaction with individuals and teams created a sense of transparency, awareness, and engagement over the life of the improvement project. A legacy left by facilitators was a shift in the manner conversations were held amongst teams and individuals from 'percussion discussion' to dialogue. Figure 6.38 below provides examples of this core form of facilitator activity, expressed in many accounts of their experiences (see Sections 6.3 to 6.6).

6.7.4.1.3 Teaching, Coaching, Mentoring

Facilitators spent much time in the role of a teacher or a coach during the improvement project. Helping sponsors understand LSS and their roles, particularly in immature organizational settings where managers have had no exposure to the ideas, was a time-consuming activity. Facilitators described being careful to explain ideas so as not to overwhelm leaders and staff given the volume of interdependent LSS ideas. The teaching process was particularly apparent in situations where facilitators had to help stakeholders develop and continue a measuring system to monitor their own work. Facilitators commented on the energy and effort this process of patient teaching and coaching takes. Part of this exhibited effort involves facilitators' drive to enable stakeholders' collective capability and ownership of the improvement methodology for the future. Figure 6.38 below provides examples of different forms of coaching and teaching described in many accounts, which were discussed in Sections 6.3 to 6.6 (see specifically Section 6.3.5.2).

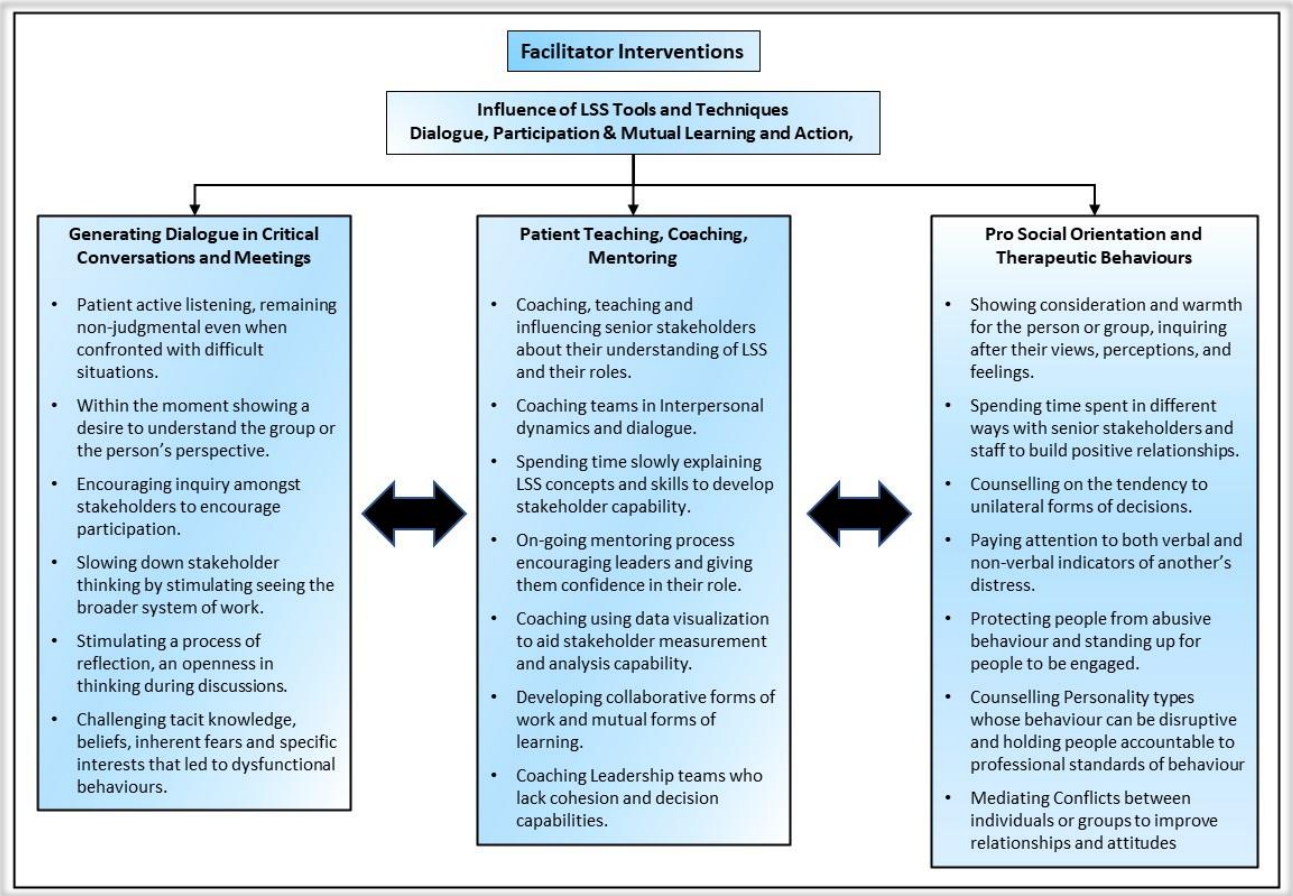
6.7.4.1.4 Prosocial Orientation and Therapeutic Behaviours

Facilitators are confronted by a variety of embedded issues within the functional environment. Some of these characteristics are the reason for introducing LSS capability and practices and some are simply part of the embedded social work system that is ingrained. Therefore, while facilitating an improvement project, the work sweeps up latent issues that create small or significant crises. As discussed previously (see 6.7.3.2), these situations can be seen as pathologies, dysfunctions, inefficiencies, acts of social psychopathy, or even traumas within the organisation (Pasieczny 2017). Stakeholders are likely unaware that conducting an improvement project will surface these latent issues.

As I became immersed in the experiences of the facilitators, I realised that there was a therapeutic dimension to their interventions. These situations capture the attention of facilitators on a pathic level, resulting in caring, prosocial responses designed to improve workplace relationships or forms of interaction. An examination of facilitators' thoughts and feelings reveals an underlying concern for the wellbeing of others within the situations that they confront. There is a generosity of spirit, gentleness, and patience displayed, particularly during an emotionally charged situation involving their own heightened emotions like anxiety or fear. An example of this orientation and related behaviour is demonstrated by the significant investment facilitators make to enhance, repair, and maintain a supportive and trusted relationship with key stakeholders (see 6.3.5.2). These facilitator actions have a significant therapeutic effect within the work environment of the project; this is a unique finding that has emerged from the examination of improvement facilitator accounts. The collection of experiences analysed in this research prompts a reframing of improvement projects as a process of surfacing and dealing with embedded pathologies. Drawing on the accounts in Sections 6.3 to 6.6, Figure 6.38 lists several prosocial therapeutic behaviours.

These forms of facilitator behaviour in response to situations overlap to some extent and are interrelated as shown in Figure 6.38. Communication techniques to promote dialogue may also be part of a coaching process. Prosocial behaviours may include a teaching element. Seeing these behaviours organised into three types reveals that they have distinct techniques and underlying skill sets.

Figure 6.38: Facilitator Behaviours Across Three Types of Interventions



Facilitator accounts, particularly their interpretations and reflections on experiences, reveal underlying emotions and orientations that underpin their behavioural choices and affective attitudes, displayed in their interventions. This is the second set of relational process constructs to be discussed.

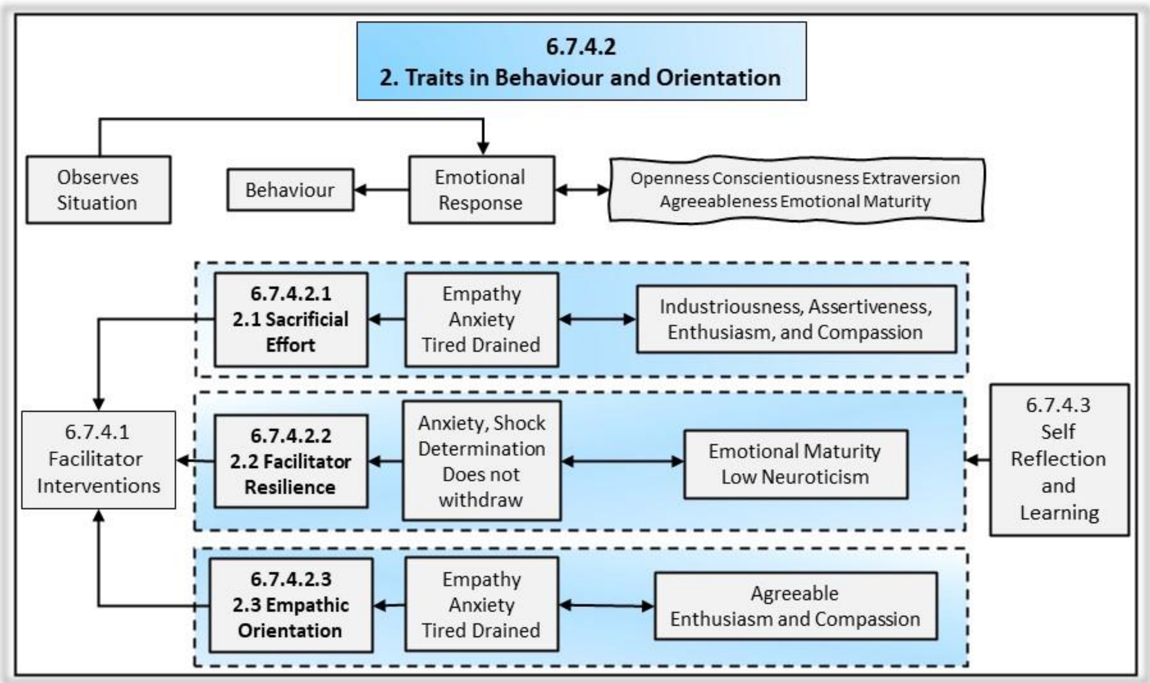
6.7.4.2 Traits in Behaviour and Orientation – Relational Constructs Type 2

Facilitators' accounts frequently referred to their internal landscape of thoughts and emotional responses evoked by the situations they faced (see 6.3.5.4, 6.4.2.1, 6.5.2.4 and 6.6.2.6). Their descriptions draw attention to intensely emotional events that impact their reactions and relationships. Often, these feelings are a response to stakeholders' emotional displays that confront facilitators during interactions. Sometimes, senior stakeholders become frustrated with the process of developing the improvement plan or the process of improvement provokes a sense of blame or threat amongst senior staff or team leaders. Some conflicts between stakeholders are marked by anger and abuse. Some team leaders lack confidence about their role and knowledge. In contrast, staff and senior leaders sometimes also express a sense of achievement, engagement, and accomplishment because of collaborative work and outcomes achieved. These emotional responses from stakeholders indicate the affective nature of improvement activities beyond simply carrying out rational analyses (see Figures 6.14, 6.19, 6.25, and 6.30).

This sub-category of relational constructs emerges from the patterns within facilitators' descriptions and interpretations of the qualia of their experiences that characterise facilitators' personal (internalised) worlds. The reflections illustrate and explain the motivational impact of their emotions and traits on their intervention behaviours and attitudes. This interplay of affective, cognitive, and practical dimensions of facilitator experiences can be observed in their accounts.

Three types of emotional, behavioural, and personality associations were identified; they form the three proposed constructs as shown in Figure 6.39. Observations and situations evoke strong emotional responses, which in turn motivate behaviours. Facilitators' descriptions and explanations draw attention to the predisposition for pathic responses based on knowledge of their personality traits. This relationship, as illustrated in Figure 6.39, is further explained below for each construct in the order shown. Examples of situations, emotional responses, and reflections of personality traits for each are given in Figure 6.39.

Figure 6.39: Three Constructs in Traits and Orientations Influencing Facilitator Interventions



6.7.4.2.1 Sacrificial Effort

Facilitators' descriptions of their experiences often convey a sense of sacrificial effort (see 6.3.5.2, 6.5.2.3 and 6.6.2.5). They describe time spent in teaching, coaching, explaining, and influencing individuals and teams to encourage collaboration, mutual learning, and action. They are driven to address the problems they face by taking on tasks of various kinds themselves, beyond their role responsibilities, to complete the project.

In their accounts, facilitators described how they realised that 'going the extra mile' involves investing significant additional effort and time. They described working long hours to cope. Many facilitators remarked on their feelings of tiredness and the energy required to maintain the effort, which left them drained. Part of the motivation to expend effort comes from empathic responses to seeing stakeholders in difficulties. A sacrificial effort is also promoted when facilitators sense a threat to their careers and reputation from challenges that may delay or stop the project (see Figure 6.40).

Facilitators recognised the impact of their Industriousness, Assertiveness, Enthusiasm and Compassion traits to explain the drive to take on additional tasks or expend energy either to ensure the project's progress or to come to the aid of stakeholders struggling with tasks involved in the project.

6.7.4.2.2 Facilitator Resilience

Facilitators show that they are subject to heightened feelings of fear and anxiety (see Table 6.1). Some descriptions expressed a depth of feeling that produced physical reactions. These feelings particularly occurred in circumstances where they sensed a threat to their careers and reputation because they perceived an increased risk of project failure due to conflicts in certain situations. Facilitator accounts revealed the extent of the facilitators' persistence in the face of such challenges. This theme overlaps with the previous construct on the extra effort facilitators make.

Despite the difficult situations, facilitators described a sense of determination and desire not to give up. They do not withdraw or become volatile under these circumstances. The strongest expression of facilitator personality is the emotional stability and self-control they show in the face of such stressful situations (see Figure 6.40). Several facilitators recorded that they do not display their emotions in the face of situations, even when their own negative emotions are felt. They pointed out that they remained professional in their interactions in these situations and over other engagements to the end of the project.

Industriousness, Assertiveness and Enthusiasm were referenced as explanations for their persistence and effort in the face of challenges. Courageous advocacy and action illustrate the Assertiveness that facilitators displayed. This advocacy reflects facilitators' self-assurance and growing confidence in the principles and practices of LSS. In the face of stakeholder frustration, confusion, and emotive resistance, the facilitators remained consistent with the use of the methodology. However, facilitators also realised that the uncontrolled expression of this proclivity impacts their capacity for prosocial behaviour. Many of the facilitators with a clear meta-trait profile became very conscious of their overly strong drive to complete tasks, which then created resistance amongst stakeholders (6.4.2.6 and 6.6.2.8). This was a key learning, which influenced their subsequent behaviour.

The resilience and effort exemplifying the affective nature and orientation of facilitators in this study are consistent with the constructs of facilitator intensity and resilience proposed by Olmos-Ochoa et al. (2021, pp. 4-5) discussed earlier in 2.4.2.

6.7.4.2.3 Empathic Orientation

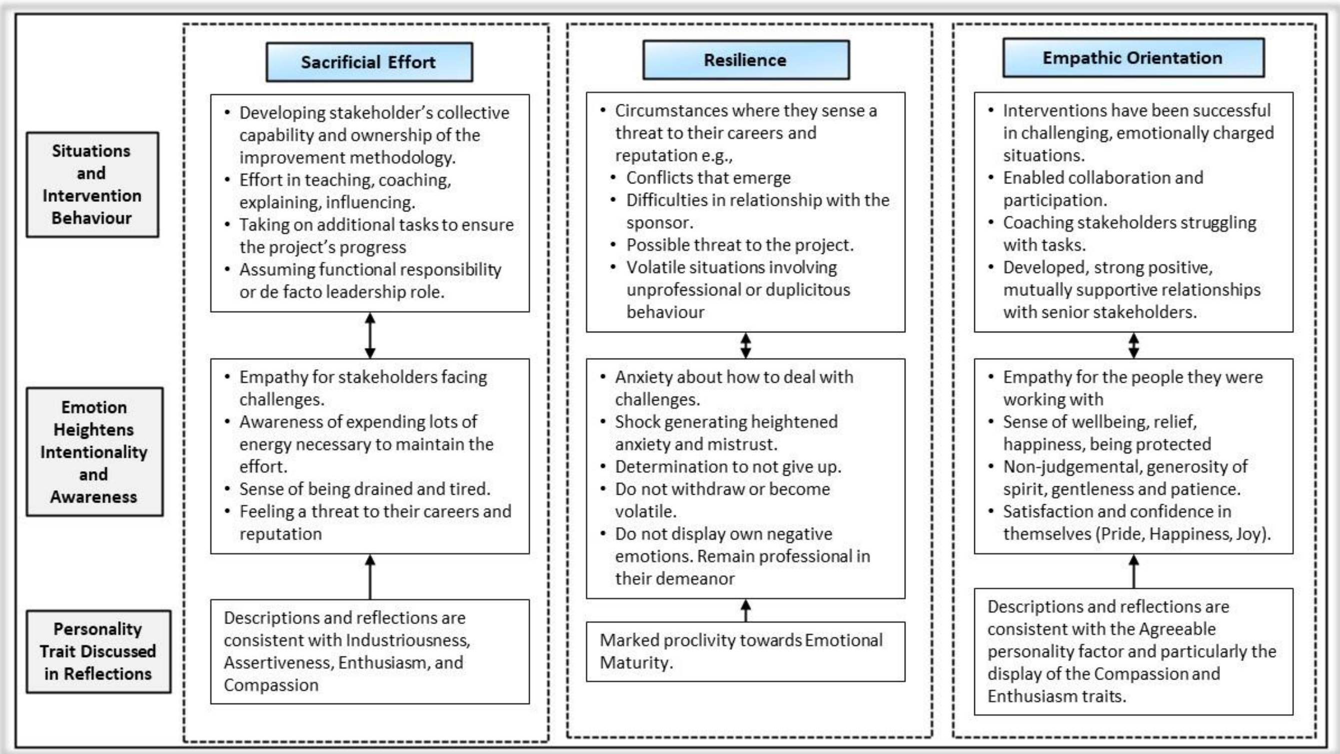
Part of the drive to foster collaboration and ownership stems from a pathic response from facilitators. In many instances, they recalled feeling empathy for disengaged staff. They became frustrated or angry about the loss of opportunity for engagement and collaboration. In this sense, they display compassion and care for individuals or teams wanting to stand up for them and give them a voice and power to contribute. Consequently, they became assertive in applying a technique to address the existing lack of engagement. Sometimes, this made them anxious about how to generate involvement, but rather than withdrawing, they showed determination and the courage of their own convictions in pursuing an intervention. Rather than expressing a critical, judgmental attitude towards staff because of their lack of knowledge or skills or their behaviour, facilitators illustrate systems thinking by expressing an understanding of the situation or the person (see 6.5.2.5). Their attitude to stakeholders is patient, generous, and caring (see figure 6.40, 6.5.2.2).

Facilitators experienced high levels of positive emotions when they observed that their interventions had been successful (see 6.5.2.4). Satisfaction, Pride, Happiness, and Joy are some of the terms used to describe these feelings, which are most often responses in situations where they have overcome a challenge or enabled collaboration and participation. Emotional highs (happiness, sense of being protected) are particularly expressed when facilitators feel confident in their relationships with supportive sponsors and senior stakeholders (see Figure 6.39, Section 6.3.5.3).

Facilitator interpretations are consistent with the Agreeable personality factor and particularly the display of the Compassion trait. This is the case even when a facilitator's level of Compassion was closer to the population mean. All the facilitators were exposed to facilitation and communication models that emphasised these characteristics as part of their LSS training. This may add to the explanation of their prosocial orientation (see Figure 6.40).

These empathic characteristics of facilitator behaviour illustrate phenomenological notions of encouraging receptivity and being open to others to see their perspectives and needs, which suggests non-totalising behaviour.

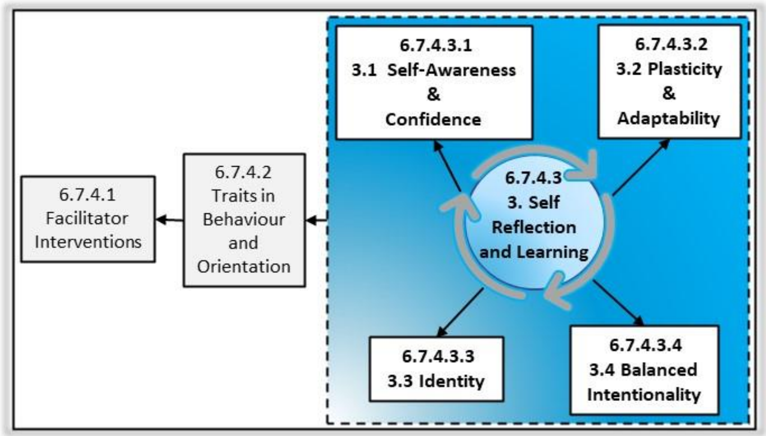
Figure 6.40: Patterns of Emotional Responses, Personality Traits and Facilitator Behaviours



6.7.4.3 Cycle of Self-Reflection and Key Learning – Relational Constructs Type 3

One of the dominant overall reflections across all facilitators as a concluding discussion in the interview was their pursuit of growth and transformation because of project experiences. This last sub-category of relational process constructs draws on the orientation towards self-learning and the various dimensions of growth and transformation that emerged in facilitator accounts. Four constructs are shown in Figure 6.41 and discussed in the order shown with examples from facilitators' reflections and experiences. Given the illustrated structure of the three sub-categories of relational constructs, this group underpins the character of the other relational construct groups already discussed.

Figure 6.41: Constructs of Facilitator Self-Reflection and Learning



6.7.4.3.1 Self-Awareness and Confidence

An examination of facilitators' 'in the moment' thoughts during experiences as well as their interpretations and reflections of experiences illustrates a process of observation and self-evaluation. Their observations of stakeholder reactions are used to adapt their behaviour in the moment or for future engagements. Contemplation on strongly felt experiences shows a sense of self-reflection and a growing understanding of self and their surrounding circumstances, prompting cycles of future learning and development. A sample of these expressions of growth is shown in Figure 6.42.

Figure 6.42: Facilitators' Expressions of Growth

- Building Professionalism and Gaining Confidence to handle different unexpected scenarios
- Gaining confidence in the methodology as experiences repeat themselves
- Growing in self-awareness - makes a difference to how you see yourself, how I'm wired
- Learning about what works in projects
- Building a reputation with other senior people in the place
- Learning and appreciating differences in people
- Realisation of the difficulties and forms of resistance
- Improved relationships – facilitator connects people

These interpretive meanings gained from experiences reflect authenticity in the lived experience of facilitators as encouraged in the philosophical aspects of phenomenological literature. This attitude of self-development reflects the proclivity for 'inquiry' that is expressed in facilitators' enthusiasm for systems thinking, analysing, and developing solutions. There is a sense that facilitators not only enjoyed solving the puzzle of the project but also enjoyed themselves.

6.7.4.3.2 Plasticity and Adaptability of Behaviour

Whilst there are key learnings about specific techniques, a major reflection for facilitators is in understanding their own proclivities and their need to adjust their behaviour in various situations. Not all facilitators had high scores on all the traits discussed in Chapter 5 (5.2.2). Forms of plasticity emerged in the qualia of facilitators' accounts. Reflections on the nature of the experiences revealed facilitator self-awareness of their inherent temperament. For example:

- Two facilitators with high levels of Compassion and Enthusiasm realised that being overly oriented towards pleasant social interactions disrupted paying attention to when they needed to be more assertive and escalate issues.
- One facilitator who also had a low percentile on Assertiveness learned to face and address issues before they turned into more difficult situations.
- Three facilitators with low percentiles on Politeness expressed their consciousness of being respectful during encounters where they were frustrated by what was happening.
- Many of the facilitators with a clear meta-trait profile became very conscious of their overly strong drive to complete tasks, which then created resistance amongst stakeholders. This was a key learning which then influenced their subsequent behaviour.

These reflections on the experiences indicate the ability to learn and display behaviours outside dominant temperament traits driven by the necessity of career situations. This flexibility reflects the study by Wille, Beyers and De Fruyt (2012, p. 317) who illustrated that vocational experiences can influence trait change over time.

6.7.4.3.3 Identity

The significant efforts exerted by the facilitators, often through prosocial actions, bring repair and healing to the broken parts of the functional organisation. Given their awareness of stakeholder reactions, it is not surprising to hear facilitators express their role identity as shown in Figure 6.43.

Figure 6.43: Facilitators' Expressions of Identity Based on Experiences

- A shepherd
- Organisational therapist
- Multi Roles – Teacher, Facilitator, Sponsor, Leader, Project Manager
- Greater responsibility more than what I thought – expanded view of the role, Strategic
- Analyst and Worker
- Coach, Change Agent, Problem Solver
- A champion of a different way of doing things
- Helping and Enabling people

Across these expressions of role identity, the cumulative effect of the prosocial experiences creates a therapeutic, healing form of identity that is more than simply facilitating an improvement project (Lehene 2021). This notion of therapeutic effect seems to become embedded in their sense of role. Again, this orientation and impact demonstrate Levinas's admonition to 'see the other' and avoid thematisation behaviour (Rhodes & Carlsen 2018, p. 9).

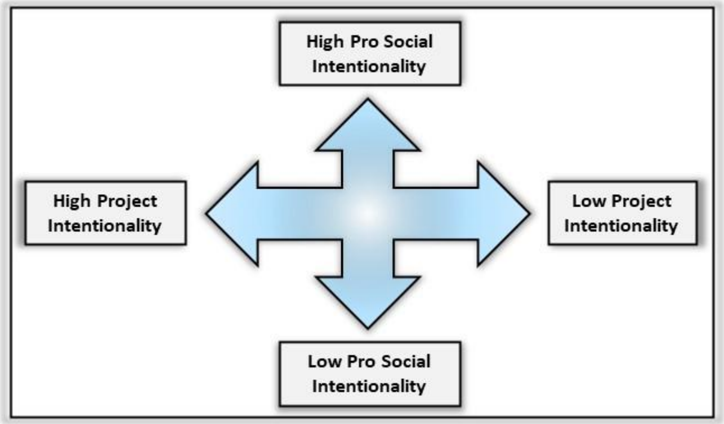
6.7.4.3.4 Balancing Project Intentionality with Prosocial Intentionality

As has been discussed, facilitator personality engenders strong intentionality towards project success. This is demonstrated through the efforts they make through their interventions. They are driven to address the problems they face and express feelings of not giving up and needing to demonstrate success to protect their reputations. Overall, the experiential accounts reflect the high dependency on facilitators as intentional agents to complete improvement projects.

An association between similar aspects of personality and project success was also reported in the single study found on personality and LSS by Witt et al. (2017, p. 492). However, this was a survey-based correlational study focused on personality traits in improvement teams.

A major point of self-awareness that emerged in facilitator reflections is the need to moderate their proclivity to drive the project. Several reflections deal with pursuing engagements with sponsors earlier in the process or allowing more time to enable staff participation. Facilitators saw balancing the drive to complete the project with the need to engage staff as a challenge and key learning that they would take into future project work (Figure 6.44).

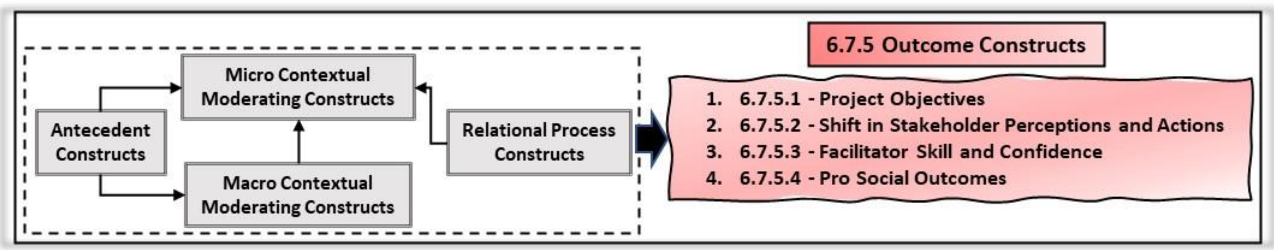
Figure 6.44: Balancing Project Intentionality With Prosocial Intentionality



6.7.5 Outcome Constructs Highlight Broad Range of Valuable Improvement Project Effects

The lived experience of facilitators observed in these research findings indicates other unrecognised valuable outcomes are also achieved during the conduct of improvement projects. This final family of constructs highlights various additional outcomes that emerge from facilitator accounts apart from those that tend to be reported in reviews of LSS literature or case studies. Figure 6.45 illustrates the four constructs representing different types of outcomes. They are described below in the order shown and reinforce the much broader and positive effects of improvement projects and the facilitator.

Figure 6.45: Outcome Constructs From Facilitators' Experiences



6.7.5.1 Project Objectives

Chapter 5 drew attention to the range of project outcomes achieved through the improvement projects on which facilitators worked. The measures and results shown in Appendix 18 and discussed in Section 5.5.5 reflect the tendency of the extant LSS literature to focus on the results achieved. The variety of reported results in Appendix 18 reflects the pattern of results cited in LSS reviews as shown in Figure 2.7 and discussed in Chapter 2 (2.3.2.3).

6.7.5.2 Shifts in Stakeholder Perceptions and Actions

One aspect of improvement project outcomes includes stakeholder perceptions of the experience of the project. In Section 5.5.5, a sample of feedback from team members and senior stakeholders was provided. The feedback shows that perceptions about the improvement process (e.g., engagement), the facilitator, learnings, and other forms of stakeholder outcomes can be observed and measured.

Numerous examples from facilitators' experiences illustrate the concentration on building collaboration and collective action. Some of these have already been discussed and are summarised below with reference to the techniques used (Figure 6.46). Outcomes that involve increased collaboration, stakeholder involvement in the methodology, and completion of additional projects are important indicators of increased deployment of organisational capability for improvement.

Figure 6.46: Examples of Building Collaboration and Engagement

- Persevering with senior stakeholders in participating in critical thinking on project intent.
- Stimulating stakeholder active listening and advocacy amongst antagonistic stakeholders.
- Using open questions to prompt discussion and understand data rather than allow blame and defensiveness to dominate.
- Providing feedback and counsel to executives to involve key people in meetings who know the process.
- Placing emphasis on engaging the whole team not just the supervisor.
- Constant meeting with and coaching the team regularly to carry out tasks themselves.
- Using process maps, creative thinking, humour, and scenarios as a means of stimulating staff to share ideas and concerns.

6.7.5.3 Facilitator Skill and Development

The previous discussion on facilitator self-reflection and learning drew attention to the development of facilitator skills and confidence in guiding stakeholders to complete the improvement project at the same time as coaching stakeholders' improvement capabilities. This outcome is also worthy of attention as the facilitators form a valuable in-house resource avoiding the costs of repeatedly using external consultants.

6.7.5.4 Prosocial Outcomes

The lived experience of facilitators indicates other unrecognised valuable outcomes are also achieved during the conduct of improvement projects through the prosocial interventions of the facilitator. Examples of these types of outcomes are listed below (Figure 6.47) and, therefore, prompt consideration of additional forms of improvement project assessment. Such consideration would increase attention to prosocial interventions and outcomes as part of the normal process of improvement work.

Figure 6.47: Examples of Prosocial Outcomes

- Connections being made, or repaired and ownership through collaboration
- Increased staff enthusiasm and engagement leading to higher levels of wellbeing.
- Managers realising the value of engagement; their confidence grows as anxiety over allowing staff participation diminishes, which changes workplace relationships.
- The tenor of working relationships improves, including the characteristics of dialogue and collaboration.
- Shifts in Sponsor and Staff collective capabilities

These reported outcomes are not addressed in the extant LSS literature, which concentrates on measurable improvements in process performance. These additional types of outcomes emerging from facilitators' accounts shed light on other valuable outcomes achieved through improvement projects. This realisation borne out of observing the lived experience of facilitators of improvement projects is another contribution made by this research that supports the efficacy proposition for instituting improvement capability within an organisation.

6.8 Interpretation and Conclusions from Analyses

The previous discussion (6.7) examined five families of constructs and their interrelationships across the three world experiences of facilitators as they conducted improvement projects. The relationships within a construct group were illustrated together with relationships with other construct groups. A summative model integrating all five families of constructs is shown in Figure 6.50. The overall model represents the core findings across the three worlds of facilitator experiences.

Conclusions summing up the findings on the lived experience of improvement facilitators are discussed based on the fully integrated model of constructs (Figure 6.50). Two broad areas of summative conclusions based on the findings of the research are presented:

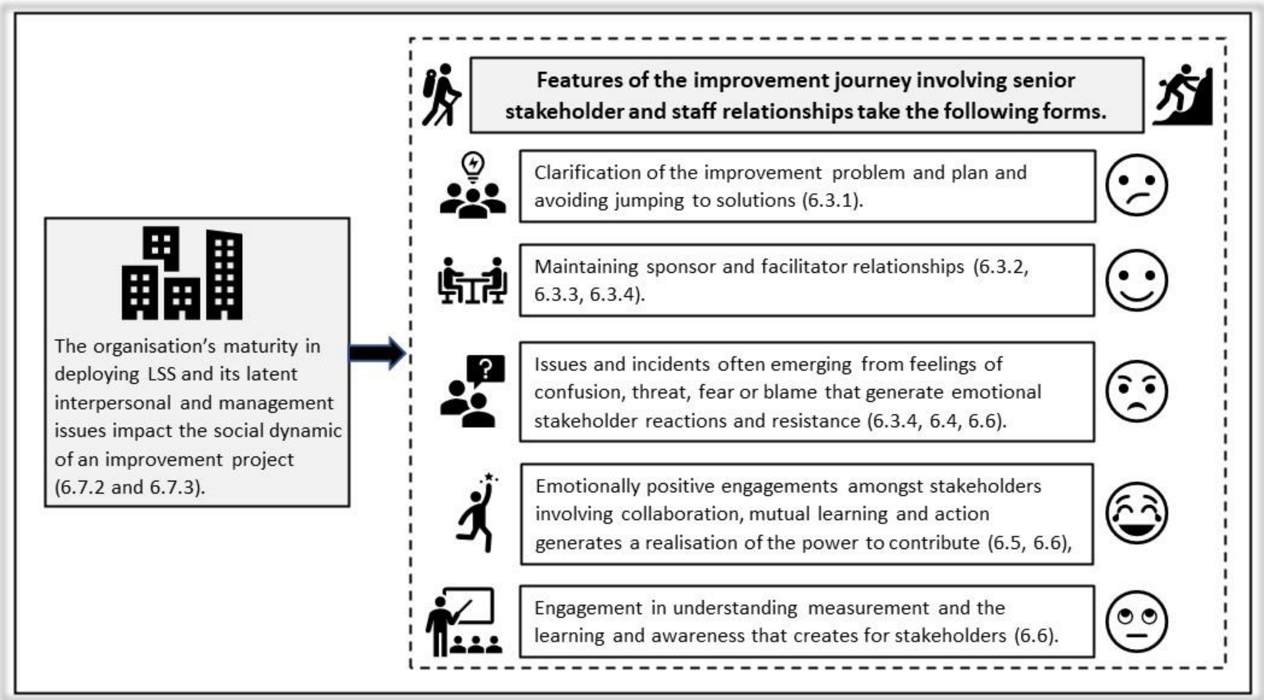
- The characteristics of conducting improvement projects that emerge from facilitator observations and experiences.
- The lived experience of facilitators as they conduct improvement projects.

The final discussion addresses the limitations of the research.

6.8.1 Representation of the Improvement Project Journey

Part of the motivation for setting the core question for the research was the observation that the extant LSS literature had represented the conduct of improvement projects in a formulaic and rationalist manner. Characteristics of the relational dynamics emerging from the research, shown in Figure 6.48 and linked to relevant sections, belie this representation of improvement activity.

Figure 6.48: Characteristics of the Improvement Journey Emerging From the Research



Contrary to the implicit view in the LSS literature, these characteristics indicate that the journey of improvement has deeply personal, affective, relational, and political dimensions, as argued by Langley & Denis (2011) and raised earlier in Section 2.3.2.5.

6.8.2 The Lived Experience of Improvement Facilitators

In Chapter 5, a summary of the facilitators' personal world (5.3.7) and surrounding world (5.6) experiences was presented. Chapter 6 (Sections 6.3 to 6.6) detailed the facilitators' relational world experiences. The previous discussion (6.7) examined the constructs and their interrelationships emerging across the three world experiences of facilitators as they conducted improvement projects. This discussion integrated and summarised all the findings across the analyses of Chapters 5 and 6 into a summative model (Figure 6.51), showing a network of natural and social constructs in relationship (Fried 2017) and surfacing the nature of the lived experiences of improvement facilitators. Additionally, the model proposes an explanatory view of factors impinging on the micro-level conduct of improvement projects.

A summary of the findings on facilitators' experiences in each of the three worlds is shown in Figure 6.49. In addition, an overall description is offered below (Figure 6.50), addressing the research question by highlighting the main elements of experiences across the three worlds and the framework of the model.

Figure 6.49: Summary of Major Findings of Facilitator Experiences Across the Three Worlds

Personal World	• Macro Traits: Agency and Communion. • Underlying affinity for improvement.
Surrounding World	• Legitimisation of Role. • Traits and interests reinforce fit with LSS principles. • LSS Maturity of the organisation or function impacts contexts experienced. • LSS techniques reinforce collaboration and mutual action.
Relational World	• Notice four types of situations. • Interventions influenced by traits and LSS principles. • Thoughts and attitudes are oriented to 'seeing the other', are often non-judgemental, pathic, reflecting systems thinking. • Significant effort is expended in development of dialogue, patient coaching and relationship building. • Pro Social interventions with stakeholders balance drive to finish project. • Manage negative emotions and are highly resilient • Outcomes generate strong positive emotions and motivation. • Demonstrate ongoing process of self awareness and learning.

What is the essence of the lived experience of improvement facilitators during the improvement journey?

Figure 6.50: Summative Description of the Lived Experience of Improvement Facilitators

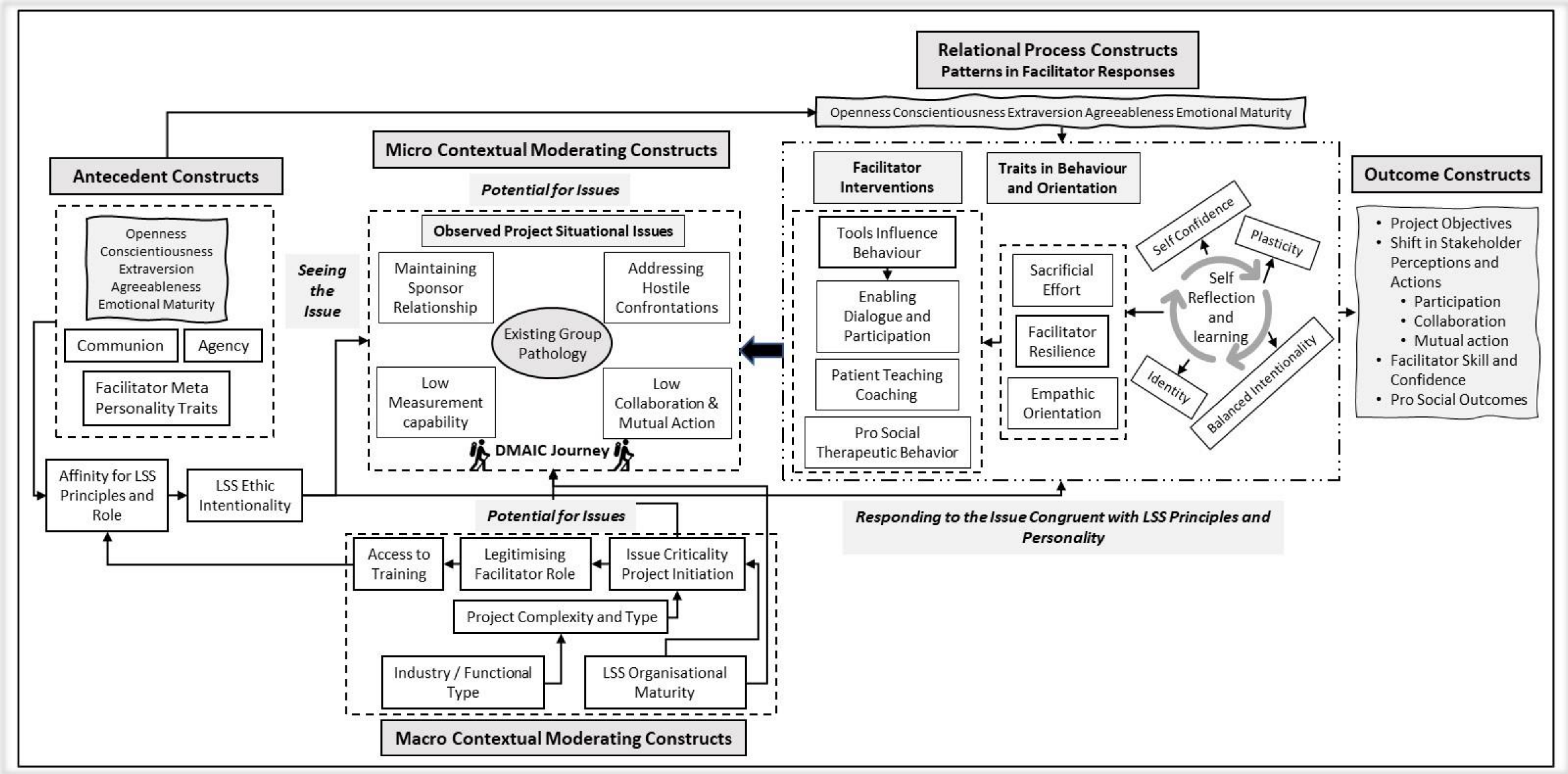
Presage influences that facilitators bring to their role have a significant impact on their thoughts, feelings, and behaviours when they face project situations. Contextual experiences shape and impact challenges faced by facilitators.

The core work experiences of facilitators reveal improvement is bound up with the social interaction with sponsors, team leaders, team members, union representatives, customers, and other stakeholders. Projects are not simply following tasks as suggested in the bare bones of extant LSS reporting. Improvement facilitators are clearly dealing with the interactions of the physical and social elements within the project working environment. They grapple to understand the context growing in awareness of the forces that are producing dissatisfying outcomes. They are not trying to do this on their own but enabling the awareness and knowledge to be gained by all the relevant stakeholders. At the same time, they confront and try to solve other dysfunctions they discover within the situation.

Understanding these experiences provides a realistic role of the improvement facilitator in terms of the pressures they are under and the capabilities they need. The environmental characteristics reinforce the winnowing effect of the underlying personality aspects necessary to cope with this type of work. The analysed experiences make the dependency on the role of the improvement facilitator even more acute.

This concluding discussion is a significant contribution of this research within the field of LSS. The surfacing of these elements of facilitator experiences indicating dynamic characteristics of conducting improvement projects has not discussed in the extant LSS research literature.

Figure 6.51: Summary of Constructs Emerging From Facilitator Experiences



6.8.3 Placing Research Findings in Perspective – Addressing Limitations

Since complex improvement projects take some time, and to avoid general opining on their project experiences, the participants were asked to reflect on their three most significant experiences based on their memory of their project journey. Discussion of the 39 experiential accounts formed the core of the interviews. Extant memory theory and research (Tyng et al. 2017) illustrate how emotionally charged experiences remain in the long-term memory and are recalled vividly.

A critique of the outcome of this research is that the lived experience of the research participants reflects only the most memorable emotionally charged events. Thus, a limitation of the research is that the mundane everyday experiences are not represented in the findings that emerged. In that sense, these accounts are not representative of the research participants' lived experiences of an improvement project. The counterargument is that these experiences have shaped research participants' perceptions and representations of what it is like to conduct such projects. Additionally, the experiences often occurred over a period of time during the projects and so represent a substantial proportion of the lived experience on the improvement projects. It is in this sense that the findings are presented as characterising the improvement project experiences of the research participants.

An additional limitation is that 13 participants were involved in the study, producing 40 experiential accounts. The characterisation that was presented is not presented as representative of all improvement facilitators or projects. The extent to which readers who are improvement facilitators relate to the evocative accounts and meaning structures that emerge from these accounts will influence the sense of transferability of the findings (van Manen 2016, pp. 371-2). My personal view from being involved in the field and from sharing the results with others in the field indicates that the characterisation of the research results has highlighted universal experiences to which facilitators relate. This suggests there is stability in the repeated aspects of these experiences.

The concluding chapter of the thesis will outline the major contributions of the research, which will include a theoretical corollary of the constructs shown in Figure 6.51 based on agency theory. Implications for research and practice will also be discussed.

7.0 Research Contributions and Implications for Future Research and Practice

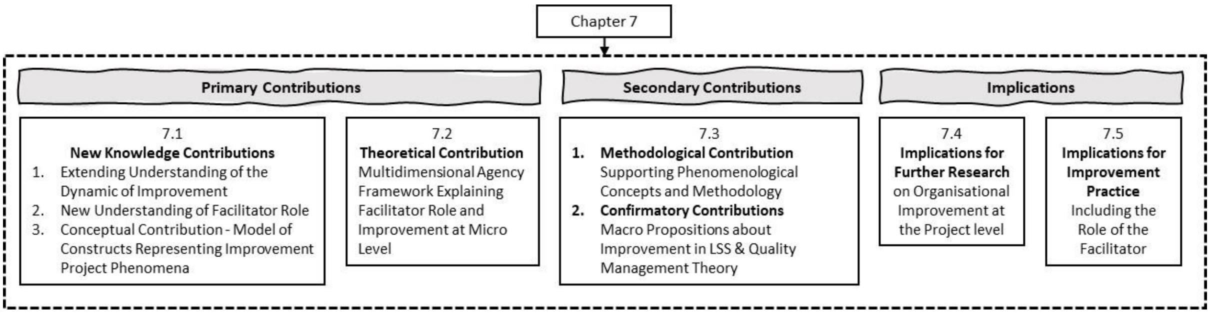
Chapter Purpose and Structure

This concluding chapter reflects on the methodology used and the findings generated from the research to identify four primary and two secondary contributions to the field of LSS, Quality Management and Organisational Excellence (see Figure 1.2). The chapter concludes with a set of recommendations for applying phenomenology to research designs and another set of recommendations for extending research on improvement activities. Likewise, two sets of implications are discussed dealing with the roles of the sponsor and facilitator during improvement activities in organisations. This chapter comprises five major sections as outlined below and shown in Figure 7.1., organised around contributions and implications.

1. Section 7.1 identifies three forms of new knowledge from the research:
    - 7.1.1 New knowledge derived from facilitator accounts that extends the understanding of the dynamic in conducting improvement projects
    - 7.1.2 New and deeper understanding of the improvement facilitator role
    - 7.1.3 New conceptual contribution in the form of a Model of Constructs representing improvement project phenomena.

- Section 7.2 is the fourth primary contribution and is theoretical. It is an examination of the findings through the lens of different agency theories. The section concludes with a multidimensional agency framework that provides a new theoretical basis for understanding, explaining, and researching the dynamics of improvement and the facilitator role.
- Section 7.3 discusses two types of secondary contributions – methodological and confirmatory:
    - 7.3.1 The research design developed for this study provides a methodological contribution to maintain efficacy in applying phenomenology.
    - 7.3.2 The confirmatory value of the experiential findings for existing propositions in the extant LSS and Business Excellence literature is identified.
- Section 7.4 draws on the limitations of the research and discussions on the qualitative methodology employed to identify implications for further research. Six recommendations identify future phenomenological research practices, and nine recommendations address some of the research limitations and seek to extend the inquiry into improvement projects prompted by the previous theoretical discussions.
- Section 7.5 identifies four implications for the sponsorship practices of leaders during improvement projects. Similarly, five implications for the training of facilitators and the execution of their roles during improvement projects are highlighted.

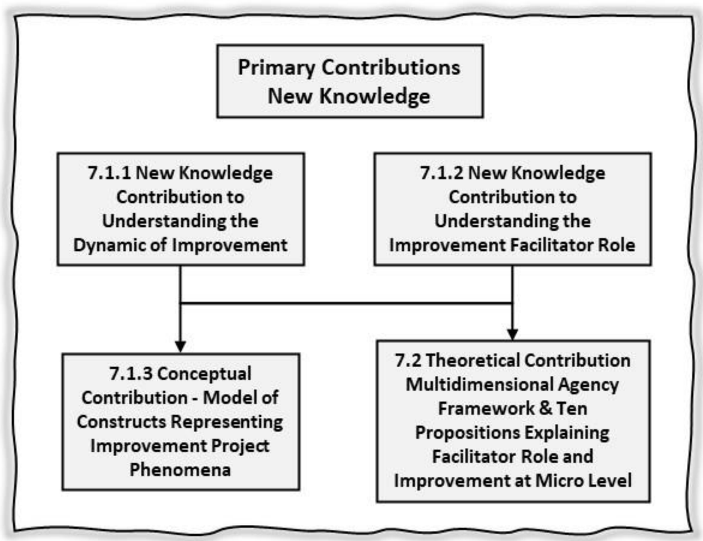
Figure 7.1: Outline of Chapter 7



7.1 Primary Contributions – New Knowledge Revising Narrow Representation of Improvement Project Phenomena and Role of Facilitator

The major contribution of this research is the revelatory, phenomenologically based sensemaking of the nature of improvement at the micro level of a project. It challenges the embedded rationalist, formulaic portrayal of improvement projects in the extant LSS literature. The experiential findings analysed and summarised in Chapter 5 (Personal and Surrounding World) and Chapter 6 (Relational World) and their theoretical application (Chapter 7) form the basis of these contributions. This research also contributes new knowledge in four interrelated aspects of improvement phenomena (see Figure 7.2), which are described in this section (7.1.1.to 7.1.3) and section 7.2 (fourth knowledge contribution – theoretical).

Figure 7.2: Primary New Knowledge Contributions of Thesis

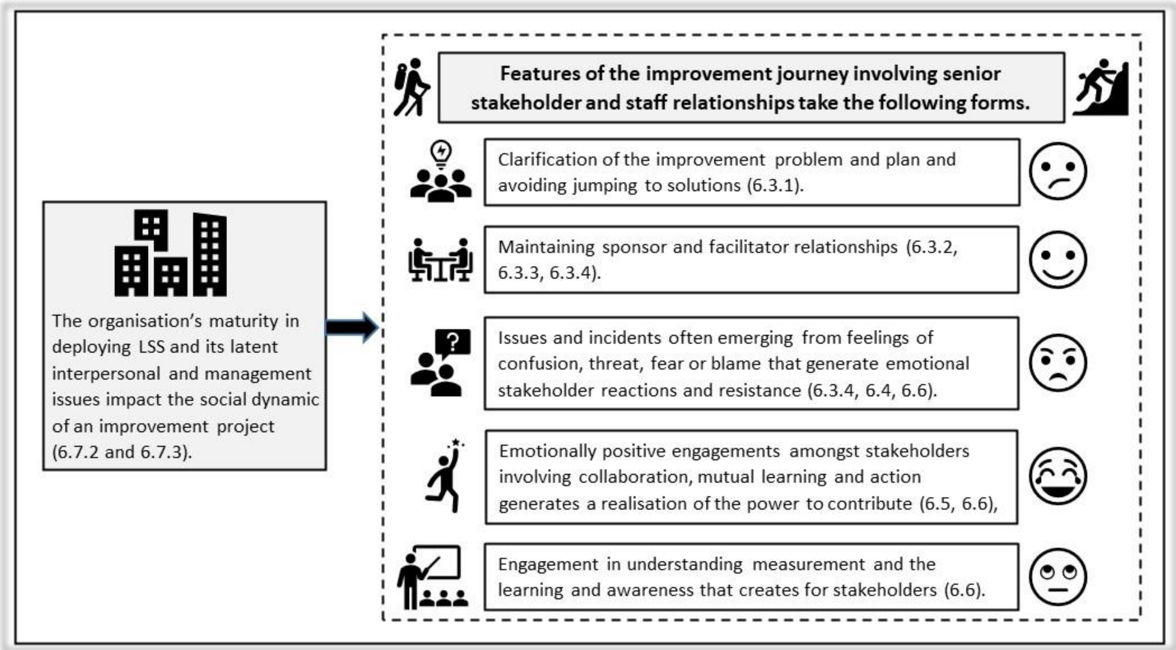


7.1.1 New Knowledge Contribution to Understanding the Dynamic of Improvement

An exploration of the extant LSS literature in Chapter 2 (2.4.4., 2.5) drew attention to the narrow characterisation of improvement project work in procedural terms. It was mostly based on DMAIC, illustrating a gap in the knowledge about the micro level of the domain (Breen, Trepp Jr & Gavin 2020; Isa & Usmen 2015; Langley & Denis 2011; Madhani 2017; Willoughby, Chan & Strenger 2010).

The summations at the conclusion of Chapter 6 (6.8.1), based on the experiential material analysed in 6.3 to 6.6, highlight the affective, social, and political characteristics of project improvement. Rather than incidental evidence, the findings provide a structured framework providing insight that challenges and expands the existing dominant and formulaic representation of the experience of improvement projects. Figure 7.3 (based on Chapter 6) summarises the characteristics of the social dynamic of improvement that have emerged from the research. Contrary to the implicit view in the LSS literature, the range and qualia of experiences surfaced an additional and deeper reality that is more comprehensive, better represents the phenomena, and advances our understanding of improvement during projects and so addresses a major gap in the extant LSS domain (see 2.3.2.5 and 2.3.2.6) (McAdam, Hazlett & Henderson 2005; Sunder & Prashar 2020).

Figure 7.3: Deeper Understanding of the Social Dynamic of Improvement Emerging from the Research

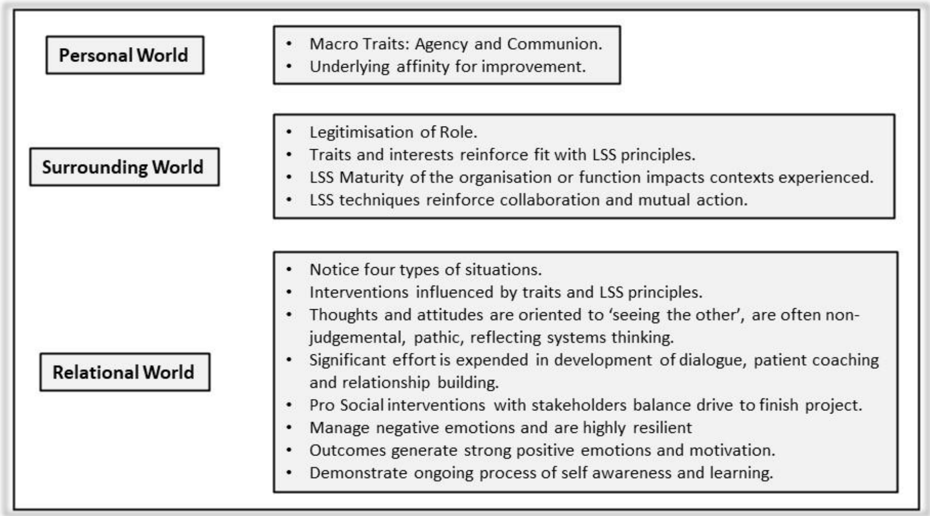


7.1.2 New Knowledge Contribution to Understanding the Improvement Facilitator Role

The literature review in Chapter 2 (2.3.2.7, 2.4) also concluded that the role of the improvement facilitator during improvement projects has been superficially explored despite the significance of the role being acknowledged. In addition to new knowledge about the micro improvement journey, another significant contribution of this study is the new knowledge generated about the behaviours, interventions, thoughts, and feelings of improvement facilitators.

Conclusions at the end of Chapter 5 (5.6) and Chapter 6 (6.8.1) depict the role and experiences of facilitators during improvement projects through the three worlds of experience summarised in Figure 7.4 below. The findings identified new phenomena that advance our understanding of the significance of the improvement facilitator role during projects and so addresses a major gap in the extant LSS domain (see 2.3.2.7) (Samanta, Varaprasad & Padhy 2021).

Figure 7.4: Summary of Major Findings of Facilitator Experiences Across the Three Worlds



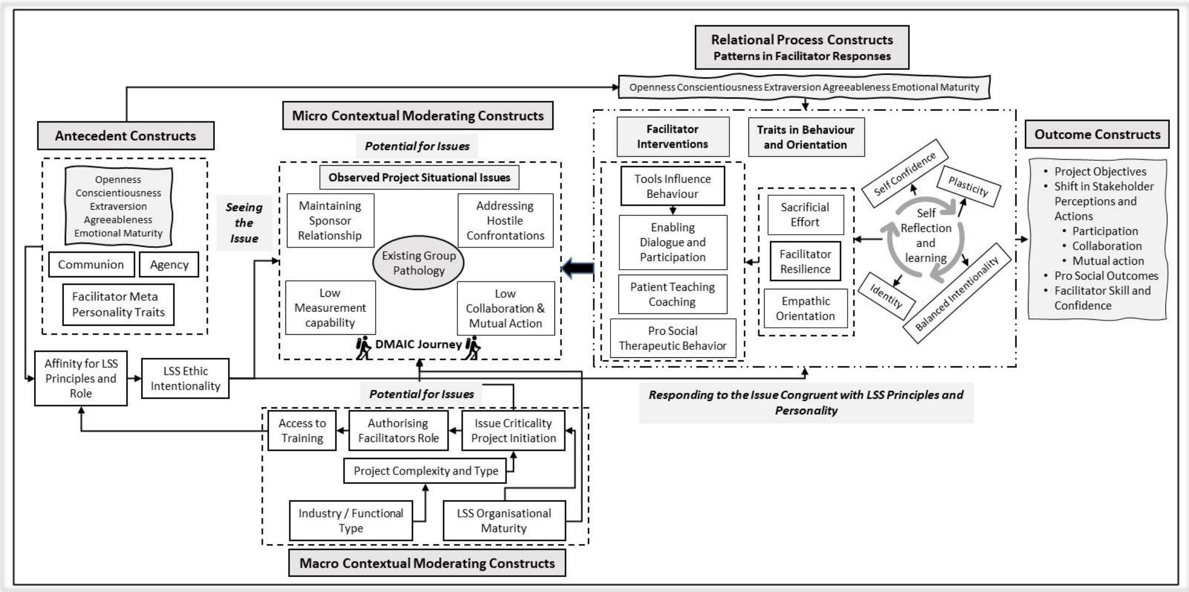
7.1.3 Conceptual Contribution – Model of Constructs Representing Improvement Project Phenomena

At the end of Chapter 6, a framework of existential constructs was developed based on the phenomenological reduction of the thematic patterns that emerged from the personal, surrounding and relational worlds of facilitator experiences (see Figure 7.5).

Extrapolating from the new insights about the nature of improvement and the role of the facilitator, a conceptual model was developed to show the sources of influence within the milieu of an improvement project and help define the reality of improvement. In this sense, the model here, which extends the work of Arumugam et al. (2014, p. 50), is unique because it departs from the focus of the extant LSS literature on modelling critical success factors oriented to the macro level of LSS implementation (see 2.3.2.4).

This new framework of constructs provides a parallel view of critical success factors at the micro level of a project, which has implications for success factors at the organisational level. It illustrates specific interdependencies between antecedent, moderating, process, and outcome constructs that help surface a system of influences on improvement facilitators and the successful achievement (or not) of project outcomes. The constructs not only indicate sources of agentic influences on the behaviour of improvement facilitators during projects but also have explanatory value and practical application for further research and improvement practice.

Figure 7.5: New Framework of Interdependent Critical Success Factors at the project (micro) level



7.2 Theoretical Contribution – Multidimensional Agency Framework Explaining Facilitator Role and Improvement at Micro Level

The literature review (2.3.2.5) drew attention to the lack of theoretical underpinnings behind the unstated or stated propositions in the LSS field (Aboelmaged 2010, p. 290; Baker 2011, p. i32; Snee 2010, p. 24). When applied, theoretical frameworks have focused on explaining macro-organisational applications of LSS programs (Arumugam et al. 2014, p. 55; Snee 2010, pp.19-20). A clear gap in the extant LSS domain has been the development and application of theoretical frames at the micro level of the project and for the facilitator role (Arumugan et al. 2014, p. 43; Lloréns-Montes & Molina 2006, p. 491; McAdam & Hazlett 2010, p. 626).

McAdam and Hazlett (2010, p. 626) and Arumugam et al. (2014, p.55) argue for the integration of multiple theories, particularly more behavioural or social dynamic theories, as a means of explaining LSS methodology and its effects. The application of the phenomenological method in this research and the resultant analysis and inductive reasoning prompts theoretical development and propositional thinking about the micro level of improvement to help address this gap in the extant LSS literature.

The notion of agency is at the centre of the basis and process for the development of the theoretical model and is described next in 7.2.1. In summary, agency theories from five different perspectives or theoretical frames are applied one at a time to the findings that arise out of Chapters 5 and 6 (see table 7.1). The outcome of these analyses is the development of an integrated multidimensional agency framework that predominantly explains the role of the facilitator and the dynamic of improvement, represented in Figure 7.12 at the end of the five discussions and summarised in section 7.2.7. Over the five discussions, ten propositions were developed that link to each analysis. Appendix 26 is an illustration of all ten propositions in relationship.

7.2.1 Concepts of Agency and Process to Determine Agency Constructs Relevant to Improvement Projects and Facilitator Role

The construct of agency involves the capacity to take, direct, or influence action intentionally toward a purpose. Agency as a concept, irrespective of source (human or non-human), is intentionally doing something – acting (Cooren et al. 2014; Johnson & Verdicchio 2019, p. 641). Agency is an inherent characteristic of being human (Bandura 2002; Johnson & Verdicchio 2019, p. 640). A person has the capacity and capability to make choices and act depending on their own goals and interests; in that sense, they can enact power and control (Burkitt 2016, p. 323).

The dynamic portrayed in lived experience descriptions and summarised in the constructs model (see Figure 7.5) embodies a variety of factors that influence how stakeholders 'take action' and the central agentic role of the facilitator. It seemed logical then to examine the findings of this research through the lens of agency theory from different perspectives (economics, phenomenology, psychology, and sociology) to gain explanatory insights into the facilitator role and improvement work. This realisation led to the fourth theoretical contribution developed below, which emerged from the analysis of the different agency theory perspectives (see Table 7.1).

Table 7.1: Agency Theories Applied to Research Findings

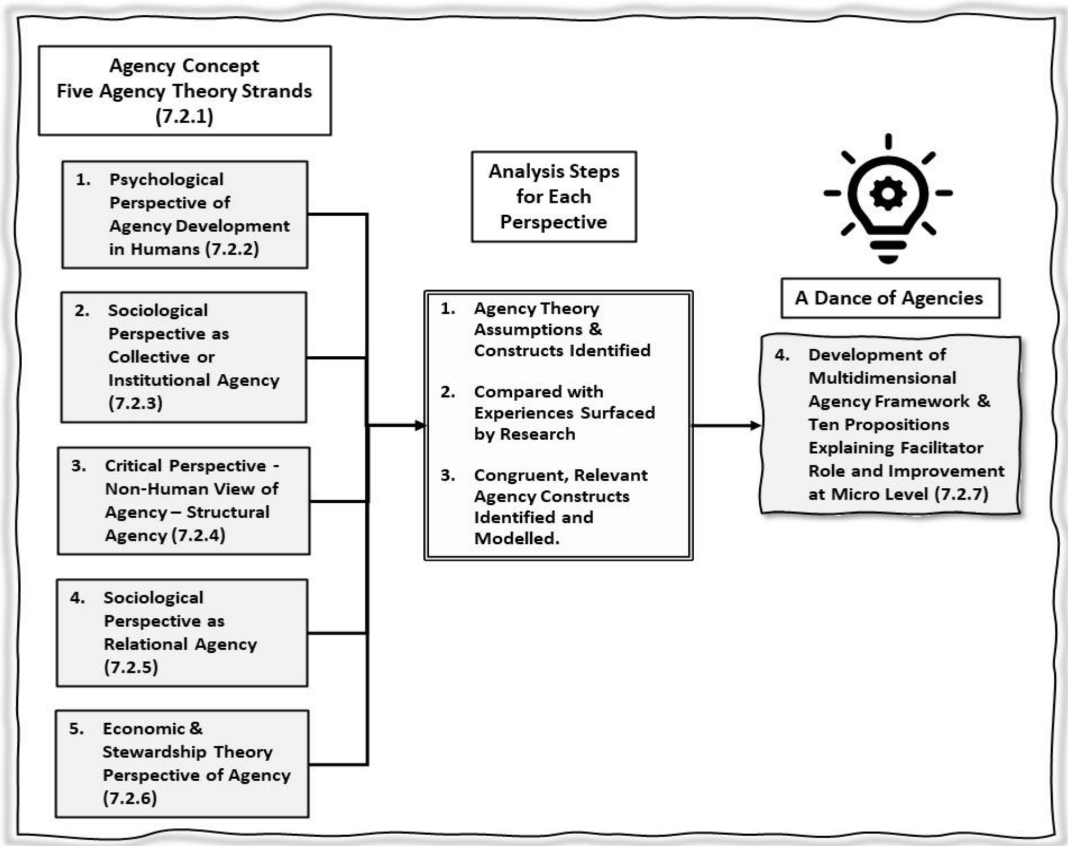
Theory	Theory Focus
Psychological perspectives of agency development in humans: • Social cognitive theory • Personality theory	Personality theory (Bendickson et al. 2016) and the proclivity for agency. Social cognitive theory (Bandura 2006; Bandura 2018) as a means of explaining how a deepening sense of agency develops in a social context.
Sociological perspective as collective or institutional agency	Collective agency explores ideas about groups of people taking action to achieve intended goals or change within organisations (Välikangas & Carlsen 2020).
Critical perspective or non-human view of agency structural agency	Non-human agency explores the influence of structures and artifacts and their interaction with human agency (Cooren et al. 2006b; Giddens 1984; Pickering 1993).
Sociological and phenomenological perspectives as relational agency	Relational agency explores how humans can have a prosocial impact on relationships with others (Elley-Brown & Pringle 2019; Sundet & Carlsen 2019).
Agency in Principal – Agent (P-A) relationships • Economic model of agency • Sociological perspective – stewardship theory	The economic and stewardship view of agency are positions on the nature of Principal – Agent (P-A) relationships dealing with potential conflict between owners and managers. Economic view (Bendickson et al. 2015; Panda & Leepsa 2017). Stewardship theory view (Davis, Schoorman & Donaldson 1997).

The process of developing the theoretical framework through different agency theories is explained here (see also Figure 7.6):

- Each perspective on agency was examined to identify assumptions and key constructs. The discussion section number shows the order in which each perspective was analysed (see Figure 7.3).
- The characteristics of the experiences emerging from the research were compared to the assumptions and constructs to determine the explanatory congruence and relevance to the specific social context of an improvement project.
- Conclusions were then drawn about the relevance of each perspective, prompting a few key propositional statements and an illustration of the ideas in relationship.
- After the application of each agency theory was completed, a summative framework showing 'an interplay or dance of agencies' during improvement projects was developed together with congruent major propositions.

In this manner, a multidimensional framework of agentic influences explaining the micro level of improvement projects and the role of the facilitator was built. This framework, presented at the end of the following discussions, forms a significant contribution in the form of a new multidisciplinary view of the micro improvement phenomena as 'a plenum of agencies' (Cooren et al. 2006a, p. 541).

Figure 7.6: Lens of Agency Theories Applied to Research Findings



7.2.2 Agency in Improvement Projects from Psychological Perspectives

Psychological perspectives on agency are fundamental to understanding the development of agency in humans and its expression in social situations. As the two psychological perspectives on agency that influence other forms of agency, personality theory and social cognitive theory and their relevance to facilitators and the improvement project setting are considered first.

- **Personality theory** – deals with the propensity for forms of agency previously discussed in 5.3.6 (Church et al. 2015; DeYoung, Quilty & Peterson 2007; Entringer, Gebauer & Paulhus 2021).
- **Social Cognitive Theory** – deals with how a sense of agency or 'self-efficacy' (agentic self) in humans develops and adapts in response to social contexts (Bandura 1982; Bandura 2002, 2006; Bandura 2018).

Table 7.2 summarises the core ideas of both theories alongside an assessment of the congruence of the facilitator experiences with these constructs.

Table 7.2: Relevance of Psychological Perspectives on Agency for Improvement Facilitators

Personality Theory View of Agency	
Base Assumption and Constructs	**Assessment Against Lived Experience Findings**
Five Factor Model of Personality shows factor and trait association with unilateral and relational forms of agency (Church et al. 2015; DeYoung, Quilty & Peterson 2007; Entringer, Gebauer & Paulhus 2021). **Characteristics:** Two intercorrelated macro factors identified (Entringer, Gebauer & Paulhus 2021, pp. 1-2). • **Agency** is associated with Extraversion, Individualism and Dominance. • **Communion** is associated with Agreeableness, Compassion, Prosocial Intent, Collectivism and Warmth (Grant 2007, pp. 393-4). • Extraversion and Agreeableness are central to both (Entringer, Gebauer & Paulhus 2021, pp. 13-4). • **Self-Understanding** – Awareness of own personality enables a person to modify their behaviour to avoid negative impact of unchecked, unconscious action stemming from inherent traits (DeYoung, Quilty & Peterson 2007).	Facilitator personality traits, behaviours, and reflections show a sense of agency and an execution based on inherent dispositions. Matches macro traits in personality theory and research (See 5.2.3, 5.3.6, 6.3 to 6.6, 6.7.1). • Personality inventory showed emergence of a meta-trait: Industriousness, Enthusiasm, Assertiveness, and Intellect coupled with higher levels of Emotional Stability indicating a tendency to exhibit agentic behaviours. • Both agency and communion expressed during the projects emerging in the thoughts, feelings, and behaviours of facilitators. • Agency expressed in the drive to have the project completed and recognising innate tendency to Industriousness, Enthusiasm and Assertiveness. • Propensity for communion expressed in facilitator pathic reflections and prosocial behaviours. • Experiences show adaption of behaviour based on awareness of personality.
Social Cognitive Theory View of Agency	
Base Assumption and Constructs	**Assessment Against Lived Experience Findings**
Paradox of Embeddedness: Individual agency is anchored within a social setting where existing structural and power relations resist shifts away from the norm (Burkitt 2016, p. 322; Topal 2020, pp.	Facilitators are not autonomous agents but are functioning in a social system which exerts influence on their own proclivities, plans, and behaviours (See 6.3 to 6.6, 6.7.4, 6.7.5, Figure 6.27).

2,10,3; Välikangas & Carlsen 2020, pp. 544-6). **Social Cognitive Theory:** Agentic self or 'self-efficacy' develops as the individual interacts within social contexts, adapting, forming, and adjusting forms of agency. **Characteristics** Self-efficacy emerges through core developmental processes involving: • Forethought – planning intentions. • Self-reflection – evaluating behaviour. • Self-regulation and mastery – binding effect of successful action and future agency. (Bandura 1982; Bandura 2006; Bandura 2018, p. 135) The more conscious the human agent is of the effects of their planning and actions, the more their sense of agency is heightened and developed (Antusch S, Aarts & Custers 2019, pp. 1-2, 5-6; Kögler 2010, p. 457).	• Forethought – facilitator attends ('Intentionality) to behaviours and events, which stimulates planning (improvement plan, learning cycles) and execution based on training and LSS principles. • Self-reflection – reported experiences show facilitators interpreting and evaluating their actions. Observations and emotions influence their behaviour. • Self-regulation and mastery – facilitator experiences illustrate a 'continually evolving and actively monitored self-system' creating an effective sense of personal agency to facilitate improvement projects. • Self-efficacy – belief in own capabilities increases from mastery experiences. They articulate a sense of identity emerging from their experiences.

The constructs in both perspectives are reflected in the facilitators' experiences, indicating the explanatory value of the constructs. In summary:

- Facilitators have a high propensity to drive a project (agency), encourage collaboration, and display empathy and compassion (communion) for stakeholders and are self-aware of their dominant traits and behaviours.
- Facilitators exhibit self-evaluation and adaption that drives the self-efficacy of their LSS facilitation.

Witt et al. (2017) conducted a study to associate improvement team member personality with contextual and outcome variables. They saw their work as a 'first' in the LSS Six Sigma context. The methodology of the study was survey based and not focused on the facilitator. Conscientiousness and Openness to Experience were seen as having a greater impact on the measures of project success, consistent with the results in this study.

This research is unique in extending the work of Witt et al. (2017) because it specifically studied the personality of facilitators through a phenomenological approach. It took a different approach from Witt et al. (2017) in that it followed up traits in the facilitator personality profiles with a phenomenological exploration of experiences, showing actual agentic expressions of the traits. This study revealed more detail on the psychological characteristics and expression of the facilitator's personality. It also drew attention to the propensity for forms of agency and its impact on stakeholders and project outcomes, which was not extrapolated by Witt et al. (2017).

In a subsequent article, Witt & Baker (2018, pp. 748-53) take a more theoretical view of the role of personality of improvement team members by identifying certain propositions to encourage further research. However, agency theory was not used as part of this theoretical development. Based on the study findings here and the exploration of results against psychological agency constructs, three propositions are defined below (see also Figure 7.7), extending the work of Witt & Baker (2018).

Proposition 1:

Facilitators showing a high propensity for and expression of Agency and Communion traits are more likely to foster collaborative engagement and successfully complete improvement projects.

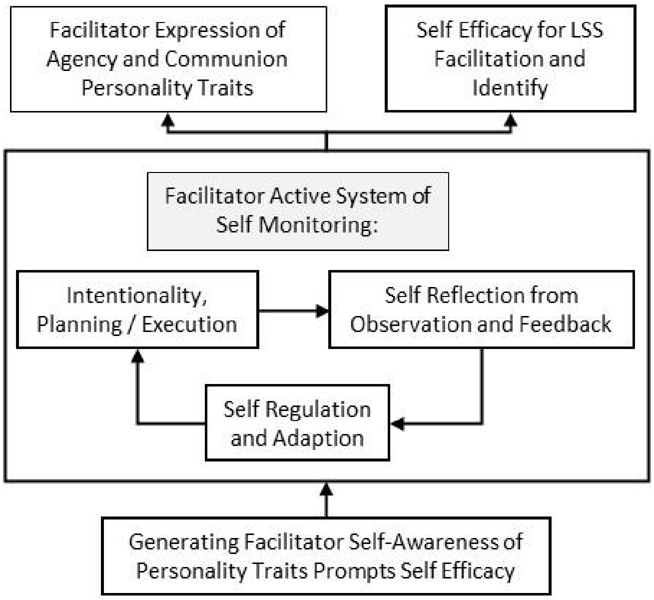
Proposition 2:

Stimulating facilitator self-awareness of personality traits enables self-efficacy processes.

Proposition 3:

Facilitators who actively self-evaluate their behaviour in improvement settings are more likely to have higher levels of self-efficacy beliefs about their LSS facilitation and be more effective in collective and relational forms of agency.

Figure 7.7: Self-Efficacy for Expression of Agency and Communion Traits



Facilitators' psychological forms of agency are foundational. Their relationship to expressions of other theoretical agency perspectives will be developed in the following discussions. The next observations about agency theory expand on notions about agency in social situations.

7.2.3. Sociological Perspective – Facilitator Collective Agency

Bandura (2018) points out that many desirable outcomes in organisations are only achievable when the people involved work together cooperatively. In discussing modes of agency, he points to "…the exercise of collective agency…" (p.131) where individuals seek outcomes that are only achievable through interdependent (collective) efforts combining their knowledge, skills, and resources to act in unity for a shared purpose (Seravalli & Witmer 2021, p. 73). This notion of collaboration and collective agency is a fundamental principle of LSS and Business Excellence, as argued in the literature review (2.1.2), and is influenced by pragmatist philosophy.

A unified drive for action does not simply arise out of the additive effect of individuals' desires for action. Actors individually expressing agency embedded in a given situation raises issues of power relations and levels of shared meaning and reciprocity amongst those involved. Consequently, the agency literature has sought to distinguish between individual agency and group or collective agency (Abdelnour, Hasselbladh & Kallinikos 2017, p. 1784).

The challenges facing collective agency are the barriers to achieving unity of action in an embedded social situation. With repetition, ways of acting and thinking become normative, resisting collective capacity to integrate new ways of working and thinking (Seravalli & Witmer 2021, p. 73). Achieving collaboration under such conditions requires overcoming problems of divergent interests and indifference that may leave teams in a state of collective inaction (Abdelnour, Hasselbladh & Kallinikos 2017, pp. 1783-4). Välikangas & Carlsen (2020) conceptualise a form of collective agency they term ‘minor rebellion’, which engenders action for change including elements of political contest, conflict, social inquiry, and the creation of political desire. Such minor rebellions address constraints on actors trying to influence change in the work systems in which they function (Välikangas & Carlsen 2020, p. 544).

Drawing on the work of Välikangas & Carlsen (2020), Table 7.3 summarises the constructs of collective agency that address the challenges of stimulating such agency. The assessment in the table shows strong congruence between the constructs and facilitator experiences.

Table 7.3: Collective Agency Constructs Synergies with Facilitator Experiences

Sociological Perspective - Collective Agency	
Base Assumption and Constructs	**Assessment Against Lived Experience Findings**

Collective agency is a proactive and open-ended form of political agency (‘minor rebellion’) to stimulate collaboration between individuals to achieve shared purposes through a process of collective inquiry, contest of ideas, and the generation of shared desire (Välikangas & Carlsen 2020, pp. 544-6).
 	
Characteristics:
 	
Three forms of action are proposed:
 	
1. ‘Minor inquiring’ – a process of getting stakeholders to openly inquire about practices or assumed ways of doing things that have not been subject to investigation (Välikangas & Carlsen 2020, p. 553).
2. ‘Minor world making’ – creation of a supportive, like-minded community that shares concepts and language about the alternate situation it seeks to create, prompting shared understanding and advocacy for alternatives to the dominant view (Välikangas & Carlsen 2020, p. 551).
3. ‘Minor creating’ – actions to create alternatives to the existing situation (e.g., design, construction, trials, experiments), which illustrate the ideas and their useful impact.
	Improvement projects as forms of minor rebellion
	
	‘Minor rebellion’ mirrors the experiences in the journey of improvement reported in 6.3 to 6.6., reframing the DMAIC process from the perspective of collective agency. The improvement project is a form of ‘legitimised disruption’ with the facilitator being a kind of agent provocateur with others to disrupt the way work is performed and create a new improved way of working.
	
	• ‘Minor inquiring’
	  o Facilitators use systems thinking to reflect, stimulate dialogue, and create shared understanding of the problem; disrupts stakeholders’ tacit assumptions and mindsets (see 6.3.1).
	  o Collaborative activity to examine performance; evokes feelings of threat to deep tacit knowledge and beliefs, provoking resistance (see 6.3, 6.4).
	• ‘Minor world making’
	  o Facilitators encourage people to openly inquire, which helps break down mindsets and structural barriers and builds mutuality and advocacy in stakeholder effort – ‘deterritorialization’ (Välikangas & Carlsen 2020, p. 547) (see 6.3, 6.5, 6.6).
	  o Through collaborative activities and dialogue, facilitators build a like-minded community about the issue and alternate situation they seek to create (see 6.3, 6.4, 6.5, 6.6).
	• ‘Minor creating’
	  o Facilitators are intentional about collectively

	engaging people whose work will change. o Experiences of the Analyse and Design phases illustrate collaboration on solutions (see 6.5).

The analysis in Table 7.3 illustrates how the three forms of enacting 'minor rebellion' resonate with the experiences and practices in the accounts analysed in Chapters 5 and 6. Significant characteristics of the synergy include:

- Improvement projects are a form of social inquiry where the issue of embedded agency creates challenges for all stakeholders.
- Rather than expressing individual, unilateral agency, facilitators deal with the challenges of embedded agency by stimulating collaboration, involvement, and ownership amongst stakeholders (collective agency), shifting collective tacit knowledge to explicit shared knowledge and practice.
- Many of the actions taken by facilitators to enable collaboration match supporting forms of agency for rebellion! The idea of 'legitimised disruption' (stirring!) is proposed as a parallel term to 'minor rebellion', given the patterns emerging in facilitator accounts, and is a more radical and suitable notion to characterise improvement projects.
- Propensity for collective agency is likely based on facilitator personality traits and self-efficacy processes.

Using this construct of collective agency to view improvement projects constitutes a new way of reframing the improvement journey that has not been proposed in the LSS field. The characterisation helps attend to the social dynamic that is at play through the DMAIC process, avoiding an overly rationalist view and application of the principles and practices of the methodology. The exploration of results against collective agency constructs prompts the following propositions modelled in Figure 7.8.

Proposition 4:

Realising that improvement projects are forms of 'legitimised disruption' prompts collective agency behaviours by facilitators and stakeholders, creating explicit, shared knowledge; successful, joint action; and sustained collaboration and reducing delays caused by resistance.

Figure 7.8: 'Legitimised Disruption' – Collective Agency in Improvement Projects

7.2.4 Critical Perspective – Impact of Non-Human and Structural Agency on Facilitator and Stakeholder Behaviour

Concept of Agency Through Social Structures

The critical perspective of social situations focuses on the expression of inherent power structures that constrain or promote the way humans act or speak in contexts (Cooren et al. 2006a, pp. 536-7; Kuhn & Burk 2014, pp. 154-5). Understanding all agentic forces within a situation includes observing the interaction of non-human, human, and structuring effects in a context.

Abdelnour, Hasselbladh & Kallinikos (2017, pp. 1780, 4, 7) identify roles as structural devices. When individuals are assigned a role, they enter onto the social context stage to exercise agency, not so much as an individual but as action modules in the form of the specified role (collections of capabilities and responsibilities for actions in context).

Concept of Non-Human – Material Agency

An examination of the concept of intentionality led to arguments about the inclusion of non-human forms of influence on action or the capacity to act. Traditionally, only humans were considered intentional. Cooren et al. (2006a, pp. 538-9); Johnson & Verdicchio (2019, pp. 640-1), and Kim (2020, pp. 10-1, 5) propose the notion of causal efficacy for objects. Acknowledging that humans are authors of objects (materials, software, texts, etc.), they describe a causal chain that occurs from the originator through the non-human-created entity to prompt action in the human user of the object. In this sense, they argue for causal intentionality in non-human artifacts. The original human intention starts the chain of causality.

Accommodating non-human agency in understanding social situations also helps uncover sources of influence for action that may be hidden by a focus on human agency (Pickering 1993, p. 562). The argument is that non-human and human agencies interact in their contributions to actions in situations. Paying attention to the different sources of influence and how they interact provides a more holistic and complete understanding of phenomena. It is in this sense that social situations are seen as a ‘dance of agencies’ producing a chain of transformative action (Cooren et al. 2006a, p. 559; Pickering 1995, p. 21).

Table 7.4 summarises constructs of structural and non-human agency and the forms of such agency apparent in the experiences analysed in the research findings.

Table 7.4: Synergy Between Structural and Non-Human Agency Constructs and Facilitator Experiences

<table>
<tr><th colspan="2">Critical Perspective - Structural Agency</th></tr>
<tr><th>Base Assumption and Constructs</th><th>Assessment Against Lived Experience Findings</th></tr>
<tr><td>Inherent power structures that constrain or promote the way humans act or speak in contexts, e.g., language, policies, and roles (Abdelnour, Hasselbladh & Kallinikos 2017, p. 1780; Cooren et al. 2006a, pp. 536-7).

Characteristics:
• Language used in conversations
• Rules and policies used in the organisation
• Actions of humans reinforcing structures and
• Roles tied to resources, rights, and obligations.</td><td>Structural forces (agreed roles, training, support structures) within facilitators’ organisations legitimise the actions of the facilitator, allowing expression of intentional agency to progress the project through forms of collective and relational agency (see 5.5.2.4, 6.7.2).
• Established LSS maturity of facilitator’s organisation supports and directs their efforts.
• Organisational definition of facilitator role and sponsor nomination legitimises facilitator actions.
• Allowing access to, and attendance at, LSS training resonates with facilitator’s personality and stimulates their attraction to the role.</td></tr>
<tr><th colspan="2">Critical Perspective - Non-Human Agency</th></tr>
<tr><th>Base Assumption and Constructs</th><th>Assessment Against Lived Experience Findings</th></tr>
<tr><td>Objects and materials can have efficacy endowed by the human author to prompt action in the human user of the object (Johnson & Verdicchio 2019, pp. 640-1; Kim 2020, pp. 10-1).

Non-human and human agencies interact in their contributions to actions in situations (Cooren et al. 2006a, p. 559; Pickering 1995, p. 21).

Characteristics:

Design and structure of objects, signs, procedures, and templates reinforce principles, attitudes, and behaviour.</td><td>Reflections on experiences and portfolios reveal the dependence and value placed on the large variety of reference materials and tools used in improvement projects (see 5.5.3, Appendix 16).

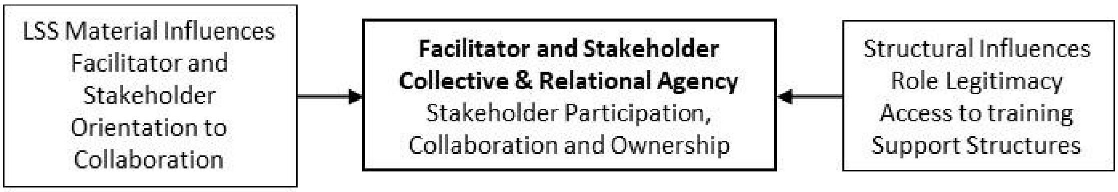
Materials guide and direct modes of thinking and action of facilitators and stakeholders, enabling collaboration and engagement of the people involved.</td></tr>
</table>

As shown in Table 7.4, non-human and structural concepts of agency draw attention to these forms of influence and their significant effect on the agency of facilitators and, to some extent, the agency of others involved in an improvement project. The LSS methodology inherently has tools, documents, and formats that prompt ways of thinking, planning, collaboration, and analysis. Structural or cultural agency in the form of access to training and the legitimising of the role influences the agentic behaviour of the facilitators. These aspects of agency impinging on the improvement journey have not been articulated in the LSS literature yet.

The exploration of results against non-human and structural concepts of agency prompts the following proposition modelled in Figure 7.9.

> **Proposition 5:**
>
> LSS support structures (e.g., training, role clarity) and materials and tools increase the likelihood of the collective and relational agency of the facilitator, the sponsor, and other stakeholders, which increases the opportunity for timely and successful project outcomes.

Figure 7.9: Material and Structural Agency Effects on Facilitators



7.2.5 Psychological, Sociological, and Phenomenological Perspectives on Facilitators as Relational Agents

Relational agency involves the capacity to carry out actions to improve workplace relationships and foster more healthy workplaces, high-quality connections, or positive interactions between people. This form of agency intends to make a positive difference in others' lives – a prosocial impact (Elley-Brown & Pringle 2019; Grant 2007; Sundet & Carlsen 2019). Contributions have emerged from the fields of personality and positive psychology, sociology, and phenomenology. Whereas collective agency is focused on stimulating collaboration amongst a group to introduce new ways of working, relational agency is focused on positively affecting the relationship between the stakeholders involved in a system of work. Relational agency stimulates collective agency since improved working relationships increase the propensity to collaborate.

Four perspectives are discussed to understand relational agency and related constructs. Each is briefly outlined below. The first perspective (psychological) was discussed earlier, so it is only summarised below. The remaining three perspectives approach relational agency from different perspectives but are congruent and overlap in proposing the enactment of relational agency. From these perspectives emerges a prosocial orientation with underlying values and skill sets that allow a broader view of the expression of relational agency and offer a basis for examining facilitator experiences. The four perspectives are as follows:

- **Psychological Perspective – Disposition for Relational Agency**

The psychological perspective on relational agency based on personality theory was explored earlier. Communion as a meta-personality trait involving Agreeableness (primary dimension of interpersonal interaction) and Compassion was seen as creating a propensity for relational orientation and prosocial behaviour. Compassionate people are empathetic and caring, taking time to nurture others. Elley-Brown & Pringle (2019, p. 24) and Lawrence & Maitlis (2012, p. 641) reinforce this notion by arguing that acts of caring for others are motivated or triggered by a disposition for compassion (Grant 2007, pp. 393-4). Characteristics of facilitator personality, thinking, and behaviour reflect the impact of this foundational temperament (see Table 7.2).

- **Sociological Perspective – Empowering People into Relational Agency (Sundet & Carlsen (2019)**

Relational agency – being an intentional, active force empowering others to form positive productive relationships through high-quality, positive, supportive interactions with and between others in the workplace (Sundet & Carlsen 2019, pp. 251-2).

- **Phenomenological Perspective – Relational Agency as an Ethic of Care (Elley-Brown & Pringle (2019)**

Showing 'affective commitment' to others through deliberate forms of caring to make a positive difference in others' lives based on Heidegger's philosophy of care (Elley-Brown & Pringle 2019, p. 25; Grant 2007, p. 401; Simpson 2012, p. 18).

- **Critical Power Perspective – Power in Relational Forms (Carlsen et al. (2020)**

The notion of power as dynamic, process-oriented, and fundamentally relational and collaborative and as having generative and coactive elements (Carlsen et al. 2020, p. 830).

Table 7.5 summarises and integrates the relational agency constructs proposed from each perspective. The highly relational character of facilitator intentionality, behaviour, and reflections were identified in the summative discussion of the analysis of facilitator experiential accounts mainly in Sections 6.7.3 to 6.7.5. Therefore, facilitator experiences reflecting relational theory constructs as shown in Table 7.5 will be noted by linking to the relevant discussions without detailed examples.

Table 7.5: Synergy Between Relational Agency Constructs and Facilitator Experiences

Integrated Concepts on Relational Agency from Different Perspectives	
Base Assumption and Constructs	**Assessment Against Lived Experience Findings**
Intentionality and Affective Character of Relational Agency	
'Affective commitment' prompting empathic response • Compassion triggering a response to the discomfort and difficulties of others (Elley-Brown & Pringle 2019, p. 24; Lawrence & Maitlis 2012, p. 641) Grant (2007, p. 401)	Facilitators pay attention to different stakeholder challenges, resulting in a strong empathic response. Facilitators express relational and compassion fatigue, an experience that has emerged in compassion relations research according to Simpson (2012, p. 25) (see Figures 6.25 and 6.26).
Intentionality for relational agency • Actor is self-aware about having the power to initiate a prosocial effect (Sundet & Carlsen 2019, p. 252). • 'Practical authoring' – actor notices a situation, decides on a course of action, and then acts in the moment (Sundet & Carlsen 2019, pp. 252, 67). • Three-stage process of "…noticing, feeling, and responding to pain" (Simpson 2012, p. 18). • Deliberate action to facilitate interaction towards coactive power (Carlsen et al. 2020, pp. 831-2).	Facilitators demonstrate broader relational situational awareness than simply intentionality to complete the tasks of the project. Their thinking and actions include planning a course of action to address issues (see Figure 6.26).

Forms of Relational Agency (Sundet & Carlsen 2019, p. 258)	
Ameliorating difficult situations • Practice of ‘respectful engagement’ – seeing the other; showing presence and affirmation in feedback (Sundet & Carlsen 2019, pp. 255-60). • Practice of ‘generous reciprocity’ – stimulating positive mutual interactions and relationships, e.g., enabling skilful dialogue through active listening, inquiry, advocacy, and humour (Sundet & Carlsen 2019, pp. 255-60). • Conflicts are opportunities for stimulating coactive power through constructive facilitation of high-quality interactions (‘reciprocal feedback’, ‘interactional framing’, enabling understanding of different perspectives, jointly exploring commonalities), producing joint resolutions and better relationships (Carlsen et al. 2020, pp. 832-1).	Facilitators confront relational or even individual dysfunction within situations (see Table 6.3). Subsequently, they exert significant effort (see Figure 6.25) through conversations to surface needs and negative feelings and work to resolve these situations through coaching, teaching, and other forms of positive reinforcement and reassuring behaviour (see Table 6.4, Figures 6.24 and 6.26). Facilitators’ actions, often unrelated to project tasks, seek to improve or heal relational situations they confront. Attention has been drawn to this phenomenon through what was termed ‘therapeutic agency’ (see Figure 6.24).

Standing up for and developing others
• Noticing emotional discomfort prompts actions to increase the psychological safety of others through dialogue, reframing situations, building trust, and protecting others to feel safer, confident, and appreciated (Sundet & Carlsen 2019, pp. 260-2).
• Intervening or standing up for someone at a time of stress either immediately or over time:
  ○ Recipient feels that someone was noticing, spending time, taking time to know them, and looking out for them.
  ○ Repeated interactions, feedback, authenticity, and coaching produces a compounding positive effect on the recipient’s sense of self-identity (Elley-Brown & Pringle 2019, pp. 25-7, 9-31).
 	
Avoiding creating ‘power over others’ through interventions
• Being conscious not to allow interventions to create power over someone through dependency and domination by the actor. Enabling ‘power to’ in the person by having a generative impact empowering them and producing a positive long-term effect (Carlsen et al. 2020, pp. 830-1; Elley-Brown & Pringle 2019, pp. 25-6; Simpson 2012, pp. 24-5).
	There are several examples of facilitators standing up for stakeholders they observe being treated poorly, resulting in protective or developmental interventions by facilitators (see Figure 6.24).
	
	Other experiences show facilitators patiently coaching and teaching over time to develop stakeholders’ capability and involvement (see Figure 6.24).
	
	Facilitators are conscious of balancing unilateral agency with collective and relational agency. Rather than behaving intentionally and unilaterally to ignore issues and complete tasks as an individual, they expend relational effort despite pressures of temperament and sponsor to progress the project (see Figure 6.30).

Building broader, long-lasting, generative capability • Promoting wider interactional patterns within the organisation (Sundet & Carlsen 2019, pp. 262-5). • Creating capability and independence for the future of	Many facilitators act from the principle of engaging people in collaboration and shifting interactions from unilateral forms of discussion to mutual learning forms of dialogue. Part of this intention is to shift tacit knowledge to shared

someone or a group (Elley-Brown & Pringle 2019, p. 27).
• Relational acts engender coactive power: 'power to' and 'power with':
  • 'Power to' – where relational acts enable a group to be creative and generate new ideas, opening up new ways of working, thinking, and acting.
  • 'Power with' – facilitating reciprocal interactions to empower people to co-create and share unifying experiences from jointly creating desired outcomes (materials, ideas, solutions, resolutions), which in turn builds mastery for collective agency over time (Carlsen et al. 2020, pp. 832-3).
	explicit knowledge and meaning about the situations surrounding stakeholders (see Table 6.2 and Figure 6.24).
	
	Experiences show generative collective agency at work in promoting 'power to' as a means of stimulating new ways of thinking and doing. Illustrations in conversations, dialogue, and use of creativity and other tools to stimulate collaboration on new ways of doing are embedded in reported experiences (see Table 6.2 and Figure 6.24).

Examining facilitator experiences through the lens of relational agency, as shown in Table 7.5, illuminates the prosocial nature of their thoughts, feelings, and actions. Numerous experiences in the research results reflect the relational agency constructs showing the dominance of relational agentic behaviour of facilitators and its effects. Whilst facilitators were intentionally working on improving the process outcome, they were also displaying the types of relational agency identified above to positively affect the people with whom they engaged beyond the formal intent of the project.

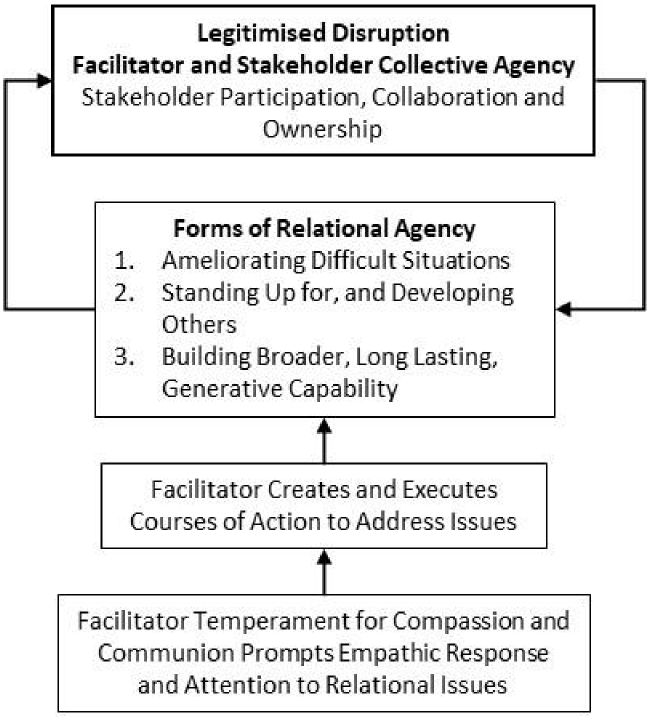
The interdependence of facilitators' efforts to achieve relational and collective agency is also demonstrated. The facilitators themselves absorbed these practices into a sense of identity about their roles that reflected this prosocial aspect of their work. Overall, the improvement project typifies each of the forms of relational agency. In every improvement project, the facilitator is working towards turning around a poor performance situation (agency to turn situations) or developing skills in people (agency to develop others) and building improvement capability across stakeholders (agency to build capacity). These characteristics found in facilitator accounts clearly reflect what Sundet & Carlsen (2019, p. 256) term 'relational agency'.

The representation of facilitator behaviour through the frame of relational agency theory presents a new and different way of seeing the role of the improvement facilitator, helps understand why this leads to successful improvement projects, and so extends the LSS field as well as the notion of relational agency in practice in the improvement context. The exploration of the results against the relational agency constructs prompts the following propositions (modelled in Figure 7.10):

> **Proposition 6:** Propensity for Compassion and Communion or Agency increases a facilitator's situational awareness and consequential application of forms of relational agency in improvement projects.

> **Proposition 7:** In concert, relational agency practices promote 'legitimate disruption' and forms of coactive behaviour and collective agency in improvement projects.

Figure 4.10: Facilitator Relational Agency from Different Perspectives



7.2.6 Agency in the Sponsor–Facilitator Relationship from Economic and Stewardship Theory Perspectives

The previous discussion on relational agency can be applied to the specific relationship between the facilitator and the sponsor or senior stakeholders. The dominance of this relationship in facilitator experiences was illustrated in the research findings in 6.3 and so prompts specific reflection based on agency theory. Two views in the literature on agency deal with potential issues inherent in the relationship between owners of organisations and management as their delegated agents, referred to as the Principal–Agent (P–A) relationship:

- **Economic model of agency** (Bendickson et al. 2015, p. 176; Eisenhardt 1989, p. 59)
- **Stewardship–agency perspective** (emerging from psychology and sociology) (Davis, Schoorman & Donaldson 1997; Panda & Leepsa 2017, p. 78; Puyvelde et al. 2012, pp. 435-8; Wiseman, Cuevas-Rodríguez & Gomez-Mejia 2012, p. 208).

The economic model of agency (Bendickson et al. 2015, p. 176; Eisenhardt 1989, p. 59) has been referenced in the extant LSS literature by Lloréns-Montes and Molina (2006, p. 491) in proposing a theoretical basis for the facilitator role. The authors draw a parallel between the macro level P-A relationship and that of the Sponsor – Facilitator (S-F) relationship at the micro level of an improvement project. The facilitator is the agent acting on behalf of the sponsor to execute a project that improves specific performance. However, Lloréns-Montes & Molina (2006, p. 491) do not assess the applicability of the constructs raised in the economic view of agency to the micro-level S-F relationship.

The base assumptions of the two perspectives are summarised in Table 7.6 and are assessed in terms of their congruence with the characteristics of the sponsor–facilitator experiences reported in the research.

The comparative assessment in Table 7.6 shows that the economic characterisation of agents at the macro level lacks representation and explanatory value of the agency between facilitators and sponsors at the micro level of an improvement project that emerged in the research findings. However, forms of agency within stewardship theory summarised in Table 7.6 reflect and explain facilitator behaviour as well as sponsor and senior stakeholder actions more accurately. The analysis suggests that the stewardship–agency perspective, which is highly relational, is more applicable as a framework to research, explain, and model the practice of the improvement facilitator as well as the sponsor and other stakeholders rather than the economic model used in the extant LSS literature.

Table 7.6: Relevance of Economic and Stewardship Perspectives of Agency to Sponsor–Facilitator Relationships

Economic View of Agency: Principal–Agent Relationship (Bendickson et al. 2015, 2016; Dawson et al. 2016; Eisenhardt 1989)		**Stewardship Theory** (Davis, Schoorman & Donaldson 1997; Panda & Leepsa 2017; Pouryousefi & Frooman 2017; Puyvelde et al. 2012; Wiseman, Cuevas-Rodríguez & Gomez-Mejia 2012)	
Base Assumption and Constructs	**Assessment Against Lived Experience Findings**	**Base Assumption and Constructs**	**Assessment Against Lived Experience Findings**
Human nature prompts self-interested behaviour of the agent, creating conflict between the principal and agent – ‘moral hazard’ assumption (Bendickson et al. 2015, p. 176; Bendickson et al. 2016, p. 445; Eisenhardt 1989, p. 59; Panda & Leepsa 2017, p. 78). **Characteristics**: • Pursuit of own goals (self-interest)(Eisenhardt 1989, p. 61) • Lack of effort to pursue the principal’s goals (goal conflict) (Eisenhardt 1989, p. 61) • Deliberately hiding information from the principal (information asymmetry) (Eisenhardt 1989, p. 59) • Lack of communication on progress (information asymmetry) (Eisenhardt 1989, p. 59) • Misrepresentation of capability	The underlying ‘moral hazard’ assumption of the economic view of the agent is not representative of the relational experiences between sponsor and facilitator at improvement project level (see 5.2.5, 5.5.2.4, 5.5.5, 6.3). Agentic efforts of facilitators show: • Considerable efforts expended to achieve sponsor/stakeholder involvement and goals • Focus on developing sponsor involvement and understanding • Constant provision of information on progress and • Exercise of LSS capability Few experiences show issues are generated by the sponsor or senior stakeholders (e.g., jumping to solutions,	Stewardship theory recognises situations where P–A relationships are mutually supportive and cooperative for the benefit of both parties and where P–A relationships are not driven by agent self-interest and conflict (Panda & Leepsa 2017, p. 79). The perspective takes a complementary agency position to the economic view (Davis, Schoorman & Donaldson 1997, p. 21; Pouryousefi & Frooman 2017, p. 177; Puyvelde et al. 2012, pp. 436-7). **Characteristics**: • Motivated to act on behalf of the principal, pursues their objectives (Puyvelde et al. 2012, p. 436) • Personal alignment with organisational intent (Panda & Leepsa 2017, p. 78)	Stewardship agency constructs within macro P–A relationships are more representative and explanatory of the micro-level sponsor–facilitator relationship as described in experiential accounts (see 5.2.5, 5.5.2.4, 5.5.5, 6.3). Agentic efforts of facilitators show: • Focus on shared understanding and agreement of project goals and process with sponsor • Actions to inform, educate, and coordinate efforts between the two roles • Prosocial actions promoting a mutually beneficial working relationship • Pathic orientation illustrating intrinsic motivation to achieve project success for the benefit of all stakeholders • Actions illustrating the drive for

(adverse selection) (Eisenhardt 1989, p. 61) • Costs arise out of governance efforts to align behaviour	unprofessional behaviour). Here the moral hazard assumption is operating in reverse, characteristic of sponsor agency behaviour rather than facilitator agency.	• Efforts to encourage collective action (Davis, Schoorman & Donaldson 1997, pp. 24-5) • Intrinsically motivated for the success of the activity itself (Wiseman, Cuevas-Rodríguez & Gomez-Mejia 2012, p. 204)	collaboration and involvement of all stakeholders (collective agency). Sponsor efforts and reactions show: • Agreement with and support for facilitator efforts.

The underlying intent of the discussions about the relationships between principals and agents is to achieve alignment between both parties in terms of interests, motives, goals, and behaviours (Davis, Schoorman & Donaldson 1997, pp. 25-6). Discussions within the economic or stewardship perspectives prompt deliberate actions or agency that create a framework to promote this alignment or mutuality and counter self-interest, disinterest, or a laissez-faire attitude to the relationship (Panda & Leepsa 2017, p. 82). Drawing on these ideas, **three** essential forms of agency are defined in Table 7.7 to promote alignment and mutuality (stewardship) at the micro level of the sponsor–facilitator relationship. These forms are predominantly relevant for the facilitator. However, there are parallel and reciprocal forms of agency for the sponsor and senior stakeholders within the three forms of agency described.

Table 7.7: Specific Forms of Agency to Foster Mutuality in Sponsor–Facilitator Relationships

Governance Interventions Described in Agency Literature	Specific Agency to Foster Sponsor–Facilitator Relationships
Contracting Relationships Clarity of outcomes and/or behaviours in contracts or agreements between principal and agent (Eisenhardt 1989, pp. 60-1)	**Agency to Agree on Outcomes, Behaviours, and Process Through Improvement Planning** • The process of engaging with a sponsor or senior stakeholders to agree on the intent of the project defined in the improvement plan is a dominant focus in the reported facilitator–sponsor experiences, particularly to avoid stakeholders jumping to solutions. • Agreement on the project outcomes, the sponsor and agent roles, and the DMAIC process are all part of the improvement plan structure and contracting process that creates a shared understanding of expected outcomes and behaviours. (See Sections 6.3.1, 6.3.5.2 and Figure 6.12)
Information Symmetry Practice of engagement and reporting on progress and achievements (Eisenhardt 1989, p. 71)	**Agency for Information Symmetry in Project Progress and Performance** • The improvement plan incorporates project objectives and measures as well as the process of updating the sponsor and stakeholders. Facilitators provide information at every DMAIC stage to ensure alignment of understanding and action on the part of the sponsor. • Sponsor and senior stakeholder presence, engagement, and decision making in information dissemination sessions are key. • Access to sponsors to deal with ad hoc issues is part of this engagement process. (See Sections, 6.3.3, 6.3.5.1, 6.3.5.2, and 6.6 and Figures 6.12 and 6.18)
Capabilities of Agent, Principal, and Stakeholders Ensuring agent has necessary skills and knowledge (Eisenhardt 1989, pp. 60-1)	**Agency to Coach Ownership of LSS Principles and Practices** • Reported experiences demonstrate stakeholder reliance on the facilitator's LSS expertise and coaching as they lack capability. • Facilitators repeatedly spend time with sponsors and other stakeholders patiently teaching and coaching them about LSS and their roles. (See Section 6.7.4)

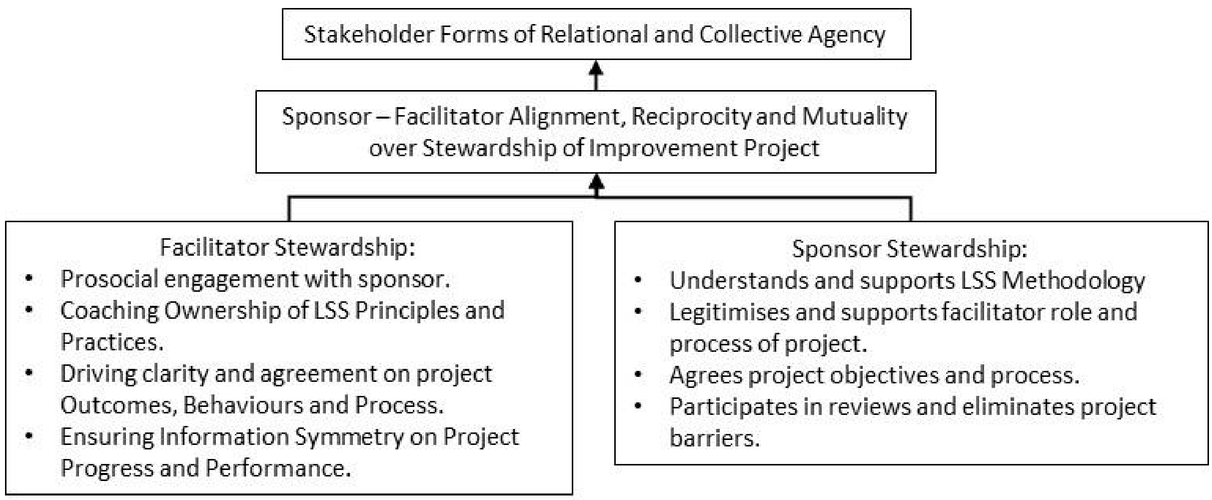
The analysis shown in Table 7.6 challenges the application of the macro-economic view of agency to the improvement context as reported by Lloréns-Montes and Molina (2006, p. 491). Stewardship is proposed as the guiding agency construct for sponsor–facilitator relationships to reframe the superficial reference to agency theory in LSS literature. Stewardship emphasises the mutuality of the sponsor–facilitator relationship, incorporating both relational and collective agentic forms on which to base the development of such relationships. Whilst the onus is on the facilitator to steward the relationship, there is also a responsibility on the sponsor and senior stakeholders to exercise stewardship of the facilitator and other stakeholders.

A further contribution of this analysis is the adaption of the governance concepts of the economic model (see Table 7.7) to the micro-level relationship between sponsor and facilitator. The structure of the specific agentic forms directs research and practice of improvement projects towards focusing on the agency of both the facilitator and the sponsor.

The exploration of results against stewardship agency constructs prompts the following propositions (modelled in Figure 7.11):

> **Proposition 8:** Facilitator stewardship is more likely to achieve alignment, reciprocity, and mutuality with the sponsor or senior stakeholders when they:
>
> - exercise relational agency in sponsor interactions
> - gain sponsor agreement on the improvement plan and process
> - engage with the sponsor on project progress and decision making and
> - develop sponsor understanding of LSS methodology and the sponsor role.
>
> **Proposition 9:** Sponsor reciprocity in stewardship through legitimising and supporting the facilitator and displaying presence and engagement with stakeholders will enable stakeholder collective agency and facilitator wellbeing.
>
> **Proposition 10:** The exercise of mutual sponsor–facilitator stewardship agency will enable relational and collective agency over the life of an improvement project, achieve successful outcomes, and create ongoing capability for improvement.

Figure 7.11: Forms of Stewardship Agency to Facilitate Sponsor–Facilitator Relationships



7.2.7 Drawing Theoretical Notions of Agency Together – The Dance of Agencies in the Improvement Context

The application of individual agency perspectives to the research findings identified forms of agentic influences within the social context of an improvement project. As the discussions unfolded, interrelationships between perspectives emerged. Therefore, a holistic representation illustrating this multidimensional framework of interrelated agentic forces that underpin the improvement projects, as revealed through facilitator experiences, is more representative of the improvement experience and useful in understanding and predicting successful project outcomes.

The propositions developed after discussions on each agency perspective were illustrated in diagrams. Figure 7.12 models the key agentic interdependencies by drawing these diagrams together in summative form. These observations also summarise the ten propositions emerging from the examination of each agency theory and its resonance with the research findings in Chapters 5 and 6. The relationships between the ten detailed propositions are illustrated in Appendix 26 and mirror the observations listed after Figure 7.12.

When examining stewardship theory as a form of agency, it became apparent that the constructs incorporate the ideas of both collective and relational agency previously discussed. For this reason, stewardship is proposed as the overarching conceptualisation of effective agency during improvement projects (shown centrally in Figure 7.12). Notions of stewardship agency are most relevant to the role of the facilitator and the sponsor but also for all the stakeholders involved. In their exposition of stewardship theory, Davis, Schoorman & Donaldson (1997) identify psychological and situational characteristics that require and are appropriate for the exercise of forms of stewardship agency. Appendix 27 is a comparison of these characteristics against contextual features of an improvement project, reinforcing the idea that the expression of stewardship agency suits the social context of an improvement project.

Figure 7.12: Interplay of Agentic Forces in the Improvement Context

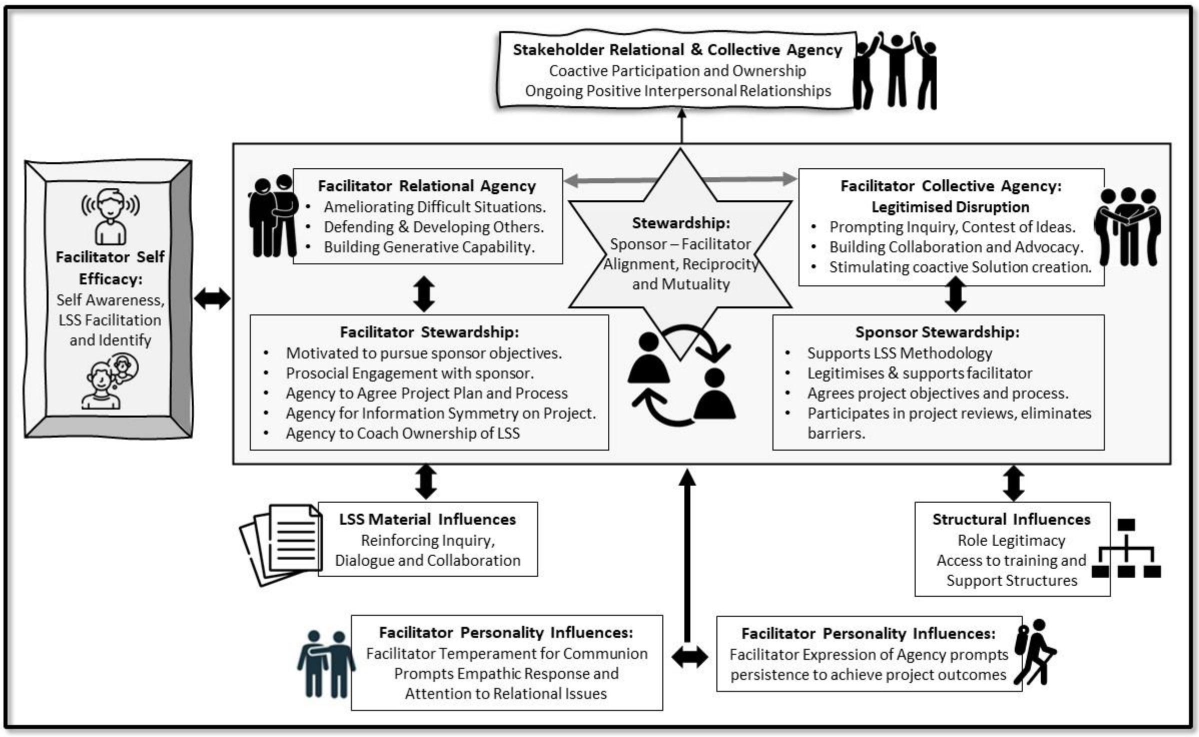


Figure 7.12 illustrates the interplay of core and supporting agentic influences in the social context of an improvement project:

- Central to the interplay of agencies is the active stewardship of both the facilitator and sponsor (or senior stakeholders) in their relationship, which in turn impacts facilitator wellbeing.

- This central agency relationship is instrumental in allowing the expression of relational and collective forms of agency, particularly by the facilitator.
- The relational and collective forms of agency are interdependent and are the dominant forms of agency impacting the successful completion of projects with multiple outcomes.
    - Relational forms of agency create prosocial, therapeutic impacts on stakeholder relationships foundational for stakeholder collaboration and collective agency.
    - Collective agency for improvement projects can be framed as ‘legitimate disruption’, involving coactive inquiry and generative learning, design, and implementation.
- The organisational pursuit of LSS creates structural reinforcement for collective agency, stimulated by the sponsor’s overt legitimisation of, and support for, the facilitator and stakeholder roles.
- Forms of facilitator and stakeholder agency for relational and collaborative behaviour are materially influenced by surrounding LSS tools and techniques.
- Facilitator motivation and expressions of relational and collective forms of agency are stimulated by macro-Agency and Communion personality traits.
- The cycle of facilitator practice of self-reflection, growth, and development creates self-efficacy in their role identity for future improvement projects.

The preceding discussions, which are presented as a summative model in Figure 7.12, form a theoretical corollary of the constructs shown in Figures 6.35 and 7.5. The two models (Figures 7.5 and 7.12) have similar structures that draw on the findings generated by the research. The perspective at the end of Chapter 6 (Figure 6.35 or 7.5) represents the constructs of the process and the dynamic of conducting improvement projects that emerged from the themes of experiences across facilitator accounts. This theoretical discussion focuses on surfacing the agentic influences underpinning those constructs that explain and predict successful improvement projects (Figure 7.12). Both are complementary models enlarging the understanding of the dynamic of improvement activity.

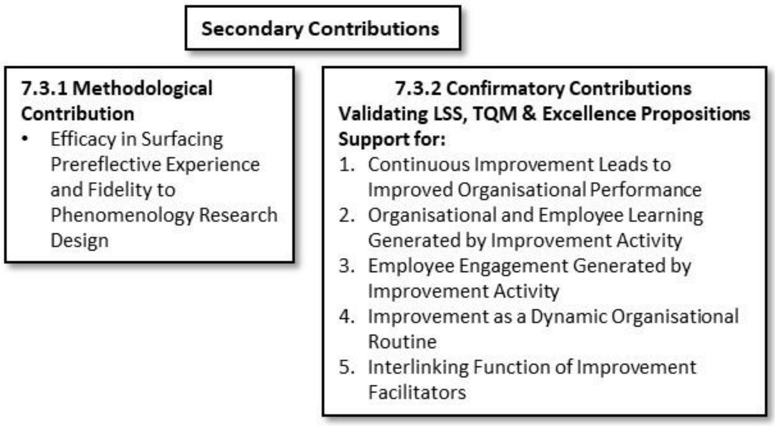
Addressing the identified theoretical gap in the extant LSS literature, the model, its elaboration, and related propositions makes a significant contribution at the micro level of improvement in the form of a new multidisciplinary view of improvement phenomena as ‘a plenum of agencies’ (Cooren et al. 2006a, p. 541). The confluence of agentic forces seen as an integrated whole extends notions of agency in the context of improvement and provides an explanatory theoretical model for the LSS field. The overall view shows an interplay of agencies impacting the facilitator, and the improvement experience for all stakeholders reframes improvement phenomena in the form of interrelated core and supporting agentic forces that may inhibit or support the activity of an improvement project. These new perspectives of the improvement phenomena prompt further theoretical development, offer possible areas of research, and encourage orienting practice to strengthen forms of agency during improvement activity.

7.3 Secondary Methodological and Confirmatory Contributions

The inductive nature of the research methodology, producing facilitator experiential accounts, also provides two types of secondary contributions as follows and shown in Figure 7.13 below:

1. A methodological contribution to the conceptual application of phenomenology to research designs (see 7.3.1).
2. The confirmatory value of the experiential findings for existing propositions in the extant LSS and Business Excellence literature (see 7.3.2).

Figure 7.13: Two Types of Secondary Contributions



7.3.1. Methodological Contribution – Efficacy in Surfacing Prereflective Experience and Fidelity to Phenomenology

In the literature review, I argued that organisational improvement has been dominated by the positivist tradition when there is another dimension of reality at play beyond the routine of applying DMAIC. I observed that very little research had pursued the use of qualitative methodology in examining an area dominated by social interaction. Consequently, the research methodology was based on phenomenology.

During the literature review (see 2.4.1), I drew attention to the lack of theoretical rigour in reflecting the epistemological intent of phenomenology in the structure, design, and conduct of studies claiming to apply phenomenology (Seth 2017, p. 36; van Manen 2016, p. 368).

One significant criticism was the lack of attention to the process of capturing prereflective experience so that the essence of the types and structures of experiences can be identified and understood (Blaschke 2017; Pivcevic 1970; Seth 2017; van Manen 2016). This drive to authentic description is seen as the base phenomenological purpose. Clouding experiential descriptions then exposes the resulting accounts to issues of validity and reliability. However, the extant literature on phenomenological methodology lacked specific guidance on the process or techniques to ensure greater fidelity to surfacing prereflective experiences (Petitmengin 2011, p. 48; Vermersch 1994, 2018, p. 52). Consequently, this study paid close attention to the design of the semi-structured interview or discussion process by drawing on ideas in extant studies that illustrated a method or raised issues (Blaschke 2017, p. 55; Friesen 2012, p. 49; Pietkiewicz & Smith 2014, pp. 7,10; van Manen 2016, pp. 318-23, 33).

The interview design developed in this study (see 4.3.4, Appendix 10) contributes a detailed and clear process for surfacing prereflective experiences for researchers seeking to apply phenomenology as a form of inductive research. The key features of the process include:

- anchoring recall to an event or the experience (e.g., in time and place) through initial description without interpretation
- taking the participant back into the experience sequentially and evoking the qualia of the experience (what was seen and heard, what was thought and felt)
- initiating interpretation and participant's meaning of the experience only after they have exhausted the description of the experience.

The research methodology as a whole (see Chapters 3 and 4) offers a template for phenomenological research design since additional specific elements of the study structure (phrasing of research questions, attention to phenomenological concepts), methodology (practice of epoché), and analysis (reflective writing) were followed to maintain fidelity to phenomenology and address criticisms of previous research claiming the use of phenomenological approaches (van Manen 2016). Characteristics that emerged in facilitator experiences (see below) illustrate the veracity of phenomenological notions as well as the fidelity of van Manen's (2016) model of phenomenological research.

- Authentic descriptions give the essence of the nature, types, and structures of facilitator experiences (Pivcevic 1970).
- Facilitator behaviour illustrates intentionality in their consciousness of specific phenomena revealing noematic elements of their experience (Dodson 2015, pp. 7.51-8.15).
- Affective and authentic experiences emerge through pathic elements of facilitators' emotionally charged experiences (noetic elements) (Correia 2014, p. 176; Petersen 2018, p. 214).
- Deliberate exploration of the surrounding, social and personal worlds of facilitators generates a more complete picture of their lived experience (Boeree 2006, p. 13; Frie 2000, p. 113).
- Pursuing facilitator reflections and interpretations of experiences ('hermeneutic' component) help uncover their 'sense making' of lived experience (Correia 2014, p. 167).
- Driven by their propensity for compassion, the reflections of facilitators reveal a 'forcing of self to see outside of itself' – to see stakeholder perspectives – displaying generosity towards and care for others and avoidance of 'thematization' behaviour (Knapp 2015, p. 232; Plant 2018, p. 281; Rhodes & Carlsen 2018, p. 9).

This study offers the first phenomenological description of the lived experience of improvement facilitators, which can guide teams in completing improvement projects. Results and discussions in Chapters 5, 6 and 7 show the depth of understanding and insights generated by the deeply inductive approach to observing the nature of improvement activity in organisations and the role of the improvement facilitator.

In Chapter 3, I discussed the congruence between the ontological and epistemological assumptions and the research focus of this thesis. In Chapter 4, I drew on the phenomenological literature that distinguished methodology based on phenomenology from other qualitative methods. After experiencing the process of designing the methodology to ensure phenomenological fidelity followed by executing the design, I have gained a concrete and deeper appreciation of the way descriptive, hermeneutic phenomenological methodology enables the capture and analysis of prereflective experiences. Fulfilling the purpose of the methodology, the findings then revealed a subjective social reality that was not clearly known, illustrating the specific value and power of inquiry based on phenomenology. The application of a positivist methodology or other forms of qualitative methodology would not have generated the lived experience of improvement facilitators in the detailed, evocative manner that was achieved.

7.3.2 Confirmatory Contributions Validating LSS, TQM & Excellence Macro Propositions

In the literature review (see 2.2.5), I argued that the extant literature in the LSS field had not linked research or discussion to the underpinning pragmatist philosophy or to the Quality Management – Excellence Theory argued by its founding thinkers. I also drew attention to the critique emerging in the extant LSS literature that LSS or other similar improvement frameworks lacked a clear theoretical basis (Pepper & Spedding 2010, p. 151) in which to ground inquiry in the field (see 2.3.2.5, 2.3.2.9).

When underlying theories for LSS, TQM, or Organisational Excellence are examined, a commonality of constructs and propositions emerges (Anderson, Rungtusanatham & Schroeder 1994; Hillmer & Karney 2001). Patterns of behaviours and activity during improvement projects confirm five of these theoretical notions, which are listed below. Table 7.8 identifies the major construct and propositions with supporting references for each of the five areas. Links to the research findings that validate the proposition are provided alongside each proposition.

- Continuous improvement leads to improved organisational performance.
- Organisational and employee learning is generated by improvement activity.
- Employee engagement is generated by improvement activity.
- Facilitator has an impact on developing a routine of improvement.
- Function of improvement facilitators is interlinked.

The confirmatory contributions raised in this discussion draw attention to the need for theoretical frameworks to underpin LSS research. As theoretical concepts are raised and linked to findings, the intent is to bring further conceptual clarity to the field.

Table 7.8: Confirmatory Contributions Validating LSS, TQM & Excellence Macro Propositions

Theory & Proposition	Confirmatory Evidence from Research
Continuous Improvement Leads to Improved Organisational Performance	
Continuous improvement is a central tenet for TQM, LSS or Organisational Excellence: Proposition: At the macro-organisational level, developing sustainable improvement capability drives high performance for an organisation (Bortolotti et al. 2016; Hillmer & Karney 1997, 2001; McAdam et al. 2008; Singh & Singh 2012; Tiwari, Sadeghi & Eseonu 2020).	Following the pattern of extant LSS research results (see Figure 2.7), the specific improvement project results reported in Chapter 5 (see 5.5.5, Appendix 18) show that: 1. the application of the improvement methodology, led by a facilitator, leads to improved process performance, which in turn leads to other consequential benefits 2. research findings drew attention to additional outcomes (Figure 6.22), indicating other benefits are not well observed in the extant LSS literature.
Organisational and Employee Learning Generated by Improvement Activity	
Theory & Proposition	**Confirmatory Evidence from Research**
Organisational and employee learning with an emphasis on gaining knowledge is a a key proposition emerging from pragmatist thinking within LSS, TQM, and Excellence models. Proposition: Sustainable high performance of an organisation comes from an ongoing, embedded capability for skill development, continuous learning, and valuing of knowledge and evidence as a basis for change and improvement (Chelliah & Skinner 2016, p. 91; Deming 1994, p. 17; Hillmer & Karney 2001; Langley et al. 2009, pp. 100-3; Mauléon & Bergman 2009; Savolainen & Haikonen 2007; Zangwill & Kantor 1998).	Experiences in Chapter 5 involving the use of techniques to prompt learning (see 5.5.3, Appendix 16) and facilitators' efforts across all sections of Chapter 6 (see 6.3.5.2, 6.4.2.3, 6.5.2.3, 6.5.2.5, 6.6.2.5, 6.6.2.8) show stakeholders engaged in individual or collective learning experiences develop skills and knowledge about their processes.

<table>
<tr><th colspan="2">Employee Engagement Generated by Improvement Activity</th></tr>
<tr><th>Theory & Proposition</th><th>Confirmatory Evidence from Research</th></tr>
<tr><td>Employee engagement or the ‘cooperation – collaboration construct’ is central to the methodology of improvement, reflecting the pragmatist epistemology (Canard 2011, p. 5).

Deming’s (1982) emphasis was to ‘release people to work on the system’ and not to become prisoners to the structure of the existing system of work (1982, pp. 23-96, 7-148).

Proposition:

Collaboration, critical reflection, and cooperative learning among different individuals in a group enable a mutually beneficial transformation of their workplace and positive interpersonal relationships (Edgeman & Fraley 2008; Hillmer & Karney 2001; Mauléon & Bergman 2009).</td><td>Patterns of collective activity and collaboration enabled by facilitators, which emerged from experiences in the study, clearly illustrate this proposition in practice (see 6.7.4). Attention was drawn to seeing collaboration as an outcome (see 6.7.5). Engendering staff engagement where it was lacking was a particular source of enjoyment for facilitators and stakeholders (see 6.5.2.5, 6.6.2.6).</td></tr>
<tr><th colspan="2">Improvement as a Dynamic Organisational Routine</th></tr>
<tr><th>Theory & Proposition</th><th>Confirmatory Evidence from Research</th></tr>
<tr><td>Improvement as a ‘dynamic capability’ – a repeatable, stable pattern of collective action in pursuit of improved effectiveness.

The extant LSS literature has linked the theory of organisational routines to improvement activity as a meta-routine (Pentland et al. 2012; Stańczyk-Hugiet, Piórkowska & Stańczyk 2017; Zollo & Winter 2002, p. 320).

Proposition:

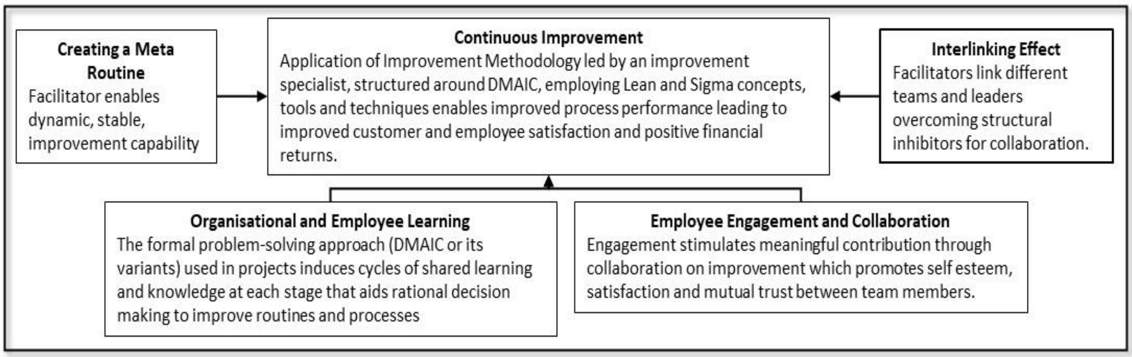
Improvement activity, when routinely practised by teams in an organisation, is a dynamic, collective capability which continues to deliver positive effects on organisational outcomes. Facilitators as trained coaches, deployed across the organisation, are seen as key agents in developing such a capability.</td><td>Experiences in project initiation and establishment of the facilitator role (see 6.7.2) together with the experiences of conducting the project (see 6.7.3, 6.7.4) illustrate the efforts required in creating a dynamic, stable capability amongst stakeholders. An indication of the extent to which capability was sustained is suggested in reflections on the maturity of the organisation in which the project occurred (see 5.4.3). Organisations immature in their application of LSS were more challenged in creating an ongoing capability.</td></tr>
<tr><th colspan="2">Interlinking Function of Improvement Facilitators</th></tr>
<tr><th>Theory & Proposition</th><th>Confirmatory Evidence from Research</th></tr>
<tr><td>Facilitators’ interlinking role enables collaboration across organisational boundaries

The extant LSS literature uses ‘meso theory’ to explain the structural, interlinking impact of LSS</td><td>The stewardship, relational and collective agency practices of facilitators, discussed earlier, illustrate this interlinking function in practice. The specific agentic behaviours that contribute to this interlinking notion of facilitators have not been</td></tr>
</table>

because it emphasises engaging intact or cross-functional teams coached by specialist facilitators and supported by leaders. This creates a parallel, informal, and flexible structure within an organisation (Schroeder et al. 2008, p. 540; Sinha & Van de Ven 2005). Proposition: The facilitator is a mechanism for creating this parallel, less formal structure within organisations as they work on projects linking different teams and leaders within an organisation to overcome structural boundaries that inhibit collaboration.	clearly researched within the LSS literature. Through application of phenomenological research methods, this study provided a more granular way of surfacing actions that help connect teams within an organisation.

The research contributions verifying the five propositions of LSS, Quality Management and Organisational Excellence theory are summarised in Figure 7.14, showing their interrelationships. The findings across the facilitators' experiences support the LSS contentions advocating the pursuit and application of improvement capability within organisations. The research results, summarised in Chapter 6 and explained through the multidimensional lens of agency theory in this chapter, extend understanding of the role of the improvement facilitator beyond the limited view in the extant LSS literature.

Figure 7.14: Summary Quality Management and LSS Macro Propositions Supported by Research Findings

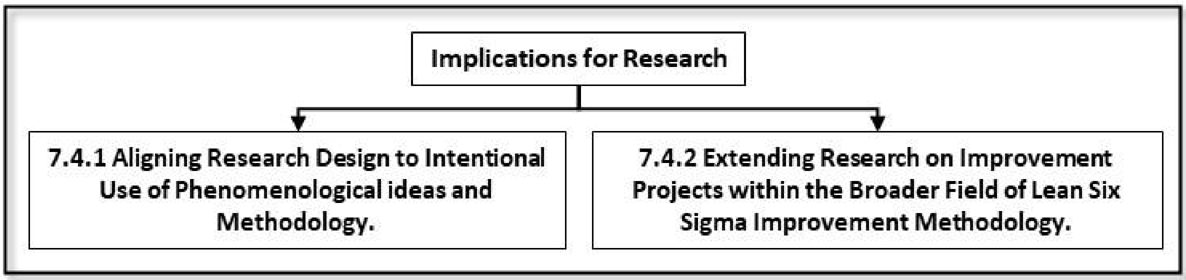


This final chapter addresses a criticism of the extant LSS field, specifically, the lack of theoretical underpinnings, by advancing constructs and propositions about continuous improvement at the project micro level.

7.4 Implications for Research

Two sets of recommendations for further research are made (see Figure 7.15). One set of ideas relates to the conclusions reached through the application of the phenomenological research design used in the research. The second set of ideas logically flows as an extension of the conclusions in the research.

Figure 7.15: Types of Recommendations for Further Research



7.4.1 Aligning Research Design to Intentional Use of Phenomenological Ideas and Methodology

In the chapters on phenomenology (3) and on research design methodology (4), I observed that often studies in the social sciences do not seem to orient the whole research design to the epistemology of phenomenology. As I sought to learn from past practices, I was surprised by the mismatch between ideas in the extant phenomenological literature and the actual structure and design of the studies.

In reflecting on my application of the philosophy in this research design, I found the focus on discovering the characteristics of prereflective experiences enlightening and helpful in appreciating the core ideas of phenomenology. On this basis, I make six recommendations for future research practices based on phenomenology. I am particularly drawing on the disciplines called out by van Manen (2016). Some of these aspects are visible in research studies, but many do not demonstrate the full application of the ideas in the design and execution of the research.

- The fundamental questions for the research should identify the area of lived experience where prereflective experience will be observed. Given the orientation to different worlds of experience, some rationale should be provided on this aspect of the study.
- The literature review should examine extant studies claiming to be phenomenological as a form of learning and critique to isolate gaps.
- Some effort should be made to discuss the philosophical notions of phenomenology leading to the tradition to be followed in the study.
- The methodology should identify the process by which prereflective experiences will be observed in a manner that avoids turning the methodology into another form of qualitative research. This is a key differentiator in separating other forms of qualitative research from the study.
- All these elements should show congruence with the ideas of phenomenology and the school of thought within the philosophy that is being followed.
- Finally, the practices of bracketing, analysis, and writing should be identified and reflected upon.

7.4.2. Extending Research on Improvement Projects within the Broader Field of the Lean Six Sigma Improvement Methodology

Despite evidence that there is an experiential reality involving the personal and relational dimensions of those involved in improvement, no clear drive to employ interpretivist inquiry to understand these dimensions has emerged from the reviews. These recommendations seek to address these gaps in LSS research.

Nine recommendations are made to address some of the limitations of the research and extend inquiry prompted by the previous theoretical discussions. I have already argued for a greater focus on the exploration of theory relevant to the micro level of improvement. In a similar vein, there are many opportunities to explore the very social and interpersonal aspects of improvement projects from an interpretivist and social constructionist perspective by employing other forms of qualitative methodology.

1. The leadership relationship between senior stakeholders (sponsors) and the facilitator is a critical area of inquiry at the project micro level. Inductive inquiry to understand the sponsor's experience of the relationship with the facilitator and the improvement journey will provide further knowledge on how to enable the mutual and stewardship aspect of the relationship.
2. In a similar vein, the perspective of team members could be observed through inductive forms of inquiry. An extension of this approach would be to pursue the lived experience of all stakeholders involved in a project to understand and triangulate the qualia of experiences. This depth and breadth of observation will assist in exploring forms of collective and relational agency that emerge.
3. Collaboration and collective agency are core to the process of conducting an improvement project. Understanding the use of LSS techniques can be expanded to observe effects on collaboration and collective agency in greater detail. Findings from such research will contribute to agency for engagement, collaboration, and sustaining the capability of improvement.
4. The significant therapeutic effort devoted by facilitators to addressing the pathology of functional groups whilst facilitating an improvement project is a significant area of inquiry that would deepen our understanding of the improvement phenomena. Interpretivist forms of research can focus on identifying major repeatable issues that emerge during improvement projects and the effects of interventions on the outcome of the situation. Experimental forms of research can examine the effectiveness of methods of intervention on different issues.
5. The replicability of findings on personality trait patterns found in this study can be explored where complex or simpler projects are carried out. Exploration of the personality traits of facilitators who have not completed projects or where projects have stopped could be explored.
6. This research was based on facilitators who had all received the same training experience. Research with people with different training experiences can be explored to see if similar experiences are reported.
7. Given the theoretical discussions based on agency theory, studies of the levels and interactions between different forms of agency within a project in the form of action research or learning would help discover strategies and practices that may help facilitators and teams in general. In turn, such inquiry may aid collective agency.
8. Given the challenging issues facilitators faced, future research could focus on such experiences from the perspective of the critical paradigm. Research following a project could be based on this perspective to understand how knowledge is socially created and critique reality as a means of explaining and addressing issues of social justice.
9. There are many additional theoretical frameworks (Team Learning, Action Learning, Facilitation Models, Theories of Motivation and Reward, Perspectives on Power) that contribute techniques or strategies that could be observed to determine contributions to forms of agency.

7.5 Implications for Practice

The research contributions prompt numerous suggestions about improvement facilitator and stakeholder practice in conducting improvement projects. The ideas presented are oriented towards developing collaboration and collective and relational agency, reflecting the conclusions and discussion in the thesis. Two sets of key recommendations are outlined below dealing with practice implications firstly for leaders or sponsors and secondly for facilitators.

Practice Implications for Sponsor and Senior Stakeholder Leadership During Projects

Leadership development that prompts mutual support for the facilitator and the conduct of the project can include:

- improvement facilitator and team selection processes that draw on personality assessment and orientation towards collective agency
- leadership development on the concepts and practices of stewardship and the need to promote relational and collective agency, including their role in establishing the project as 'legitimised disruption'
- leadership skills in structuring, developing, and assessing improvement plans as a form of contract with the facilitator and team to avoid common issues like jumping to solutions
- use of tools such as behaviour checklists or inventories to clarify the relationship between the sponsor role and facilitator role and raising leaders' awareness of behaviours supportive of facilitators and their wellbeing.

Practice Implications for Facilitator Development

- Facilitator training could provide greater emphasis on framing the relationship with leaders from the perspective of stewardship agency and supporting behaviours. This includes engaging with sponsors over the nature of the relationship, care given to coaching on the use of the improvement charter as a process of contracting with sponsors, and the development of relational and collective forms of agency.
- Facilitator inquiry skills could be developed to understand the lived experience of stakeholders in situ. Facilitators can model seeking the lived experience of those involved in the work process. Prompting of the qualia of the experience demonstrates deep active listening and the understanding of needs and fears. This emphasis can awaken notions of empathy and compassion and help facilitators guide stakeholder reflection on their conceptual and emotional memories of experiences in the work situation. Authenticity is then encouraged, allowing the mutual creation of ideas and learning. This form of dialogue enables 'sympathetic understanding' between stakeholders and references the 'generous reciprocity' discussed by Rhodes & Carlsen (2018, pp. 12-3).
- LSS development processes could emphasise the philosophical basis of the improvement methodology that situates the role of the facilitator as an agent for collaboration and frames DMAIC as a process of collective agency ('legitimised disruption') for the sustained practice of the methodology.
- Facilitators could develop self-awareness using models and instruments that provide feedback on personality, communication, and facilitation skills as well as creating understanding of an agency theoretical model more relevant to their role.

- The traditional focus on methodology, analysis, and statistics could be balanced with learning that enables facilitators to be effective in their stewardship, collective and relational agency roles. This could include:
    a. Analytical frameworks and facilitation techniques to enable critical reflection and learning are not referenced or emphasised in LSS training. Using models such as those of Senge (1990) and Schwarz (2017) could help facilitate productive dialogue and discussion that creates ‘generative resistance’ (Sundet & Carlsen 2019). Being able to pursue open and collective inquiry and critiquing of ideas places emphasis on the communication skills needed within the team and by the facilitator. Facilitation skills to balance advocacy, active listening and inquiry that contributes to the development of team learning, creativity, and collective agency is key. Underlying these practices is the facilitator’s capacity to surface ‘espoused’ or stated theories and ‘theories-in-use’ that drive action or behaviour (Argyris 1976, p. 367). Helping stakeholders shift from ‘single loop’ to ‘double loop’ learning (Argyris & Schön 1978) and become self-aware of their tacit knowledge or embedded beliefs may facilitate shared understanding and learning and improve relationships in the workplace.
    b. Focusing on relational facilitation skills that develop dialogue amongst stakeholders to promote ‘respectful engagement’ (Sundet & Carlsen 2019) and ‘sympathetic understanding’ (Rhodes & Carlsen 2018, pp. 12-3) between stakeholders.
    c. Facilitators could make use of models to deal with conflict, defensive routines, and the promotion of ‘psychological safety’ as part of key learning for their relational agency (Argyris 1976; Schwarz 2017; Senge 1990). These approaches help facilitators deal with sharing power, defensive face-saving behaviour, and dominance in advocacy to allow shared learning to be acquired.

8.0 Appendices

Appendix 1: Summary of DMAIC Phases

Phase	Summary
Define Phase	As the title suggests, the main focus of this phase is to define and agree on the priority focus for the improvement project. The areas of learning deal with the problems faced from the perspective of the senior stakeholders, customers (internal or external), and the staff. Activities include gathering information, engaging stakeholders, redrafting and communicating the improvement plan (Ansari et al., 2011, p. 3; Honda et al., 2018, p. 71; McCarty et al., 2005, p. 336; Mehrjerdi, 2011, p. 82; Rath & Strong, 2003, p. 197; Singh & Khanduja, 2014, p. 2647).
Measure Phase – (Baseline Measure)	This phase is focused on learning the baseline characteristics of performance in terms of predictability, capability, and levels of waste in financial terms. Activities include evaluating, planning and executing measurement, analysing results, estimating the cost of poor performance and reporting results (Brue & Howes, 2006, pp. 178-182; de Mast & Lokkerbol, 2012, p. 605; Honda et al., 2018, p. 71; David M. Pearlman & Harsha Chacko, 2012, p. 56; Rath & Strong, 2003, pp. 202-203)
Analyse Phase	The major focus for the analyse phase is to understand the major causes of the performance and their interactions and the possible level of improvement that could be achieved. Deeper analysis of the processes are involved, followed by data collection to verify proposed causes in order to propose specific areas of improvement and potential returns (Ansari et al., 2011, p. 3; Brue & Howes, 2006, pp. 224-225; deMast & Lokkerbol, 2012, p. 605; Honda et al., 2018, p. 71; McCarty et al., 2005, p. 393; Mehrjerdi, 2011, p. 82; Singh & Khanduja, 2014, p. 2647)
Improve Phase	The Improve phase is focused on understanding and implementing the most effective solutions that will deliver measurable improvement to performance. The phase involves a number of separate sub-stages including the design, piloting, and implementation of the solutions (Ansari et al., 2011, p. 3; Honda et al., 2018, p. 71; McCarty et al., 2005, pp. 430-434; David M. Pearlman & Harsha Chacko, 2012, p. 56; Pyzdek, 2003, pp. 560-568).
Control Phase	The Control phase, as the title suggests, involves learning whether improved performance has been sustained. Depending on the authors, there is an overlap between implementation during the Improve phase and the Control phase. Activities include implementing the solutions, measuring and communicating results if this has not been done, and monitoring results to ensure that the performance remains under control at the levels predicted and established (de Koning & de Mast, 2006, p. 773; Honda et al., 2018, p. 71; Mehrjerdi, 2011, p. 82; David M. Pearlman & Harsha Chacko, 2012, p. 56). To a large extent the improvement journey has moved out of a project mode into a standard way of operating that should have been enabled during the Improve phase.

Appendix 2: Tabular Summary of Lean Six Sigma Research on Facilitation

Study	Focus	Theoretical Perspective	Method	Data Provided and Improvement Results	Research Conclusions	Research Issues
(Shaw et al., 2010)	What is the facilitator's impact on improvement teams? How do facilitators act to intervene 'in the moment'?	Group Development and Facilitation Models	US 11, primary care teams in hospitals. Facilitators worked with each team. Facilitator training was provided using the organisational approach and encouraging to facilitate reflection. Recordings were made of meetings. Field notes were collected. Context data was also part of the approach used in the hospitals.	Structure of each team provided. Facilitator background provided.	Seven areas of impact were defined. Codings were provided based on frequency of interventions and time speaking. Facilitation patterns in terms of stages in improvement were noted. Intervening to promote reflection and deal with conflict increased as project continued. Intervention examples for each area were noted.	Improvement methodology unclear. Facilitator behaviour against the impact codes will be useful in the design of the interviews for the research and as a basis of comparison with the results emerging from this research.

Appendix 3: Tabular Summary of Lean Six Sigma Research Indicating Facilitator Experiences During Improvement Projects

Study	Focus	Theoretical Perspective	Method	Data provided and Improvement Results	Research Conclusions	Research Issues
Knights and McCabe (1999)	Observing power and identity relations during an improvement program	Organisational Power and Identity Relations (Foucault, (1980; Lukes, 1974)	UK Bank undertaking improvement work. Case study. Document analysis, interviews and observation. Critical processual analysis.	Contextual information on the bank. Descriptions of each phase of the improvement program based on observations and interviews. Followed by analysis of behaviour based on power and identity concepts.	Illustrates how improvement work involves dealing with the social dynamics of the workplace. The logic of the approach is insufficient to influence people to apply the approach. Behaviours are identified in each phase and interpreted to show application of power to protect identity.	Clear evidence in case of defensive behaviours during improvement in one case. The basis of interpretation and motives of people involved seems to be based on assumptions at times. Commentary on the facilitator behaviour also is judgemental at times.
(Leon et al., 2012)	Link between team learning and use of LSS tools.	Organisational Learning Cycle (Dixon, 1994) Knowledge Creation Model (Nonaka, 2007)	One case study of improvement project in Electronics Manufacturing	Description of use of tools in each stage of DMAIC. Results of improvement. Some dialogue and learning are described.	Guided by facilitator, the team used tools and gained key learning to avoid jumping to solution on the problem. Avoided costs and delivered improvements to cycle time, customer satisfaction, and costs.	Focus on description of statistical analyses draws attention away from the nature of the learning process. No issues of power and identity reported. Case study description does not align activity to DMAIC phases.

Appendix 4: Staff Experiences Reported in Few Studies of Improvement Methodology

Study	Reported Experiences
Walley and Gowland (2004) Completing the circle: from PD to PDSA	• Some senior staff felt that the only useful solutions required increases in resources. • As staff grew more knowledgeable, one manager threatened by this deliberately undermined the work of the improvement team by arguing that improvement would have occurred anyway and was not the result of the application of the methodology by teams(Walley & Gowland, 2004, p. 356). • A manager claimed the ideas applied were developed by him at a previous hospital and was not due to the improvement work (Walley & Gowland, 2004, p. 357). • Some senior managers did not give credit to junior managers for improvement work. • Senior managers and clinicians were involved without imposing their ideas, enabled cross-group collaboration and access to resources (Walley & Gowland, 2004, p. 355) .
Buch and Tolentino (2006) Employee perceptions of the rewards associated with Six Sigma	• Even though facilitators saw that it is possible to receive social and intrinsic rewards for their work, they did not consider it very likely that they would be recognised for their contributions (Buch & Tolentino, 2006, p. 363).
Sterling and Boxall (2013) Lean production, employee learning and workplace outcomes: a case analysis through the ability-motivation-opportunity framework	• Teams who reported 'strong learning' during improvement activity also experienced managers who sought their ideas and involvement, better team collaboration, and job satisfaction (Sterling & Boxall, 2013, p. 234). • Teams who reported 'weak learning' during improvement activity also experienced managers who interrupted their work to do something else and blamed them for failures, creating a sense of fear of punishment. They also did not experience a sense of engagement and cooperation or collaboration (Sterling & Boxall, 2013, p. 236).
Taylor et al. (2014) Application of "A3 Thinking" to operational improvements in radiation oncology	• Lack of a stakeholder buy-in led to disagreement on root causes and solutions (Taylor et al., 2014, p. 209). • Lack of collaboration with a team outside the unit. • Doctors were reported as being less inclined to be involved with the rest of the staff.
Pearce et al. (2018) Implementing Lean—outcomes from SME case studies	• Managers pressured staff to take action in opposition to Lean principles, impacting staff morale and satisfaction (Pearce et al., 2018, p. 96) • General management of Lean implementation led to staff feeling Lean thinking was a fad and resisted the program. • Visual management was resisted due to conflict between departments (Pearce et al., 2018, p. 96).

Appendix 5: Sample of Analysed Phenomenological Research

Thesis Author, Date & Title
(Connell, 2003) A Phenomenological Study of The Lived Experiences Of Adult Caregiving Daughters And Their Elderly Mothers
(Williams, 2008) Through Their Eyes: The Lived Experiences of African-American Female Executives
(Plunkett, 2011) Considering Antecedent Factors for Transplant Recipient Athletes Learning to Live
(Broomé, 2012) The Phenomenological Psychology of Police Deadly Force
(Stubbs, 2013) A Phenomenological Study of Collective Creative Problem Solving in Information Technology Distributed Work Teams
(Mganga, 2013) Small and Medium Enterprise Implementation of Total Quality Management in Tanzania: A Phenomenological Study
(Wright, 2013) The Experience of Servant Leaders Who Work in The Field of Corporate Information Technology: A Phenomenological Investigation
(Slack, 2014) Leaders' Fostering of Innovation: A Phenomenological Study in Small Successful U.S. Biopharmaceuticals
(Aslett, 2014) Exploring lived experiences of music listening among rugby players: A hermeneutic phenomenology
(Joshi, 2015)The Essence of Lived Experiences of Grassroots Innovators A Phenomenological Study
(Yost, 2015) A Phenomenology Study of First-year Teachers Looking at the Shared Lived Experience of Learning to Grade
(Whiddon, 2015) The Shared Experiences of Prospective Agricultural Education Teachers: A Phenomenology of Supervised Agricultural Experiences in Oklahoma
(Litchfield, 2016) The Phenomenology of Masters Alpine Ski Racers: Experiencing Ski Racing in Old Age
(Seth, 2017) Being Opened: A Hermeneutic Phenomenological Enquiry into the Existential Psychotherapist's Lived Experience of Wonder
(Hurner, 2017) The Phenomenology of Preparing Culturally Proficient Teachers: Modelling Co-Teaching And Critical Discourse In A Rural State College

Appendix 6: Summary of Phenomenology Implications for Methodology Chapter

Theorists and Concepts	Implications
Husserl – Intentionality in lived experience Heidegger – Different levels of consciousness (‘ready to hand’, ‘present at hand’)	• Surfacing what facilitators focus their attention on and how. • Core question for thesis reflects ‘lived experience’.
Heidegger, Binswanger, Boss – Three simultaneous modes of being-in-the-world: personal, surrounding, relational. Treating lived experience holistically.	• Three secondary research questions on experience of each world. Exploration of experience in world. • Analysis of links between facilitators’ three modes of being.
Heidegger – Openness, care and authenticity Levinas – Openness to others	• Analysis of sense of identity, feelings, and expressions of authenticity in response to a situation in the improvement project.
Binswanger, Boss – Meaning in experience	• Opportunity for facilitators to reflect on and interpret experiences.

Levinas – Seeing the trace of the Other
 	
in subjective experience – ‘totalising’ or openness to others
	• Exploration of:
	  • type and qualia of experiences with ‘others’
	  • reactions within these experiences, interpretation of engagements, evidence of responsibility to others or ‘totalising’ behaviour
	  • negotiating between different demands and responsibilities – issues of power.

Levinas – opening up to one another in dialogue Rhodes & Carlsen – ‘generous reciprocity’, reflection and reflexivity	• Managing my preconceived views on improvement. • Avoiding ‘totalising’ the facilitators in dialogue – inquiring collaboratively. • Empathic engagement in dialogue. • Reflexivity during analysis, drawing on the language used to create themes and seeking collaboration with participants on analysis.
Langdridge, Finlay & Van Manen – Phenomenological description and interpretation ’	• Creating detailed descriptions of key experiences in three worlds. • Surfacing the noematic and noetic aspects of experience. • ‘Hermeneutics of empathy and meaning-recollection’ by minimising inferences made in interpreting descriptions.

Appendix 7: Informal Email Invitation

Hi Everyone,

As you may know, I am interested in conducting research focused on the experiences reported by Improvement Project Facilitators as part of my PhD studies. The academic and practitioner literature has not paid attention to the experiences that facilitators have lived through during the conduct of improvement.

The research is not focused on assessing the methodology you used or the way you went about conducting the project. Rather I am interested in what sticks in your mind as you reflect over the experience of facilitating the project you submitted for certification. It's the few predominant experiences, feelings and your interpretations that I am interested in hearing. By having conversations with a few facilitators, I can see what similarities and differences emerge in what participants describe and interpret. So, I am trying to answer the question 'I wonder what it's like to be an Improvement Project Facilitator?'.

The main research method is a discussion with you. I estimate this to take about an hour and a half and it would be more a dialogue (semi structured discussion) rather than an interview. I already have your submitted portfolio of work. This would be used as a grounding for the discussion as we explore what happened and what sticks with you given the experience a 'flavour'. I also invite those who are interested to participate in the analysis of results in a workshop context. In this sense I see all the folk involved as collaborators in the research study.

Fundamentally the analysis technique will take the form of an Affinity Diagram where themes emerging are analysed and reported. All the discussions will be treated as confidential. Recordings of interviews will be coded without names and kept secure as will transcripts produced. No names and descriptions that tie results to specific individuals or organisations will be reported in the research. You will be able to check the transcript of your own interview to ensure maintenance of confidentiality. You will also be able to review the draft analysis chapter as well.

This research is about your personal recollections and reflections on your improvement project journey. In this sense its research focused on you and other facilitators involved. The research is not focused on analysing your organisation or reporting on your organisation. The research findings will be used in the thesis, at conferences, in Journal Articles or book.

If you can help and are interested in providing your reflections and contributing to the research on Improvement Projects, then please express your interest in an email. You will then receive a formal invitation to participate and a consent form for the research from my research supervisor Dr Renu Agarwal (Associate Professor, Operations and Supply Chain Management). From there we can plan when and where to do the interview and its structure.

Please ring me if you have questions about the research.

Thanks for your help.

Alan Skinner

Appendix 8: Formal Invitation to Participate in Research and Consent Reply

The Lived Experience of Lean Six Sigma Improvement Project Facilitators

Dear ………

My name is Dr Renu Agarwal and I am the Associate Professor, Operations and Supply Chain Management in the Business School at the University of Technology, Sydney. I chair the PhD supervisory panel for Alan Skinner who is conducting the research. I understand you have expressed an interest in participating in this research.

As you know, Alan is conducting research focused on the experiences reported by Improvement Project Facilitators as part of my PhD studies. You have been invited to participate since you have completed studies on Lean Six Sigma at UTS and have completed an Improvement Project for certification. Your knowledge and experience in conducting improvement is therefore key to this research.

Attached is further detail about the research. In addition, there is a consent form also attached. If you are still interested in participating, it would be appreciated if you could complete the consent form and return the form to myself and Alan.

Alan will then contact you to make arrangements for the interviews and the conduct of the research.

You are under no obligation to participate in this research.

Yours sincerely,

Dr Renu Agarwal

Associate Professor, Operations and Supply Chain Management

Director, Strategic Supply Chain Management Programs

Research Director, Management Practices Project

UTS Business School

University of Technology, Sydney

PO Box 123 Broadway NSW 2007 Australia

Work: +61 2 9514 3624

Mobile : +61

Fax: + 61 2 9514 3602

Web: business.uts.edu.au

NOTE:

This study has been approved by the University of Technology, Sydney Human Research Ethics Committee. If you have any complaints or reservations about any aspect of your participation in this research which you cannot resolve with the researcher, you may contact the Ethics Committee through the Research Ethics Officer (ph: +61 2 9514 2478 Research.Ethics@uts.edu.au), and quote the UTS HREC reference number. Any complaint you make will be treated in confidence and investigated fully and you will be informed of the outcome.

Appendix 9: Research Participant Information Sheet

The Lived Experience of Lean Six Sigma Improvement Project Facilitators

UTS HREC APPROVAL NUMBER

WHO IS DOING THE RESEARCH?

My name is Alan Skinner and I am a PhD student at UTS. My research supervisor is Dr Renu Agarwal (Associate Professor, Operations and Supply Chain Management)

WHAT IS THIS RESEARCH ABOUT?

This research is to find out about the experiences reported by Improvement Project Facilitators whilst conducting an improvement project.

The research is not an assessment of the methodology you used or the way you went about conducting your project. Rather I am interested in what sticks in your mind as you reflect over the experience of facilitating the improvement project you submitted for certification. It's the predominant experiences, feelings and your interpretations that I am interested in hearing. By having conversations with a few facilitators, I can see what similarities and differences emerge in what participants describe and interpret. So, I am trying to answer the question 'I wonder what it's like to be an Improvement Project Facilitator?'.

FUNDING

No Funding for this project has been received for this research.

WHY HAVE I BEEN ASKED?

You have been invited to participate since you have completed studies on Lean Six Sigma at UTS and have completed an Improvement Project for certification. Given the purpose of the project your knowledge and experience in conducting improvement is key to this research and increasing understanding about the reality of conducting improvement in organisations.

Your contact details were obtained from records kept by the Business Practice Unit at UTS through your Lean Six Sigma certification studies at UTS.

IF I SAY YES, WHAT WILL IT INVOLVE?

If you decide to participate, I will:

- Contact you to discuss the research and make arrangements to meet and record a discussion with you.
- Invite you to complete the personality profile on Understand Myself.com developed by Dr Jordan B Peterson (and others), Professor of Psychology & Clinical Psychologist, University of Toronto. This will take about 10 minutes. You may have already completed this as part of your UTS Lean Six Sigma training, in which case you can simply forward the profile.
- Review your project portfolio submitted for certification in preparation for discussing your experience in conducting the project. Since I am interested in your predominant experiences, feelings and interpretations of what happened, I will use your reflections in your portfolio to prompt our discussions.
- Agree a time with you to have a semi structured discussion on your experiences. I anticipate the discussion will take about one hour and a half. I will send through the kind of questions I may ask to

help you begin your reflections in preparation for the discussion. You can add to these questions where you think it's appropriate to reflect on something in your experiences during the project.

- Record the discussion which will then be transcribed. Both the recording and the transcription (including backups) will be kept in a secure location. Once the transcriptions have been confirmed and edited, the recordings will be destroyed.
- Send you the transcript of the discussion so you can edit it if there is something that needs correcting or if you want to add anything prompted by the transcript. The transcript will contain no names at all including information about the name of the organisation or the project. Words that suggest the industry or the organisation may also be deleted. The transcripts would be considered raw data. They will not be included in the final thesis. Rather relevant extracts that support analyses and conclusions will be used without reference to names. In any case the research is about your personal experience and not the details of your project.
- Invite you to attend a workshop if you are interested, where the outcomes of the different interviews will be presented. This will involve themes and take the form of an Affinity Diagram for you to look at. In discussion, with the other facilitators this thematic structure of the essence of your experiences can be refined. The group discussion on the implications of the research findings will also help me write the conclusions and implications for the research.

ARE THERE ANY RISKS/INCONVENIENCE?

The management of the recordings and the transcripts present a possible risk for the research. However, procedures to keep them secure are submitted to the University Ethics committee for approval.

These procedures also protect your confidentiality as does your involvement in the editing of the final transcript.

Our discussion may cause you to reflect on experiences that provoked strong emotional reactions and was uncomfortable for you. In this sense this may cause you some discomfort. You would know how likely this is.

DO I HAVE TO SAY YES?

Participation in this study is voluntary. It is completely up to you whether or not you decide to take part. However, I encourage you to seriously consider participation so that your contribution can further develop an understanding of the reality of being involved in an improvement project in an organisation.

WHAT WILL HAPPEN IF I SAY NO?

If you decide not to participate, it will not affect your relationship with myself or other researchers or the University of Technology Sydney. If you wish to withdraw from the study once it has started, you can do so without having to give a reason, by contacting myself and Dr Agarwal.

If you withdraw from the study, before the interview is conducted then this would not impact the study as no data had been collected. However, if you withdraw after the interviews and transcript has been sent to you, it may not be possible to withdraw your data from the study results if these have already had your identifying details removed. In this situation, you should be aware that data collected up to the time you withdraw will form part of the research project results.

CONFIDENTIALITY

By signing the consent form you consent to myself collecting the descriptions of your experience for the research project without keeping information about who provided the information. All this information will be treated confidentially.

The recording and transcripts will be kept on three portable hard drives not connected to cloud storage that will be password protected. One copy will be kept at UTS with Associate Professor Agarwal, another with Dr Moira Scerri at UTS and one will be kept with me. All three will be kept in locked storage and only used for analysis and updating purposes. Identifiers for the recordings and the transcripts will be coded so that no names will be used at all to maintain confidentiality. Your information will only be used for the purpose of this research project.

We would like to store your coded transcript information which would contain no identification information on yourself or anyone else. This version would be the one checked by you. This transcript would be available for future use in research projects that are an extension of this research project. In all instances your information will be treated confidentially.

We plan to publish a summary of the thesis results in an academic journal after the thesis is finally submitted to UTS. In any publication, information will be provided in such a way that you cannot be identified. A summary may also be reported in a Book Alan Skinner is preparing and at a relevant conference.

WHAT IF I HAVE CONCERNS OR A COMPLAINT?

If you have concerns about the research that you think I or *Dr* Agarwal can help you with, please feel free to contact us.

You will be given a copy of this form to keep.

NOTE:

This study has been approved by the University of Technology Sydney Human Research Ethics Committee [UTS HREC]. If you have any concerns or complaints about any aspect of the conduct of this research, please contact the Ethics Secretariat on ph.: +61 2 9514 2478 or email: Research.Ethics@uts.edu.au], and quote the UTS HREC reference number. Any matter raised will be treated confidentially, investigated and you will be informed of the outcome.

Appendix 10: Research Participant Consent Form

The Lived Experience of Lean Six Sigma Improvement Project Facilitators

UTS HREC APPROVAL NUMBER

I ____________________ ***[participant's name]*** agree to participate in the research project '***The Lived Experience of Lean Six Sigma Improvement Project Facilitators'*** *(UTS HREC approval reference number)* being conducted by *Alan Skinner under the supervision of* Dr Renu Agarwal (UTS Business School, University of Technology, Sydney, PO Box 123 Broadway NSW 2007 Australia; Work: +61 2 9514 3624)

.

I have read the Participant Information Sheet.

I understand the purposes, procedures and risks of the research as described in the Participant Information Sheet.

I have had an opportunity to ask questions and I am satisfied with the answers I have received.

I freely agree to participate in this research project as described and understand that I am free to withdraw at any time without affecting my relationship with the researchers or the University of Technology Sydney.

I understand that I will be given a signed copy of this document to keep.

I agree to be:

☐ Audio recorded

I agree that the research data gathered from this project may be published in a form that:

☐ Does not identify me in any way

☐ May be used for future research purposes

I am aware that I can contact Alan Skinner or Dr Agarwal if I have any concerns about the research.

____ ____/____/____

Name and Signature [participant] Date

____ ____/____/____

Name and Signature [researcher or delegate] Date

Appendix 11: Interview Agenda and Managing Interview Risks

Phase	**Statements**	**Questions Probes**	**Hints Attitude NOTES**
		Introductory Phase (20 Minutes)	
Building Rapport Clarifying Purpose and Process **2 mins**	**Building Rapport** Thank you again for agreeing to be involved – very much appreciated you helping in this way.	6. How have you been? **7.** How has the world of improvement been for you?	Emphasis on informality, making them feel at ease and comfortable
Informal Contracting **3 mins**	Given our prior discussions about the research and the information you received I just want to briefly go over the focus of the research and design and style of the interview. As we previously discussed: The research is not focused on assessing the methodology you used or the way you went about conducting the project. Rather I am interested in what sticks in your mind as you reflect over the experience of facilitating the project you submitted for certification. It's the predominant experiences, feelings and your interpretations that I am interested in hearing. By having conversations with a few facilitators, I can see what similarities and differences emerge in what facilitator's describe and interpret. So, I am trying to answer the question 'I wonder what its like to be an Improvement Project Facilitator?' I am not interested in discussing the tools and methodology but more interested in the few significant experiences you had during the project	5. Is there anything you want to clarify with me about the research or the interview? 6. Do you have any questions before you start? 7. Did you have a chance to look at your project portfolio and the personality profile? I have them with me as well.	Encouraging collaboration in dialogue and analysis – 'generous reciprocity' Helping the participant feel they are co-researchers and have control over the process themselves

	(name) that remain with you (name). Therefore, our process is a semi structured discussion based on what you want to explore. To set the agenda we will list the few experiences you want to discuss in further detail (which you have thought about already and sent me). We can then take each experience and examine them in detail one at a time. The style of interview will change from prompting you to describe your experience in depth from different perspectives to discussing your interpretation of the experience. I will let you know when we shift the style. We can try to avoid explaining your experience before finishing the description of the experience. The discussion is very informal and is meant to be collaborative. If you want me to stop, take a break or change the topic because you feel uncomfortable just let me know. As we communicated, the transcript of this discussion will have no names in it and make no reference to your organisation. The draft will be sent to you to check this and also involve you further if more comes to mind that you want to add. These transcripts will be stored in a secure location, which will not be on the cloud or a similar public storage device.		
Stabilising Attention	**Exploring Surrounding World (the Umwelt) and Personal World (the Eigenwelt)**	**General Interest Core Question** **5.** How did you become interested and involved in	Prompts based on project diary

10 mins	Before we start, I am interested to hear how you got involved in improvement activity in the first place and how you got involved in this project.	improvement activity in general? **Probe**:when, training, different organisations, time frame. **General Organisational Context Core Questions** 7. What are your thoughts about the general commitment and drive in your organisation to encourage and conduct improvement? 8. What do you think about the support structures that were available to help you during the project? 9. When something goes wrong within the organisation, what stimulates consciousness to pay attention and problem solve and, hence, stimulate improvement activity? **Specific Project Context Core Questions** 6. What prompted the project to be established? 7. How did you become involved in this improvement project? **Probes:** 7. How long had the issue been left before the project was initiated? 8. Who were the key people (roles) you worked with during the project? Link to portfolio. 9. How long have you been in this position and how many projects have you been involved with now? 10. How long was the project duration? Link to portfolio. What did you feel about the length of time it took? (temporal view) 11. What was your view and stakeholders' views of	

		the project and its achievements?	
Overview of Experiential Landscape **5 mins**	**Focusing Attention by Funnelling from General to Specific Experiences** Having talked about the project in general, let me check with you again what you saw as the few most significant experiences during the improvement project. Exploring each of these few experiences will be the core of our discussion. So, we just want to list them by label and set an order in which to discuss them in detail.	**Core Question** 3. When you think about the project, what are the most significant experiences you had that typify the improvement project experience for you. These experiences may be the most vivid in your memory because they were rewarding, or challenging, or emotional, or exciting or enjoyable. (List them if not done or refer to what has been sent) **Probe:** **7.** If we take each experience, when did they occur in the timeline/phases of the project? (link to project portfolio)	Encourage facilitator to list experiences with as little interruption as possible. However, redirect if they start discussing each experience in depth. Prompts based on project diary
Cycling Through Phenomenological and Hermeneutic Interviewing for Specific Experiences -			
Phenomenological Interview: **The What or Structure of the Experience** **7 mins per experience**	Let's take the first experience you want to discuss or the one that occurred earlier in the improvement project. Initially, let's get an overview of WHAT happened. Then we can explore how the experience had an impact on you. Anything else to add to the description (to close off WHAT).	**Core Question** Can you describe what happened? What did you see/hear/do? **Probes:** When in the journey of improvement did this happen? (macro temporal view) How did this start? What happened first? What did you do then? What happened next, at the end? (micro temporal view) Where did this happen? (spatial view)	Empathic – resonate with the experiences, non-judgmental, gentle, respectful, understanding of the fundamental meanings of their challenges, difficulties, and successes. Active listening – immersed in their experience. Note non-verbal reactions. Prompts based on project diary.

		Who were the key others involved? What did they say/do? What did you say/do? (relational view)	
Phenomenological Interview **The How of the Experience – Dimensions or Existentials** **7 mins per experience**	Let's explore your impressions of this experience in a bit more depth. Anything else you want to add about how the experience you describe had an impact on you?	**Core Question** Why did you pick this as a significant experience? In what ways was this experience significant to you? **Probes:** **Visual/Auditory** What else did you see/hear? **Relational – Emotional** Given what was said and done, how were you feeling at the time? How intense was this? How do you feel when….? How did you feel about….? How did this affect you? **Relational – Body/Corporality** Given what was said and done, how did your body react with the emotion? What was your first/subsequent reaction(s)? **Relational – Mental** As this was happening, how were you thinking? What thoughts/images came to mind? What was going on in your mind then? What struck you about your interaction with these people? How did you 'see/understand' the person?	Close observation, monitoring/notation about physical reactions of facilitators (tone of voice, eye movements, gestures, movements in the chair) and language used. Avoid digression away from the depth of recall (e.g., premature opining, theorising). The conduct of this form of interviewing. Empathic – resonate with the experiences, non-judgmental, gentle, respectful understanding of the fundamental meanings of their challenges, difficulties, and successes. Active listening – immersed in their experience. Note non-verbal reactions. Prompts based on project diary
Hermeneutic	Let's switch the interview style now to exploring	**Core Question**	

Interview **7 Mins per experience**	your interpretations on what happened. **Prompting Clarification or Elaboration of Language Used** **Prompting Interpretation and Explanations**	You used the word/phrase…. Can you explain a bit more what you meant by this? **Core Question – Event** How do you interpret or explain what happened? Why do you think this happened? **Core Question – Personal reaction** Why do you think you reacted in the way you did? Does the result of the personality inventory help explain your reactions/actions?	**Focus in on Evocative phases / words.** Empathic – resonate with the experiences, non-judgmental, gentle, respectful understanding of the fundamental meanings of their challenges, difficulties, and successes. Active listening – immersed in their experience. Note non-verbal reactions. Prompts based on notes in interview.
Conclusion Phase – 10 Mins			
	To finish the discussion let's reflect back and see if we can summarise your impressions. **Summation** **Perceived Identity**	**Core Questions** How would you summarise the flavour of improvement given your experience? What words would you use that characterise the journey you went through? What themes do you see given your descriptions of experiences? Given your experiences, how would you summarise your role as an improvement facilitator? How did others see you? Has being involved in improvement activity made a difference to how you see yourself?	Emphasis on collaboration. Empathic – resonate with the experiences, non-judgmental, gentle, respectful understanding of the fundamental meanings of their challenges, difficulties, and successes. Active listening – immersed in their experience.

	Reflections of Personality – 'a priori characteristics' **Thanks and Follow Up** I hope you found the discussion interesting and insightful. Thank you again for being involved – really appreciated. The interview transcript will be typed up. I will go through it and clean it up and then send it to you to read. This will give you a chance to correct anything or add anything further that comes to mind. I will then proceed with other interviews and complete a thematic analysis (affinity/interrelationship diagraph). After that I will invite the facilitators involved to a workshop to collaborate on the analysis work for the research. I think you will find this useful and stimulating to be involved with the others in such a discussion.	**Probes: If so….** In what ways? How do you see yourself now as different from before you? How would you say you have changed? Overall, how does the experiences you describe relate to the descriptions of personality dimensions given in your personality inventory.	

Risk Management During Interviews

Several risks for participants and the research together with mitigating actions have been identified.

Risks to Participants

The interview process may place demands on the participants' levels of energy given the focus on recall and their time involved in describing events. In addition, recall of certain events may provoke a strong emotional response. Concern for confidentiality of personal recollections and comments may also cause some anxiety for some participants.

Addressing Risks to Participants

Participants will be invited to indicate if they are tired or if they do not wish to amplify their comments on a given situation so that they can rest or move to a different topic. Reflecting the conclusions from the methodology chapter, the Interview Guide (Appendix 11) contains cues to modify discussion as needed.

Reassuring participants about the protection of their confidentiality is addressed by several different actions. Prior communications to participants describe the way their confidentiality will be protected. Emphasis will be placed on understanding participant's personal recollections and interpretations and not information about their performance or the performance of their organisation. All identifiers that link the participant to comments will be removed from transcripts including the names of participants, names of others they discuss or their organisations name. Participants will be able to edit transcripts further as these will be sent to them for review and for additional information to be added if they wish.

Risks to the Researcher

The biggest risks to the research involve the loss of data, the mismanagement of time, and the threat to the validity of the methodology and outcomes produced. Maximising the time set aside for the interview is important given the allotted time. Participants not being clear about the process and its structure and, therefore, lacking preparation will use up valuable interview time set aside to explore key experiences in depth. Participants breaking appointments can also delay the research process and waste travel time.

Loss of data (recordings or transcripts) due to accidental loss or theft is also a risk for the confidentiality of the participant and the research. The dependence on recording tools for the interview raises concerns about the correct use of the equipment and its quality and reliability. Problems with faulty recording tools and processes would result in repeating an interview which would be inappropriate for the participating facilitator.

There is a risk where the researcher does not execute the interview process to the design in a consistent way. This threatens fidelity to phenomenological methodology and the validity of obtaining prereflective experiences.

Addressing Risks to Researcher

Three separate recording instruments will be used with their own multidirectional microphones. The recording process will be tested during the pilot phase to develop the best, most efficient way of setting up the equipment. Before each interview, the equipment will be tested to ensure that it is working by recording the preliminary informal discussion.

The three audio copies of each interview will be kept in three separate, secure locations. One of the audio files of the raw interview will be used for analysis and for the development of the transcripts. The other copies will be held as backups in case of loss of data or data corruption. Copies will not be stored in the cloud but will remain on portable hard drives and stored disconnected from the internet. In parallel, the transcript files (by version) will also be backed up as three copies. These will be stored in a similar way to mitigate the risk of loss of data and data corruption.

Appendix 12: Additional Participants' Personal World Reflections on How They Became Involved in Improvement Work

'It's in the Blood '

- I was always interested in doing things efficiently in my work. I was never one of these people to sit there until midnight because they had a rubbish process. I was the guy who was like, there has got to be a different way of doing this. So, it aligned quite well with my own sort of persuasions, so that's how I got into it.
- I've always been very process driven and analytical, I guess, in my approach. So, whenever there was a question or an issue with something at work, then I'm the one that was consulted. So, in some ways I've been involved in problem solving and looking deeper into things and helping to make suggested improvements for a while now, I think.
- I've kind of always been seen as a problem solver. I believe this kind of allies into me as well. I like to tap into kind of the unknown, tap into a tanglewood situation, want to straighten it and this is my character. This is the thing I love to do, and then naturally I start to pick up situational ideas, drill down and find root causes, if you like, and put my solution forward.
- It would be fair to say that I've always been a problem solver. Always seem to be looking for something to solve. I'm a fixer.
- I've always been very interested in it, so I'm very much process focused. So, I like having that structure of how I do things and giving people that understanding of why they're doing it, so very much a process analyst. So, there's always that conversation about ... Is there anything to do better?

'Walked in Blind'

- When the opportunity came up to sit in on some Lean Six Sigma workshops, I really had no idea conceptually what it meant. No background in the terminology; [I] had not heard the language before coming out of education and social sciences.
- He asked me if I had heard of Lean? I go "what's Lean?" "Have you heard of Six Sigma?" I thought he said, "Sick!" I go, "No". He goes, "Okay, you start Monday". That was it. So, they just randomly choose me and started skilling me up. I didn't know about any of this.
- I had no idea. I kind of walked into it unknowingly. I had just walked in completely blind. It took me off guard.

Influence of a Manager or Organisational Program Initiates the Journey

- Met with [the] Continuous Improvement Director – we hit it off straight away. He was extremely likeable; he was a great continuous improvement chap and that started the journey for me. I then started working directly for him when he came to Australia, and then we just started doing Lean Six Sigma projects.

It 'Opened My Eyes' Pursuit of Professional Development

- I entered thinking that I was someone who you might say was statistically challenged until I realised that there is a big narrative behind the statistics that they were alluding to. They could be used in a lot of different ways of course, but mostly found that was a real switch for me. Connecting the process and the people side of things.
- In hindsight, it makes so much sense.

- I love all that stuff. So, it makes sense. It is this love of learning new stuff.

Appendix 13: Facilitator Observations on Organisational Support Structures

Emerging or Maturing Organisational Contexts

Signs of Developing Organisational Capability

- Previously, people did process improvement unknowingly in their roles. It is like looking at ways of improving it, but there wasn't any structure to it. Whereas now there is a lot of structure and process improvement – continuous improvement is part of our strategy. It's part of our vision. There is a team solely for continuous improvement, and the team is growing; continuous improvement maturity scan which is where we scanned sixty percent of the organisation.
- Everyone supports the concept or the idea, but as soon as you start asking for resources, they're not as common as good intention. So, we would often find ourselves struggling to find resources, particularly around [the] measurement phase. Within the last 12 months, our organisation is far more open to bringing people in, releasing people from their day-to-day jobs to be part of more rapid Kaizen activities.
- People looked at improvement work, almost as a magic bullet, so it was great. Well, we'll just throw it in, frame the project at that particular issue or problem. Now we look at almost the heat map daily. If the heat map is indicating that there's an issue, there'll be a focus to do some sort of activity around that. So, if it's in the red for three days, that sparks or should spark immediately an improvement activity. We will most often than not have an A3 exercise. We'll pull a couple of process experts in, and I will start to sit down and start to identify where some of the quick wins are. So, support is now a lot better than it used to be.
- They set up committees and things like that, so there's a lot of change in that area, and the leader had driven a lot of that on how that got set up. They had a number of people from the overseas (parent company) that came over, acting as specialist resources to draw on. The organisation has a policy, which tends to be more Lean-oriented from memory.

Perceived Lack of Leadership Support Impacting Deployment

- From my experience, it really is a reactive approach rather than a proactive one, which is a bit disappointing because it is always good to get ahead of the curve with stuff like this because then you can start to build a picture and you start identifying other areas for improvement. There is such a downstream effect to it and there is such a cultural effect on people and staff. It just helps build morale. We do quarterly engagement scans. I don't know whether anyone has really looked at the link of that. It's a shame because I feel like there is. If you are helping people with better job satisfaction, cutting down silos then their engagement levels are going to be higher. I think some leaders have put two and two together, but a lot haven't so it really is a reactive approach. So, when 'shit hits the fan' for lack of a better word, the leaders react!
- There is still a bit of a sense that continuous improvement is something that is being imposed on the people there, so I feel you have to drag it out of them a little. Encourage them is probably a better word. Every month it gets a little better, but we're still pretty immature, I'd say.
- I think where the challenge lies is the structural change that we've had from when the Improvement Manager was the head of the division and where we sat (within the structure of the organisation. So, there was kind of a PMO that then reported directly into the CEO, and then we've moved from that into being a part of the COO division. What I think has been lost in that is the focus of the CEO to ensure that continuous improvement is a focus of all divisions. I feel we've lost

some momentum from the CEO not having to focus on it. The CEO isn't making the heads of the division, so the executive team, accountable for ensuring that if we're investing in this, that it's being implemented and sustained.

- We spend a lot of time ensuring and setting up leaders for success, making sure we even created a program for them before we rolled it out to go. "These are your responsibilities. This is going forward... this is your role. You're the champion of this change." But unfortunately, the executive for that division hasn't held the leaders accountable. So, we've seen a $2 million investment that would have shown a $17 million improvement be lost because the leaders haven't held their end of the bargain and kept the momentum going. I think that probably this has a lot to do with culturally where we're sitting at the moment. I think we've got a lot of work to do with our leaders, for them to be leaders rather than for them to just be managers. Yeah, so I think that's probably the challenge for me, but at the minute we're missing that piece with the real support and drive from the top.
- I think there was a lot of drive for improvement. I just don't think there was a lot of support for it and a lot of understanding. So, everyone wanted things to be improved and better, so there was a lot of, I suppose, process improvement. Meaning we didn't get support to getting projects going through to the end.
- It wasn't so much measurement (to kick off an improvement project) as influence from a management perspective, was my understanding. So, when the leader first came in and set up a lot of the process improvement side of things, she spoke to a lot of team leads, and then there was a lot of interest to just sort of say, "Well this is what I'd like [to] do. This is what I'd like." So, it sort was just as an informal list of things to kick off.

Immature Organisational Contexts

- The general tendency or behaviour I observed is more like result driven (jump to solution). I didn't see a continuous improvement culture at that management level. More like passive. So, if the courthouse caught on fire, this is where you scream. That type of mentality if you like (reacting to problems). So, the continuous improvement culture, I don't see evidence too much.
- Very meat and potatoes kind of organisation. They thought anything outside of just changing what you were doing now was a bit too fancy for them. In most areas, if we missed (targets) that then the organisation would use those signals to say, “work harder… work faster”. Not do anything like “let’s make a strategic improvement”. Just work harder and work faster. There weren’t support structures. Made it a pretty challenging environment.
- So, they got in (to the new facilities), then it just sort of became ‘failure turned to complete chaos’. The manager of the complex left, just because she just couldn't handle it. So, they put someone in who had good management capability, but knew nothing [of] the work. So, the professional staff were like at a walkout stage. It was really imploding, I guess. The organisation was failing on all of its targets. They were the worst performer in the region. I think it's an organisation that didn't know how to use data. The decisioning about evidence-based decision-making wasn't strong within the organisation.
- Support and commitment for improvement in the organisation could have been better. One example is the turnover of sponsors that certainly was not helping. I would actually have appreciated more support from the sponsor if possible. The first sponsor. The four sponsors I came across, displayed very different characteristics. Some are really hands on, really close to or want to know every single bit or piece of details. Some sponsors just kind of, they don't offer you full-time support. So, in way they're not really kind of keen to get frequent updates and the like. I don't care what you're doing, but show me the outcome. I don't think they had been involved in their own leadership development about improvement, but they should have. At least understand the

improvement framework, understand honestly stages and then this is how improvement project should run. I guess that that level of understanding, if they had it, would have been greatly beneficial.

- In my enormous organisation there was very low maturity in any set process improvement. I think my project was the first Lean Six Sigma project. There were no process improvement disciplines set up in the organization. So, low maturity, but also low inclination or desire to fix it. This project only came about because of political pressure.
- I didn't think the leadership group in the part of the organisation I was working was very strong. Within twelve months, they turned over the whole management team. And the reaction to improvement was if something was wrong then fix it, not studying some of the deeper root causes to (understand) why it went wrong. So, jumping up the ‘ladder of inference’ very quickly basically. There was no sort of proactive approach to improvement. There was only one group down here having a go at it.

Appendix 14: Facilitator Reflections on Role Legitimacy and Influence of Training on Role Perception

Reflections on Role Legitimacy

- The role that I took in this project was one of improvement coach as the capability to deliver change did not reside within the organisation. Working with the internal team rather than as an independent reviewer generated ownership of the solutions within the project team so that the changes were done by them rather than to them.
- On reflection on the organisation for which I work, I have realised that while there is a culture of continuous improvement and innovation in principle, there is a lack of a formalised process for this. The need to reduce complexity and deliver more (efficiently) for our customers is a core desire; however, the resources to achieve this are not necessarily available, nor the framework. It is hoped that by introducing concepts of [the] Lean Six Sigma methodology at many levels within the organisation, that we can build toward a more holistic approach to process improvement.
- Lack of knowledge about LSS often brought the team into a premature solution mode and the tendency to drift away from following DMAIC process and learning cycles. As project lead, it is my responsibility to prevent this type of early conclusions and bring the team back on track following each stage of the Lean Six Sigma methodology, whilst respecting and leveraging SME's deep business knowledge.
- Our National Manager, she had pretty much put her reputation on the line to get this new project up and going. So, I just thought, "Well, there is an opportunity". I said, "I think we might be able to do something about this". It was a great opportunity, so she jumped on it.
- The manager said he wanted to find someone who had no knowledge and wanted to build a Black Belt up from the beginning. So, they just randomly chose me and started skilling me up.
- I helped with the Lean scan, and then three projects were identified. And so, I was a SME on the process and eventually a role within the continuous improvement team came up. And that's where I came on board, did my Green Belt first.

Reflections on Training Influence on Role Perception

- Team collaboration is an integral aspect of any project succeeding. You need to have everyone on-board and participating or the project will struggle to succeed; teamwork is imperative.
- The social dynamics and leadership engagement are major critical success factors of a project. My biggest learning curve in training was to not underestimate the human side of change.
- Using a Lean Six Sigma approach was important for me to shift people from doing things based on their 'perception' to doing things based on reality (reliant on data and facts).
- The use of facts and data to identify and address the 'why' of issues and true root causes to problems is a key concept of Lean Six Sigma. Within our organisation, this was a new concept. Historically the business listened to the gut feel of people in the process to make changes, which resulted in changes that did not provide sustained improvement as they did not address the true root causes and were implemented in an ad-hoc basis rather than a planned/structured approach.
- The Lean Six Sigma framework made the difference because collaboration is 'baked in' to the methodology. The Lean Six Sigma approach forced everybody onto the same page from the outset.
- [The] Lean Six Sigma framework has taught me to think differently, to focus on the flow of our improvements, and ensure they meet the customer requirements and expectations.

- The discipline and framework of the Lean Six Sigma methodology is fundamental to my approach to performance improvement and critical to delivering on expectations of project sponsors.
- The Lean Six Sigma training offered me a unique and extremely valuable learning opportunity. I firmly believe the knowledge and skills I have obtained have shaped my way of thinking. Most importantly, I am now able to embed Lean Six Sigma methodology into day-to-day jobs.
- In learning about LSS, there were several distinctive strengths of the methodology that impressed me such as:
    - Analytical rigour and evidence-based approach to draw out learnings and insight.
    - Demand in using measures as ‘bookends’ in every project – at the beginning to establish a baseline and at the end to measure effect.
    - Goal of seeing long-term sustained change.
    - Systematic and methodical approach to consider all aspects – change management, HR, risk management, and financial impact among them.
    - Highly collaborative approach, both in involving the ‘prisoners’ of the system, to be part of the fix and in stakeholder engagement.

Appendix 15: Project Initiation Experiences

Out of Crisis

- So, they (state authority) asked me to go down and have a look. The Ministry engaged me to do the work. They had a view about what the problem was, which was like just "go and fix the processes" – thinking like it was just a six to eight-week piece of work. I ended up taking one of the ministry people down there to demonstrate some of the issues, and so it became a much larger piece of work.
- There was the need to refresh the educational product or program. I admired the concept of the idea of the program, it was trying to make a product available to people that was not available to them before. It was an example of an organisation doing the right thing but maybe doing the right thing with a bit of haste or doing it wrong. The deliverables on it, particularly getting it started, were just dreadful. Before too long, the customer complaints started flowing in about the turnaround time. It was pretty bad. So, they jumped up and down about that. Hearing conversations from our National Training Manager, she had pretty much put her reputation on the line to get this new project up and going. And it was ready to be pulled by Senior Managers after about 4 or 5 months. So, I just thought, “Well, there is an opportunity”.
- So, we were looking at just how much water we were using on a particular process on a particular day. And it became quite clear to us as a business that we were just using too much water. My boss at the time knew that I needed a Black Belt project and just connected the two things together and said, "You need a project; we need someone to fix this complex issue; it's yours". [The] decision to do the project was mainly driven by the cost of water, which was starting to go up.
- Some people in our largest customer’s organisation's procurement function were really hitting the person who was running the contract for my organisation pretty hard around 'time to get mobilized'. This was about the productivity of the of workforce. There were other companies expressing the same concern – “Are we getting a day's work?” Our contract manager was stuck. He didn't know where to start basically. I was in the business development area and, of course, that was one of my contract arrangements. I had done Lean Six Sigma training at that stage. We were beginning to have a feel for it – what to do. And I just felt that there was an opportunity then to link in with what they were requiring and build a structured process around it.

Issues Bubble Away and Turn into a Crises Resulting in a ‘Frankenstein Effect’

- The issue had been around forever, since I joined anyway – 3 years! I got an impression that people had thought they would try to do things about it, but actually it didn't really seem to be getting better.
- Because it’s like we’ll just tack on that bit, but we didn’t look at it to see the knock-on effects. They did not look on it at a holistic level so that compounded the issues.
- Before too long, the customer complaints started flowing in. It was pretty bad. So, they jumped up and down about that.
- The problems had been going on for a long period – 2 years. The theatres were appalling.
- Probably about three or four years. We had consultants that came in and had had a go.
- The issue has been bubbling away. The process hadn’t been touched for eight years. They were under tremendous pressure externally to get more efficient.
- So, there's at least eight years before we decided to do anything about it.

- Had been going on long-term, quite long-term, because they had tried before. It's obviously sort of evolved to just doing things on spreadsheets, and then it's just with the portfolio growth put pressure on it.
- Another observation about the working culture was that you lived with the issue and the expectation was that you would work harder and put in longer hours at work to compensate.
- There's sort of traditionally a culture that you will work long hours because that's just what needs to happen. I got an impression that people had thought they would try to do things about it, but it didn't really seem to be getting better.

Political Support Brought on by Crisis

- This project only came about because of political pressure. Because they had announced a reform, and this was the back end, that if they didn't get this right after four years, they would have to admit defeat on the reform. So, it was political pressure. There was sort of a political window, or a timing, where everything was aligned creating really good support. We had a very small, high-performing team. It was a great real engine to get this going. Really good political support also because there was a deadline that year, and it needed to be done and dusted and out the door, so... A lot of alignment in that sense.

Facilitators Help Team Arrive at the Improvement Project Decision

- It started through being a staff member and measuring my own operations. Not stuff that my managers were into. I would show them charts of things over weeks [and] over months and see different parts of the processes that were just available on normal statistics. As a content expert in the field as well as becoming a process improvement competent person at the same time, I said, “I think we might be able to do something about this”. I just thought, “Well, there is a great opportunity”, so the National Manager jumped on it.
- I was already conscious of the problem; I was part of the problem. My team had to deal with this on a routine basis. It was one of those processes that touched so many different teams. Every time you dealt with it you go through this nightmare. When I started thinking about it, it’s like – it is such a big customer-centric issue. It got me changing my thinking it terms of the customer is everyone, my team included. We are the customers of this process, but also we are outputting a product for customers within the division and the wider organisation for that matter. So, I quickly came to the realisation to pick it. That's kind of what got me curious and started poking around, and [I] realised the journal process is a big contributor to that.
- I noticed it because of complaints. The way I sort of selected that project was based on all the hearsay and all the complaints and the grumbles that were happening within the department at the time. There was a lot of complaints about rework basically that I was hearing. People saying, “You guys cause me a lot of work and I had to sit here till 02:00 in the morning, fixing it all up”.
- I helped them reflect on the organisation to establish something to work on. It is not that they had reviewed their organisation and its performance and so on. We forced the envelope if you like then they started to go, “Oh okay, we will see how it goes. It is not going to cost us anything so we will see how it goes. We’ll give it a shot”.
- I had been doing a lot of work with the CAD people, so I kind of became a go-to person for this particular function, particularly from the perspective of workflow, data, and analytics. So, they would come to me asking for help. Can you do this? Can you do that? Or they would basically just share their pain with me. At the time I was seeing a bit of pressure in terms of the workflow, that they’re not really meeting customer and internal expectations. I guess service level and the like. So that became an opportunity for me to grab.

- I tried to sell it to the customer service team. So that's how I got involved in a meeting. I fronted the meeting with our operational manager, trying to understand what they were trying to get to. And then that's how the journey began.
- I went and had a conversation with my manager and my director, and said, "I'm doing this training. I'm looking for a project of this sort," and they, kind of, did a bit of thinking. When I could articulate the sort of thing that I was looking for, it just so worked (out) that there was a project floating around they were looking for a home for, and it was a big complex project that had four goes at trying to crack it and failed every time. And it was considered a bit like a poison chalice. And so, I think my director in hindsight said, "I thought it was very unlikely that we would be able to solve this, but we needed to give it a go. You needed a project".

Some Form of Organisational Assessment Prompts the Project

- It was part of the initial scan that they did of the business. Initially it was in the top five pain points that were identified in the scan of the whole business. Initially, they focused on the top three, but then the HR division did a kind of engagement survey of all the stakeholders, and from that it really highlighted that this was a key problem. So that's how it came about. And I got nominated and picked it. If the scan hadn't been done, I don't think anything would have changed.
- So, what happened was, well, like any project like that. Usually, Finance goes through the product lines to see if we are exceeding our scrap target. The team gets six months to work it out themselves and if they can't work it out then someone like a Black Belt will get thrown at it – to work with the team to work out how to achieve their goals. So, it would be along that pathway. It just happened to be me that got assigned (to the project).
- It was coming from them as to where they felt that it was an area we could work on. The process to work on was a group decision to get that cross-collaboration happening between the business and the back office. We had an initial meeting to scope out exactly what was the right project because there were a couple of different issues in different parts, possibilities there. So, I met with the warehouse manager and then the team leaders from two of the different areas. We put forward a couple of ideas and then just decided together, okay well this is the one we'll use for this project.
- It was one of the ones on the list of what we need to achieve. I think it was the improvement leader that just sort of nominated it. So, I could have been involved in that or this project. So, it was something that got pushed further. The leader interacted with the team, the managers, and sales (to get agreement on the project). Yeah, that's how it got going.

Redeeming Force Was a Supporting Manager

- The necessity of a sponsor who was willing to give it a go was really important just to keep it progressing. There were key people in key areas that were willing to give it a go and when introduced to the ideas and the concepts were open to learn something new.
- Had a very supportive sponsor, so he was the main driver for the whole program, very keen to get his free Green Belt!
- The warehouse manager – she was on top of trying to address issues and improve.
- I had a good relationship at that stage with the person that was appointed the manager of the industrial services operation in the state. I had known him for 10 years. He wasn't the sponsor. And I talked with him about how (the issue) could be dealt with. So, I had a lot of support from him to do the training courses to bring people along. And in fact, we put an amount of money in the budget for that – $150k in the operational budget for building process improvement capability within the organisation.

Appendix 16: Facilitator Reflections on Support from Tools and Techniques

Summative Reflections on Support from Materials, Tools, and Techniques

- The Lean Six Sigma framework was useful to me as it almost provided 'justification' to the project activities. I found that the tools within the framework (and the way they were encouraged to be used) were impartial and able to help remove a lot of the politics and emotion inherent within the process. Techniques such as silent brainstorming and anonymous multi-voting 'levelled' the field – ensuring that all voices and views were equal. Other tools such as the Voice of Customer, Fishbone Analysis, and Decision Matrices were also very useful – as they helped the project SMEs visualise the various components of the project in a clear way. I also found that clear Process Maps helped in this respect – until the project mapped out the process, it was clear that each individual's understanding of the process was slightly different.
- I found Lean Six Sigma also provided a great set of tools that assisted with developing collaboration amongst the Team because they are designed in a way that enabled everyone to be included. When constructing the Project Charter, everyone provided input, which resulted in the Team starting to slowly bond and feel more comfortable with each other. This was galvanised further when we mapped the process using a Swim Lane Map and VSM as everyone was able to contribute and feel part of the process.
- I personally found one of the most interesting things about the course and the Green Belt project was learning about all the tools available. For each stage of the project, there was a multitude of tools and techniques at our disposal. All these tools benefited the Team because it allowed us to prove our findings. They also allowed us to convey the results from each stage of the project to stakeholders in a variety of ways, some being statistical and others more visual with graphs and charts.
- Lean Six Sigma literature is a handy knowledge source that I constantly refer back to, particularly on the reinforcement of the understanding of the tools, in addition to introducing the concepts, the book also answers the questions of when and how to practice the tools.
- The whole suite of tools endorsed by Lean Six Sigma worked symbiotically to complement each other and help build a visual of the journey. The Team was not only able to illustrate to management how poor the existing process performance was, but they also demonstrated how well the Team improved the process in the pilot and go-live in production environment.
- Tools were mainly used to build involvement and confidence in team members during the projects, particularly during brainstorming and root cause analysis events.
- The books and articles I referred to throughout the project explained and provided a good understanding of the Lean Six Sigma methodologies. They provided clear instructions on qualitative methods and the deliverables required for each cycle. Taking the time to understand the problem by speaking with customers (VOC), staff VOP and sponsor (VOS) was insightful and critical to the project; [it] worked better than trying to rush into solution mode or being driven by the expectations of what others wanted the project to deliver. I needed to learn how to suitably utilise the tools, sometimes focusing on how to use the tool rather than what information is being provided. A key lesson learnt was that I needed to practice and trial the tool prior to the actual workshop, ensure the execution is fluent and confident, and most importantly get the outcomes required.

Reflections on Specific Tools and Techniques

- **Improvement Plan – Project Charter**
    - The structure of the improvement plan prompts work to be done – away from solutions – but can frustrate the sponsor. The planning tools format prompts questions, discipline, critical thinking about the problem, interlinking the problem, objectives and measures and scheduling the phases.
    - The improvement plan – being live – is particularly useful. I went back four times to the sponsor to get approval.
    - We used this throughout the life of the project. It greatly assisted team members by keeping them on track, ensuring they stay focused on the objectives and scope of the project. We went over this every time we had a workshop to ensure the team was focused on the goal.
    - Presenting DMAIC as a total approach to improvement built understanding and new ways of thinking about improvement that led to an openness to try new things and to the ultimate solutions that were implemented.

- **Learning Cycle – PDSA at each DMAIC Phase**
    - The learning cycle prompts planning within a phase strategy, taking action and reflection and learning through the template.
    - The cycle plans helped to both keep the project on track and to make each step clearly understood, achievable, and focussed in a way that prevented us getting bogged down.
    - PDSA cycles working through the improvement plan not only pushes learning but gives a ‘device’ (linking the two tools) that is not clear in the literature.

- **Visual Management Board**
    - Provided a discussion focal point at stand-up meetings each day. Enabled us to identify areas which needed to be improved further or changed.

- **Customer Analysis**
    - A key example is the extensive suite of customer-centric tools offered by Lean Six Sigma. This tool set ensured we look at processes from the customer perspective but also allowed us to properly identify ongoing issues and create solutions that not only mitigate these issues but also resonate with customer expectations.

- **Stakeholder Analysis**
    - Psychology has helped us to understand that people find change difficult. Time and effort are required to help people achieve the levels of understanding, security, and ability to embrace changes that stick. Change management models such as ADKAR help to build understanding of the stages people go through when making a change. If those who work in the process can be helped through the change effectively, they can become powerful instruments for on-going change. This was seen in the project. Once the partners embraced the idea of changing their way of doing things, they became drivers of the change.
    - Analysing stakeholders was very useful in our change management preparation. The stakeholder map was important in understanding who the stakeholders were, their relationship with each other, and what part they played in the decision-making process. The impact of omitting just one key stakeholder group is significant. It could have resulted in

missing valuable input, not-getting necessary buy-in and potentially threatening final approval (or worse, approval but unhappy customers after implementation).

- **Communication – Critical Conversations and Dialogue**
    - Tools such as the Conversation Meter and the Ladder of Inference were helpful in managing conflict. I was also surprised at the extent to which humour was useful in breaking down tense and stressful situations.
    - Tollgates at the end of each phase are imperative; they provide the opportunity to update the improvement plan or project charter, communicate progress, and successes to stakeholders and discuss and confirm planned activities of the next phase.
    - Staff seemed to lack confidence in putting their ideas forward given the culture. For this reason, Advocacy was used throughout the DMAIC phases to promote new ideas through questions like: “Why don’t you….?” and “In my experience….?” This communication skill was also important for the same reason at the toll-gate reviews with the partners.
    - Summarising Clearly – this was done by meeting with the team to maintain momentum by following up on tasks, identifying and discussing bottlenecks, providing feedback, and giving a chance to ask questions on issues not discussed.
    - Inquiry was used in different activities to seek information and to inquire into others’ reasoning through open ended questions, such as “what do you think…”, “why should we…” and “how did you...”
    - Active listening was an important skill to encourage participation – particularly from the administrative staff, to encourage a deeper exploration of issues, and to clarify attitudes towards the proposed improvements.
    - Managing Conflicts – this was accomplished by listening to the different points of view, paraphrasing these points of view to obtain consensus, acknowledging the implications of these viewpoints, and finally discussing alternative solutions.
    - Feedback to and from the team was given and received throughout the project to enable one to understand how others perceive them. For example, Reinforcing Feedback was given when a team member exhibited a good behaviour and Adjusting Feedback was given to allow a team member to consider what they could differently next time.

- **Team Dynamics**
    - Team collaboration is an integral aspect of any project succeeding. You need to have everyone on-board and participating or the project will struggle to succeed; teamwork is imperative. I found chapters in the coursebook surrounding psychology to be incredibly helpful during the life of my project, the section on Forming, Storming, Norming and Performing to be very insightful and provided me a great platform to build from in terms of team dynamics and team behaviours. Additionally, sections of the coursebook that highlighted Carl Jung and Margerison-McCann’s Team Management Index (TMI) also played an integral role in assisting me in planning workshops. Understanding people’s personality and behaviours was vital, as individual differences result in different patterns of behaviours among team members.

- **Brainstorming, Affinity Diagrams, and Decision Making – Multi-Voting**
    - The use of provocation during brainstorming (to generate solutions) powerfully opened up some lateral thinking that took the team past the ‘same old’ approaches. This triggered excitement and fresh commitment.

  - Brainstorming and multi-voting are particularly useful tools when facilitating large groups of people. They enable you to ensure that everyone has had a say and that they feel like they have been heard.
  - Fostering collaboration and creativity were critical. This drew on skills of critical thinking, problem-solving, facilitation, creativity, and active listening.
  - Six Hats helped the project team look at the problems of the process from different perspectives, those who were always negative were able to constructively contribute to the discussion. Quiet team members were able to express their opinion in a structured manner that was not confrontational.
  - Working in large groups it is important to have a quick and easy way to gain consensus. Multi-voting provides this as it enables people to express their view in a fast and non-confrontation manner.

- **Facilitation Plan – Process Flow Observation Sheet/ Corkscrew Analysis**
  - The key to the facilitations we completed as part of this project was to have clear objectives and outcomes that you wanted to achieve. Spending the time ensuring that you were well planned and clear on how the day would be run is crucial to the success. By doing this, we had some great outcomes.
  - Helped select the right questions to ask at the right time so that it solicits the best possible response.

- **Process Analysis**
  - Thinking about the value stream and how the process drives behaviours that do not add value is very helpful in the design process. Value stream discovery describes a process for working backwards from the to be/desired state to develop a design that gives the desired outcomes. I found this approach very useful in building the new process for delivering on time starts.
  - Identifies issues from different perspectives, allows all participants in the process to hear other views, and develops shared understanding of the priorities for improvement.
  - Being able to walk the process and create a process map prior to the workshop was good as it allowed us to validate the process map with the experts in the workshop and reduce the time it would have taken to map the process with them all in the room. It was amazing how powerful this tool was to show just how many steps were in a process. It was the first time that everyone that was involved in the process understood the whole process of getting a staff member equipped.

- **Cause Analysis**
  - Enabled the team to focus on the causes of defects and not the symptoms or the differing personal interests of team members.
  - It allowed us to gather up the collective knowledge of all the SMEs in the room easily and efficiently and focus the groups' energy on the causes.

- **Measurement and Analysis**
  - I found success in managing the more vocal parties through use of clear data. The information collected in the Measure phase in particular was very helpful to me as it allowed me to encourage these people to reassess their perceptions based on clear, reliable data.

  - Control Charts are one of the more important tools the team utilised throughout this project. They were a clear, visual way to represent process stability, highlighting special causes. They were also useful in illustrating process performance in the later stages of the project, demonstrating to an executive level, the benefit of changes to the process.

- **Experiments**
  - We were able to identify key areas which could influence the process and discard less critical attributes.
  - Showed statistically that the process had improved following implementation of solutions.

Appendix 17: Reasons for Longer Project Durations

- We were close to getting ready with the first phase of the project to launch, and then there was a big change from the state government, which is where the money was. There were whole new processes to get on board that we had not seen before. When the state government jumps, the organisations in this industry have to react.
- The reason we took so long was that we were right in the middle of changing systems. We knew it was going to involve the new system, so we did not want to make changes to the existing system. So, there was a waiting period to get it implemented before we started addressing issues.
- The low level of understanding amongst the stakeholders requiring longer to set the project up. – "The initial bit was long. Probably 3 months to nail down the problem. I thought it was too slow. This was understandable in hindsight given where they were at".
- Issues in the implementation phase that required rework. - "So, we got someone on board but then we had to then redo that." or "This includes a period of some months where the project stalled after some infrastructure was identified as being required."
- Issues within the organisation that occurred at the time. – "We lost four to six weeks because of other things going on" or "Because of a couple of hiccups and some roadblocks, it was quite long" or "Part of the dragging out was because of the conflict and issues, definitely, two steps forward, two steps back."
- The complexity of the project was underestimated:
  - "The project was probably too large for what we were trying to achieve. If we cut it down a little, it would have made some of the improvement a lot quicker. With that sense of urgency, it probably would have been a lot quicker."
  - "I was positioning for three months, they wanted two weeks! It ended up being a lot longer because of the complexity of the problem. They had no idea. So, therefore they accepted my proposition that the situation was more complex and would take longer to do."

Appendix 18: Project Outcomes Including Financial Benefits

Project Duration	Measure	Baseline Result	Result	Difference	Improvement Percentage and ROI
10 months	Average cycle time for customer registration process	39.5 days	11days	28.5days	**72.2%**
	Average TAT time for customer initial visit	27.7 days	3 days	24.7 days	**89.2%**
	% of evaluation document errors	14%	0%	13.5%	**100%**
	Compliance with contract requirements	0%	100%	100%	**100%**
	Annualised savings (across the branches)				**$21,658.05**
Project Duration	**Measure**	**Baseline Result**	**Result**	**Difference**	**Improvement Percentage**
11 months	Assembly failures	0.24%	0.12%	0.12%	**50%**
	First pass yield	94%	97.5%	3.5%	**3.7%**
	Visual defects per shift	22	11	11	**50%**
	Scrap cost	$85000	$45000	$40000	**47.1%**
	Annual scrap cost savings				**$45,000**
Project Duration	**Measure**	**Baseline Result**	**Result**	**Difference**	**Improvement Percentage**
5 months	Time spent on rework and late journal administration per month	50 hours	5 hours	45 hours	**90%**
	Late journal rework rate	54%	0%	54%	**100%**
	Annualised soft cost savings				**$33,900**
Project Duration	**Measure**	**Baseline Result**	**Result**	**Difference**	**Improvement Percentage**
14 months	Average patients per hour per health professional	1.45	1.67	0.22	**15.2%**
	Monthly revenue contribution per health professional	$14,700	$16,900	$2200	**15.0%**
	Annual revenue Increase				**$134,000**
	Annual profit Increase				**$41,000**
	Annual increased capacity		By 2880 treatments per year		
Project	**Measure**	**Baseline**	**Result**	**Difference**	**Improvement**

Duration		Result			Percentage
16 months	Time taken for staff to be fully equipped after starting	12 days	3.8 days	8.5 days	**70.8%**
	Recruiting managers time spent on equipping new employee	137mins	20mins	117mins	**85.4%**
	Process completed right the first time. (rework rate)	91%	86%	5%	**5.5%**
	Hiring managers satisfaction with recruitment process	29%	89%	60%	**206.9%**
	New staff satisfaction with process	87%	92%	5%	**5.7%**
	Annualised savings in new staff being unproductive and wasted time on process				**$965,000**
Project Duration	**Measure**	**Baseline Result**	**Result**	**Difference**	**Improvement Percentage**
14 months	Cycle time for commissioning time physical servers	97 days	7 days	90 days	**92.8%**
	Cycle time for commissioning virtual servers	60 days	7 days	53 days	**88.3%**
	Re-work per server build	33%	5%	28%	**84.8%**
	Annualised savings from reduced processing and rework time				**$44,571**
	Stakeholders' satisfaction of server commissioning	3.8/10	**Did not measure**		
	Customers' satisfaction of server commissioning	5/10	**Did not measure**		
Project Duration	**Measure**	**Baseline Result**	**Result**	**Difference**	**Improvement Percentage**
12 months	Preoperative length of stay for emergency surgery patients	24.5 hours	20.3 hours	4.2 hours	**17.1%**
	Elective surgery cancellations/delays on the day of surgery	7.3% cancelled	5.7% cancelled	1.6% cancelled	**21.9%**
	Failing elective surgery treatment performance targets in Cat 1	98.7%	100%	1.3%	**1.3%**
	Failing elective surgery treatment performance targets in Cat 2	93.3%	100%	6.7%	**7.2%**
	Failing elective surgery treatment performance targets in Cat 3	87.5%	99.2%	11.7%	**13.4%**
	Elective cases outsourced	17%	4.9%	12.1%	**70.8%**

	Cost of outsourcing and facility per month	$329263	$83,379	$245,884	**74.7%**
	Watch list for not meeting elective surgery performance targets	On Watch list			**Removed from watch list**
	Annualised savings from decreased costs				**$957,303**
Project Duration	**Measure**	**Baseline Result**	**Result**	**Difference**	**Improvement Percentage**
12 months	Total time required for re-warehousing	87 minutes	66 minutes	21 minutes	**24.1%**
	Number of times per day that re-warehousing occurs	3.6 times per day	1.3 times per day	2.3 times per day	**63.9%**
	Chose not to measure annualised savings				
Project Duration	**Measure**	**Baseline Result**	**Result**	**Difference**	**Improvement Percentage**
12 months	Number dispute cases processed per day	6 cases	9 cases	3 cases	**50.0%**
	Average processing time on cases	332 minutes	Average 33min	299 minutes	**90.1%**
	Revisits and rework versus straight through processing	50%	0%	50%	**100.0%**
	Annualised savings				**$194,956**
Project Duration	**Measure**	**Baseline Result**	**Result**	**Difference**	**Improvement Percentage**
9 months	Number of funding lines	60 lines	1 line	59 lines	**98.3%**
	Number of parameters	221	16	205	**92.8%**
	Range in Marginal Funding (S)	$3,084	$0		**100.0%**
	Range in Marginal Funding (T)	$6,992	$0		**100.0%**
	Cost avoidance if pre-existing solution was implemented				**$197m**
Project Duration	**Measure**	**Baseline Result**	**Result**	**Difference**	**Improvement Percentage**
12 months	Volume of water used to wash casings	36,000 litres	21,600 litres	14,400 litres	**40.0%**
	Process deviations – out of spec	22.97% out of spec	9.77 out of spec	13.2 out of spec	**57.5%**
	us/cm – microsiemens per centimetre	78.5 us/cm	192 us/cm	113.5 us/cm	**144.6 %**

	Flow rate (L/min)	25 L/min	15 L/min	10 L/min	**40.0%**
	Annualised savings				**$120,000**
Project Duration	**Measure**	**Baseline Result**	**Result**	**Difference**	**Improvement Percentage**
9 months	Cycle time of commercial loan application process	33.46 days	28.74 days	4.72 days	**14.1%**
	Processing time of commercial loan application process	17 hours	15.25 hours	1.75 hours	**10.3%**
	Applications processed (decisions) per FTE/ per business day	0.21 decisions	0.28 decisions	0.07 decisions	**33.3%**
	Rework requests	65%	10%	55%	**84.6%**
	Broker satisfaction (score /10)	7.3	8.76	1.3	**17.8%**
	Annualised savings				**$314,683.6**
Project Duration	**Measure**	**Baseline Result**	**Result**	**Difference**	**Improvement Percentage**
15 months	Average time to mobilize & demobilize work crews for tasks requiring labour only (Plant A)	94 mins /person/ shift	64 mins/person /shift	30 mins/person /shift	**31.9%**
	Average time to mobilize & demobilize work crews for tasks requiring labour only (Plant B)	94 mins /person/ shift	71 mins/person /shift	23 mins/person /shift	**24.5 %**
	Average time to mobilize & demobilize work crews for tasks requiring labour & mobile equipment (Plant A)	131mins/ person/ shift	103 mins/person /shift	28 mins/person /shift	**21.4%**
	Average time to mobilize & demobilize work crews for tasks requiring labour & mobile equipment (Plant B)	131mins/ person/ shift	105 mins/person /shift	26 mins/person /shift	**19.8%**
	Annualised savings				**$244,500.0**

Appendix 19: Sponsor and Staff Comments and Feedback

Sponsor Feedback Form Common for All Project Portfolio Requirements

Sponsor Feedback

Name of Candidate:

Project Title:

Did you approve the initiation of this improvement project and the improvement plan?

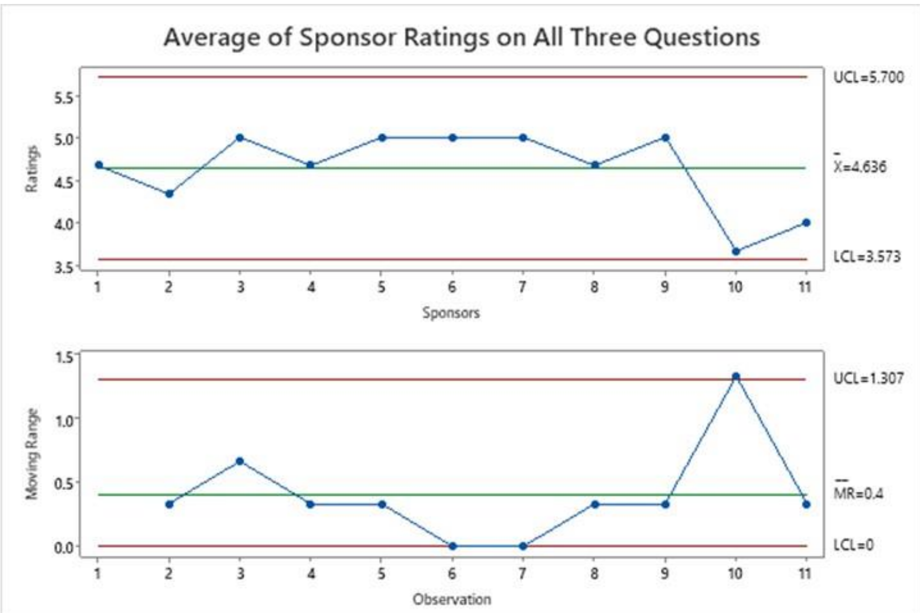
How was this project linked to your plans / organizational objectives?

Rate the extent to which the Green Belt has:

Behaviours	1 Not at all	2 To a little extent	3 To some extent	4 To a great extent	5 To a very great extent
Understood your needs and managed your expectations as the project sponsor					
Reported to you on the progress of the project regularly					
Led implementation in a way to ensure sustainability of changes over time					

Comment on the extent to which you think objectives were achieved and the value of the outcomes for your organization.

Individual Moving Range Chart for Average Ratings of Sponsors Across All Three Questions



Sponsor Comments

- The objectives for the project were absolutely met. Major objectives were addressed successfully. This has saved the repealing of the new product and process by our directors, which would have caused tremendous staff angst and customer frustration. The improvement project also provided a modest direct financial impact, but I am not at all concerned about this, and I was very clear in telling the facilitator that I wanted the time to fix and reduce errors. He managed to do both in difficult circumstances.
- The outcomes for us have been excellent. We have for more than ten years attempted to make our staff more productive to achieve targets using a variety of methods. All to no avail. The facilitator was able to implement a successful strategy where we had failed time and time again. Now the staff have exceeded targets by more than we ever imagined they could.
- The facilitator progressed a plan to improve processes and enable better efficiency in demand flow and management. The process was complex as it included consultation and reaching agreement with a range of stakeholders with differing expectations and demands. The information and recommendations presented were considered and easily achievable. More importantly, they were accepted and agreed by all stakeholders. There has been a considerable improvement.
- This process is one of the more critical, time sensitive and customer visible that the business has, and therefore it was essential it was executed effectively. This was done and to the mutual benefit of both the business and customer.
- The solution meets our needs to allocate funding to support outcomes for the organisation. The projects successful outcomes provide a sustainable solution, which benefits individual organisations and the system as a whole. Senior management has acknowledged the high standard and the outgoing value of the work produced. This work was "… both 'world-class' and a 'watershed' result for the organisation".
- I believe that the warehouse receiving team (which is one of the key stakeholders) has benefited from the project. The knowledge and methodology that the facilitator brought with him have enabled the team to progress in a structured manner. I believe the key benefit is not only the deliverable of this project, but the fact that it has changed the mindset of the warehouse team on how such projects can and should be run. My sincere thanks to the facilitator for leading this project.
- One of the main objectives for the project was to optimise and streamline the process prior to automation. This objective was not achieved at the time the project was concluded. Some initial positive results, but the sales management team were not happy about some of the decisions and direction with the redesign of the process.

Team Member Feedback Form Common for All Project Portfolio Requirements

Team Member Feedback

Name of Person Being Assessed:
Project Title:
What tools did you use to help you with this project?

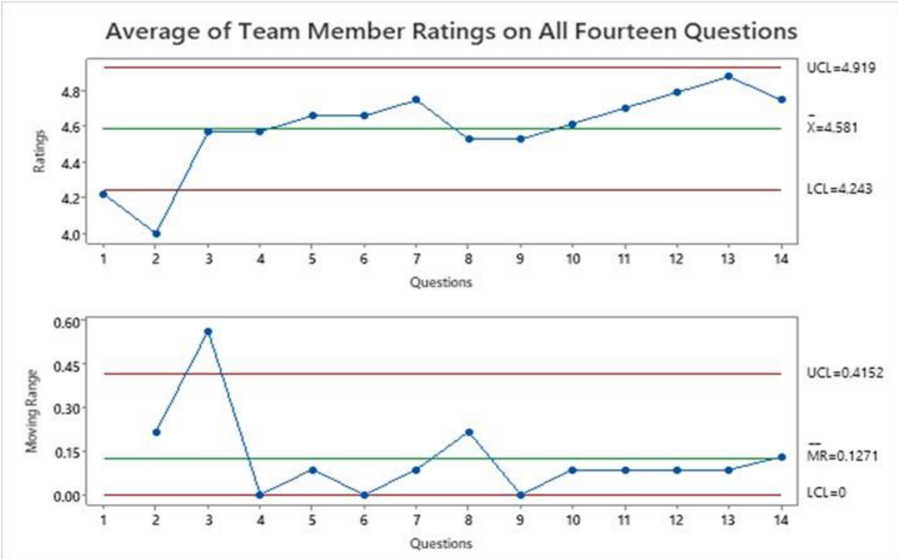
Rating Information: Please be candid when you fill out this questionnaire. Evaluate the actual behaviour of the individual as you have observed it. Then make your ratings carefully, one item at a time. Select one response for each item from the following choices.

Rate the extent to which the person was effective in facilitating the following:

Behaviours	1 Not at all	2 To a little extent	3 To some extent	4 To a great extent	5 To a very great extent
Team's understanding and use of the improvement plan as the project charter					
Team's development and use of multiple cycle plans throughout the project					
Team meetings: tasks clearly allocated; progress regularly reviewed					
Analysis of information / outputs collected through cycle activities					
Decision making by team: next steps in the project, solution choices etc					
Providing clear information and guidance on the use the Six Sigma tools used in our project					
Ensuring participation and involvement of all team members and encouraged full expression of ideas, opinions, and concerns.					
Observed dynamics when working with the team and intervened appropriately.					
Gave useful feedback to team and individuals					
Was sensitive to differences among people and sought ways to work with them.					
Expressed disagreement tactfully and sensitively.					
Listened openly and non-judgementally without interrupting.					
Gave presentations that were concise, organized, and easy to understand.					
Helped the team build buy-in to change by involving those affected					

Additional Comments on effectiveness of Person as the project team coach on Lean Six Sigma or Organisational Improvement methodology:

Individual Moving Range Chart for Average Ratings of Team Members Across All Fourteen Questions



Staff Feedback

- I have found the facilitator to be highly technically competent in regard to the LSS philosophy and its associated tools. He demonstrated outstanding enthusiasm and has shown control and understanding of the project.
- The approach the facilitator had for hosting team meetings and workshops made for a very open and collaborative environment that enabled the group to learn LSS as we went through the processes and methods and to then contribute to the program. It made it enjoyable also and showed the benefits of using LSS for the benefit of the entire group.
- The coach effectively led the project team to achieve the project goals and transfer Lean Six Sigma knowledge to the team. He is a quiet achiever who is able to get results and actively engage with stakeholders to ensure the project is completed on time.
- The facilitator was able to navigate a steady course to this outcome despite the business having three partners with three very different views and styles. Something few if any have been able to achieve.
- The facilitator built up the team's knowledge of LSS using practical examples with a sense of fun that made the process easy to remember.
- Because the coach was involved with the team from the start and kept them involved constantly with their input and the progress, he got great engagement and commitment from the team to see the benefits of the improvement.
- The project team coach:
    - was clear and articulate in explaining all aspects of the project
    - provided excellent updates of the progress of the project
    - encouraged feedback and was open to suggestions
    - was not deterred by setbacks but used them as opportunities for reflection
    - delicately and respectfully managed competing viewpoints on some issues.
- She was excellent in facilitating all aspects of the new process flow and in particular with collating and analysing statistical data to assist with implementing improvements when and where required.

Appendix 20: Pre-Existing Project Structures and Social Dynamics Encountered by Facilitators

Facilitator Observations of the Range of Staff With Whom They Engaged

- The National Manager was the key role. The Regional Coordinator for the area. The General Manager had keen interest – was not providing support or resistance probably just providing a deadline. There were two arms to the business. They interacted a bit, but they were the two main streams. There were other people who got involved in working on the project.
- The key roles involved were predominately the people who operated in that factory, so: the manufacturing supervisor, the manufacturing engineers, and the manufacturing technicians. So, people who work in the factory.
- The COO and executive for HR were joint sponsors. And then underneath it, there [were] another five different divisional heads that I worked with. So, quite a lot of different divisions to work with, let alone the teams (doing the work).
- The key people I worked with [were] the executive of the hospital, the Director of Nursing, the heads of the different types of surgery specialties and then all the staff in the multiple units.

Pre-existing Social Dynamics Reflected in Facilitator Portfolio Observations

- I was lucky in that the project sponsor and process owner were both on-board from the beginning, all the managers in the division were for that matter. I believe it's imperative to have buy-in from the top down to get the most out of Lean Six Sigma.
- Unexpectedly, [the] people's side of resistance was less than originally anticipated. One observation suggests this positive phenomenon was partially due to the team and process [being] ready for a change and the team took the accountability and ownership onto themselves and [were] eager to make a difference.
- The existing executive was in the process of facing a formal investigation and complaint for bullying from multiple sources. So, it was quite a tricky environment to work in. Overwhelmingly from all staff groups there was a sense of frustration and powerlessness to meet expectations and achieve performance targets. The experience of professional staff was one where they were constantly struggling to be heard by [the] executive regarding their issues. The experience of operational staff was that they were being asked to stay back and do overtime or were subjected to strong language from professionals.
- There was a strong blame culture between Sales and Operations. Each one only wanted to be accountable for their part of the process not for the final outcome. There was underlying negativity towards the other team, with one team escalating to their team leaders with no effort to address or resolve the issue themselves. There was no trust between teams, which accounted for duplication of activities and excessive emails. The organisational culture and nature of the dysfunctional team dynamics was more of a deep-rooted issue than I anticipated.
- Staff anxiety about workload.
- "Highly siloed" across offices and departments due to regional separation. There was a strong silo mentality with low levels of trust between the teams – an 'Us versus Them' mentality.
- Staff frustration with cumbersome documents and process. Lots of forms, no real owner of the process. No accountability in the process. No clear guidelines on what needs to be done. Staff feeling lost and not valued.
- Poor communication and linkage between teams. Highly hierarchical structure that impeded the flow of communication and collaboration. People with entrenched views on the process and the interactions within system.

- Some leaders showing a lack of support or indifference.
- External consultant feeling threated by the work. She was entrenched in more traditional ways of improving businesses.
- Initial angst amongst a couple of colleagues. They felt this project was a threat to their position, that it was designed to develop into a finger pointing exercise. “Why haven’t you done your job properly?”, “Why did you take x long to complete this?”.

Appendix 21: Noematic Themes by Project Phases

Define Phase Experiences

Five specific themes emerge across 13 accounts from nine participants based on the types of situations encountered within this first phase of an improvement project. These specific types of situations help describe the essence of experiences faced in the Define phase and so outline what was experienced:

3. Facilitating the development of the improvement project plan or charter whilst stakeholders with little knowledge of the methodology jump to solutions and sometimes expect unreasonably short project durations. (7 accounts)
4. Coping with difficulty in retaining sponsorship of the improvement project. (2 accounts)
5. Conflict with external consultants within the organisation who have little knowledge of the methodology or subject matter. (2 accounts)
6. Coping with negative responses to the project borne out of fear for job losses. (one account)
7. Anxiety generated during first workshop mishaps and lack of engagement. (1 account)

Measure (Baseline) Phase Experiences

Three themes emerged across six accounts from four participants. The themes were based on the types of situations encountered within the second phase, which deals with baseline measurement. These situations help describe the essence of experiences faced in the Measure phase and so indicate what was experienced:

3. Dealing with sponsorship issues:
    - Coping with sponsor's hidden agenda for information collected. (1 account)
    - Adjusting to changes in sponsorship for the project. (1 account)
4. Contending with belief-based resistance from process leads in the face of evidence. (2 accounts)
5. Facilitating collaborative measurement and analysis where none existed. (2 accounts)

Analyse Phase Experiences

One main theme emerged across four accounts from three participants based on the situations encountered within this third phase, which builds on understanding the situation before moving to solution development. These situations help describe the essence of experiences faced in the Analyse phase and so indicate what was experienced.

All four accounts described challenging situations where effective facilitation promoting cooperation and collaboration produced successful outcomes:

10. Successfully obtaining sponsor support for resources when this was unclear. (2 accounts)
11. Enabling active participation on causation analysis with suspicious or frustrated staff. (1 account)
12. Overcoming conflict between teams resulting in collaboration over analysis and design. (1 account)

Design or Solution Development Phase Experiences

Two themes emerge across five accounts from five participants based on the types of situations encountered within this developmental phase of the improvement journey. These situations help describe the essence of experiences faced in the Design phase and so indicate what was experienced:

2. Dealing with sponsorship issues:
    - Dealing with sponsor resistance for resources resulting in facilitator taking on additional line responsibility. (1 account)

- Coping with sponsor pressure to choose less effective solution. (1 account)

3. Engaging stakeholders and using creativity techniques to stimulate collaboration during solution development:
   - Successfully engaging stakeholders in solution development producing adoption of changes. (3 accounts)

Pilot Phase Experiences

Two themes emerged across four accounts from four participants based on the types of situations encountered within this Pilot or Trial phase of the improvement journey. These situations help describe the essence of experiences faced in the Pilot phase and so indicate what was experienced:

3. Contending with challenging situations that generate facilitator anxiety and frustration that involves acceptance of learning from information collected:
   - Dealing with volatile conflict between teams over solution implementation. (1 account)
   - Stakeholders have misinterpretation of data that results in project delay. (1 account)

4. Effective facilitation produces support for the implementation of solutions:

- Staff or sponsor become advocates through facilitator relationship building during Pilot. (2 accounts)

Implement and Control Phase Experiences

Three themes emerged across eight accounts from six participants based on the types of situations encountered within the Implementation phase. These situations help describe the essence of experiences faced in the Implementation phase and so indicate what was experienced.

1. Dealing with sponsorship issues:

- Coping with sponsor takeover of implementation without warning. (1 account)
- Coping with changing sponsor. (1 account)

2. Contending with challenging situations about implementing agreed solutions that generated facilitator frustration, disappointment, and anxiety:

- Coping with staff fear of impact of proposed solutions. (1 account)
- Dealing with team leader's resistance to take responsibility for implementing solutions. (1 account)
- Coping with aggressive, negative reactions to implementing the solution. (1 account)
- Mediating conflict between teams resulting in partial implementation. (1 account)

5. Effective facilitation producing support for the implementation of solutions:

- Facilitator's patient engagement creates staff buy-in and overcomes resistance. (1 account)
- Creating project storyboard through collaboration amongst stakeholders stimulating a sense of joy in achievement. (1 account)

Phase	Themes of What Was Experienced – Noematic Key Activities
Define	• Facilitation to achieve agreement on solution with sponsor and others • Prior coaching and education about LSS • Dealing with desire to jump to solution when reviewing draft improvement charters • Getting the right sponsor nominated

	• Facilitation lessons in conducting workshops – preparation, ice breakers • Coaching on use of data to make decisions about project objectives • Conveying concepts as the work unfolds • Dealing with loss of sponsor - friend • Clash with consultants who are ignorant of methodology • Facilitating end phase and regular sponsor / manager updates
Measure	• Responding to hidden agendas when updates and performance data are provided. • Facilitating resistance to measuring performance and coaching on the use and value of data – facilitating a self-awareness culture • Coping with hostile reaction to data when ingrained beliefs were challenged • Coping with SME reaction to data that threatened their role power • Coping with a change in the sponsor at a crucial time • Engaging staff in gathering baseline data when none existed overcoming fear of making results transparent • Enabling learning about how the business is performing
Analyse	1. Coping with competing priority for access to people released to participate in analysis workshops – DOE 2. Surprised by the ease with which Sponsor agreed to more resources in update meeting 3. Overcoming past lack of engagement of SMEs to involve them in workshops to brainstorming potential causes 4. Engaging with sponsor to overcome resistance to implications of results from the Analyse phase 5. Creating collaboration between two senior stakeholder groups and acceptance of the analysis and its implications for both teams 6. Coaching sponsor and maintaining involvement in major root cause analysis workshop despite redundancy being announced
Design	2 Using Creativity techniques in idea generation workshop to increase buy in, engagement and enthusiasm amongst staff 3 Taking on line responsibility for proof of concept implementation due to lack of resources whilst still managing the project 4 Multiple engagements with different people and teams to overcome resistance and help with adoption of changes in a complex project 5 Consulting senior managers to encourage them to be patient with the development of the prototype solution and trust the approach in a complex project
Pilot	• Overcoming initial negative reactions to changes introduced in the Pilot through involvement and by demonstrating ease of workload • Responding to hidden agendas when updates and performance data are provided • Surprised by the ease with which sponsor agreed to more resources in update meeting • Overcoming invalid measurement and misinterpretation of data (validity) that created embarrassment, which delayed the pilot • Mediating and seeking resolution between two teams on solutions when there is a lack of trust and bullying behaviour from one team towards the other
Implement and Control	• Building awareness about changes and seeking input to overcome resistance to proposed solutions • Coping with management seeking kudos and all of a sudden deciding to take over tasks during implementation • Coping with unexpected change of sponsor just at implementation through engagement and involvement in project rationale and status • Helping overcome defensive reactions from SMEs to changes because they feel they are

	being blamed • Trying to resolve line manager refusing responsibility for ongoing change and ultimately taking on the responsibility • Achieving buy-in from introverted, sceptical staff who were not use to engagement in the past, through patient ongoing involvement and communication • Impact of multiple engagements and communication around the visual A3 Summary of the project that created a sense of achievement and collaboration • Facilitating a very aggressive reaction to adopting agreed changes because of perceived threat to their customers resulting in the project stopping • Facilitating a reaction from a team who chose to revert back to past processes and not implement the agreed changes.

Appendix 22: Additional Analysed Evocative Accounts for Major Theme: Challenging Engagements with Sponsors or Senior Stakeholders

Type 1: Encounters Where Sponsors or Senior Stakeholders Jump to Solutions

Background to Evocative Account 6:

This account is from a facilitator in a very large organisation that has not applied LSS to deliver improvement projects. The project is complex, critical to the organisation, and under external political scrutiny, and the engagement involves very senior staff. The personality profile for the facilitator, in comparison to population averages, shows high to very high compassion, industriousness, enthusiasm and assertiveness, emotional stability, and intellect. She describes a long-term, natural affinity for problem solving, hence the high score for the Intellect component for Openness to Experience. The account focuses on trying to work with the senior team to agree on the problem definition (so objectives and measures) for the project. She begins by placing the experience in the project timeline.

Evocative Account 6	
Situation *This was early in the project during the Define Phase starting with a kick-off meeting. It was my manager, me, the executive director, and another director (maybe four or five of us). They were handing over the problem to us to go and fix as a team. After the kick-off there was various subsequent meetings where we'd go back to revisiting the problem. The executive director was explaining what the problem was. I began really drilling down as to what the problem was. Is it because the process is too complex? Is it because it's taking too much time?*	
My Annotations	***The Qualia of the Experience – What was Seen and Heard***
Attention is captured by what she sees and hears. Realises the executive is having difficulty with the idea of examining and defining the problem.	*I am really trying to drill down to get the project definition. You could see a real frustration emerging within him, like this is waste of time. He's kind of flustered and annoyed, and reflecting it on me, like are you stupid? Why are you asking this question again? I've told you all I've got. The tone of his voice was quite rushed, gravely, frustrated. He is probably thinking - Why are you even bothering with this? Can we just get into solutions? Why are you asking this? I've told you what the problem is.*
Displays Intentionality - becomes focused on dealing with contrast between jumping to solution and slowing the thinking of stakeholders towards defining the problem they would like to improve on.	*I would then ask in a deeper way, or from a different angle, or a more specific question. I'm thinking about the executive director at the time. I'm seeing him with his hand on his head and talking into the table because he's digging deep. Quite red faced, a bit frustrated, showing all the signs of being deeply frustrated with me asking these questions.*
She will not withdraw or back off –	*The others would add their own thoughts. Everyone was trying to be collaborative, kind of wrestling with this thing. The other director at the time, who also owned this problem, was trying to help define the problem too. My manager was giving his take on it but isn't saying very*

sticks to what she thinks needs to be done given her training in the methodology.	*much, he's much higher on the politeness scale. I'm looking at my manager who is showing all the signs of looking ruffled by me continuing to ask questions, and just wanting to smooth it over and make it all go away. He just wants to keep everyone happy, don't rock the boat, don't ask too many questions. We'll go and work it out, that's fine. And I'm like, no, we need to get this clarity.*
	The Qualia of the Experience – What was Thought and Felt
Sense of body showing focus. Awareness of the challenge and frustration the senior people are feeling. Displays empathy in her thinking. Will not withdraw – sticks to what she thinks needs to be done. Displays anxiety and self-doubts – questioning herself. Still will not withdraw – sticks to what she thinks needs to be done. Begins to feel anxiety about her Career and Reputation given her interactions with senior staff	*I am very attentive, engaged, and energised – assertive. I was sitting quite upright in my body. I wasn't laid back at all. Sort of a balance of wanting to show compassion and sensitivity, and openness in my body language, but also sitting quite upright and focused, thinking – 'This is something that is important that we actually have to get some things out'. I really want to stick to my guns because I know this is important.* *On the one hand, I am calm and determined because. It feels like a dentist that's doing a tooth extraction. You know it's hurting the patient, but this is the job that needs to be done, and this is really important.* *On another level I am beginning to question myself. I'm challenging quite a senior person on the problem, and my manager who's quite hierarchical wants me not to ruffle any feathers. I think I know what I'm doing. I am really checking with myself, have I overstepped the boundaries, do I keep pushing? - just trying to read those signals.* *I am feeling anxious, thinking 'shit! if I don't get the gold nuggets I need out of this guy and he walks out the door, I'm left with his expectation I'm going to sell something that's so nebulous that we don't know what we're doing. We all will look stupid, and it's a waste of time.' Then it will be hard to come back and ask some of these questions two weeks down the track, when its hand over time.*
	Facilitator Intervention and Response
Displays empathy in her thinking. Starts to plan next steps to achieve clarity on Project Problem and Objectives Spends much time and Energy on numerous Follow Up Meetings to Clarify the Issue. In the process she is coaching, teaching, and communicating about a critical thinking skill within the methodology about getting the	*I had some comfort from the fact that I didn't expect this guy to have all the answers in the moment. We're all wrestling with it together. I knew I could take some stuff away and do some work, and I was conscious that I needed to get enough out of him to go and do some further work. I knew that I could do my own side conversations, research, and come back to him with something and then it would be easier for him to respond to the ideas. In that initial meeting we didn't fully define the problem. They said right, we've given you everything, go work on it.* *So, I actually spent weeks of wrestling with it and writing different statements, and then I'd take elements back to them and say, "Does this define the problem? Is this accurate?" Have I heard you right? Is this the thing? And they might say, "Oh, no, that's not quite right.". It was a bit of an iterative process. It felt like it took several weeks of work to*

Project purpose very clear before doing anything else. She achieves a level of shared understanding amongst senior stakeholders on the problem to be addressed and therefore the associated objectives and measures.	*actually get to a point where we got a clear definition. And then they eventually looked at it and said 'Yeah it's obvious. That's what I said in the first meeting – 'the process is too complex and takes too long'. But for me, I knew that what we went through was a really important foundational process and it was worth being 'a dog with a bone'.*
	Facilitator Interpretation
Her assertiveness and facilitative behaviour is interpreted in terms of sticking to the principles of the methodology and her mental model of an effective improvement facilitator / project manager. She reflects on this common human reaction of jumping to solutions that she has experienced. She displays 'Systems Thinking' by explaining the experience through the lens of understanding the maturity level of the organisation and the complexity and scope of the problem. She also interprets her behaviour based on her personality at play. The comments reflect her own understanding of her profile. She reflects on her attempts to remain patient and compassionate for the people struggling with her pushing back on going straight to accepting solutions from the stakeholders. Active listening is seen as a key skill that works for her.	*Staying with the principles of the methodology was important for me. Sticking to my view about what we needed to do within the methodology goes back to my high intellect characteristic. What makes a really good process improvement person, is someone who can solve complex problems. The very first step of that is defining what the problem is in absolute clarity. This is one of the cornerstone pieces of what makes a good process improvement consultant. For most people, that's a really aggravating and frustrating thing, so they want to skip that. Just fix it is the view. I don't want to spend time talking about what the problem is. "I don't want to go through that pain. Just give me the answer." So, they're just wanting to go to solution. If you don't set up your problem, everything else is a waste of time. I saw it as a distinction between what makes effective process improvement people and what doesn't. I had to have this sort of doggedness. So, I spent a lot of time talking to people to break it down, to define it.* *The complexity and scope of the situation also contributed to what happened. It was a complex problem because there were lots of different pain points. Specifically, which thing should we address? Is it the fact that it's too complicated? Is it the fact that it costs too much money? Which element?* *What happened also reflects my personality. I saw the Director as very human. Part of it was his frustration of just wanting someone to fix it. He was genuinely digging deep to help define the problem and to give what he could. It was difficult thing to put into words because it was nebulous with different stakeholders' views. I really appreciated how deep he was digging to help put words to it. He was in the mud, frustrated, trying to sort of work it out. You need some degree of agreeableness and compassion to listen deeply, to connect with people, because it's an uncomfortable process for them to go through. I was using all those soft skills, the active listening to extract as much understanding out of what he was saying, as well as to connect, support and affirm and make it a less painful process.* *I displayed low tendency to withdraw and be volatile. The executive is just venting his own stuff. I sensed their frustration and I'm not taking it personally. I've got a very clear focus to get a clear problem definition,*

She notes that there is a balance she displayed between being assertive and enthusiastic to complete the task without withdrawing because senior people were getting frustrated with her or by getting angry with them.	*and I'm not going to get ruffled.* *Assertiveness was very clear in what I was trying to do having to channel people through the process. I was not trying to make people feel comfortable and have a nice time. This is about particular things that we need to get done and extract out of this meeting - the doggedness to keep going with something, even though it's ruffling people's feathers.* *I was working very hard in the meetings. Very focused. I knew exactly what I was trying to get out of it. I was trying to make it as productive as possible, then take that away and rework it and bring it back so that I could make it as painless as possible. I'm a dog with a bone, I'm going to try different ways of getting there, but ultimately, this is what we need to get out of this (I displayed industriousness).*

Evocative Account 1	
My Annotations	***Summary of Experience***
Context is nil application of LSS. Initially contracting with the sponsor on the approach.	*There is no culture of structured improvement here. It was really challenging trying to do all the Lean Six Sigma best practice things but keeping it absolutely hidden. It's very early in the Define phase. I was doing a lot of work behind the scenes to set up the team and sponsor. It took a few sessions to explain to the sponsor what she was reading in the drafts of the improvement plan. In the discussion about who would be on the team and budgeted time, I am hearing "No. No. Just fit it in between work." "Not going to minimise workload or anything like that.".*
Much effort is spent setting up the team.	*I contacted people individually and got the sponsor to contact people to set up our first team meeting. There were a series of conference calls over a two-week period to get the team up and running. Quite a few of us are in different open planned offices up and down the coast. Team members had rubbed shoulders at different times. Some of them did not like each other particularly well. So, part of the early process was getting the team established.*
Much effort spent in teaching and coaching using the ideas of LSS without mentioning LSS.	*Most people had no idea that I was hoping to also coach them and train them in the methodology along the way. I had to work out how to do that in a non-ego defeating way for people who were all quite intelligent and experts in their own field. I had to watch that balance of not making people feel stifled or doing things just for me. Some of this was quite tricky. I structured every con call meeting I had with people so that I knew what I wanted to get through. Initially they were not keen on a process that could take up to six months to fix a problem. They just wanted to take a few weeks to implement their solution ideas. Initially when I asked for feedback at the end of each a con call, they were kind of like "what, why do you want to do that for".*
Feelings of frustration and anxiety are provoked given the difficulties faced.	*It felt like a real funnel trying to get things established quickly but people not willing to come along as quickly as I wanted them to. Frustration is the overwhelming emotion in the first couple of weeks with a Sponsor and a GM looking over your shoulder in a place where people did not care about any of that*

	and had no idea what I was trying to achieve and do with them. I am trying to cope with all of this and at the same time I am in a place where I was trying to deliver for my own sake and credibility. There is some fear and some anxiety with that. Like "will we actually get this up and going. What if these people start dropping off?
Reflects on the methodology, shows patience, and invests time to explain to every individual. Finds the effort emotionally draining. Interprets own response from a personality perspective. Facilitator profile was Moderately High on Agreeableness (compassion and politeness), very high on Openness to Experience and Extraversion (Enthusiasm and Assertiveness).	*I kept thinking how can I do better? Don't over formalise it but keep it structured. I needed to understand more about their current situations. I didn't have their scaffolding. I didn't really have what they knew in the first meeting. I invested in a lot of post workshop communication one on one. Lots of follow up and debriefing. Listening to reactions. Going back over those paths of communication with every individual time and time again. The learning purpose challenged me in the first couple of weeks. There was no option as far as flight goes and I don't like the fight, so confrontation in a gentle way of being able to bring those two things together took a lot of work. It was emotionally draining to put this extra work into understanding people in an overly busy environment. So that was draining until the results started coming in and people started getting the rhythm. The sponsor and team were very gracious. They really wanted to fix the problem. They were true believers and zealots. They sucked it up and went with me and eventually we got our rhythm happening, but it did take effort.* *I am a gregarious sort of person, wanting people to get on well, realising how easy it is to get things done when people do get on well. But its draining to maintain enthusiasm These days I do find I can move in and out of that mode very swiftly. I am not sure if I had that self-awareness then as now. Because people grow and change right. My assumption is that it's the people person people who always need to be bending over backwards to the people who are non-people person peoples.*

Evocative Account 2	
My Annotations	***Summary of Experience***
What is seen and heard immediately captures the attention of the facilitator interrupting the planned process. Reaction of anxiety and panic. Self-reflection in the moment leads to asserting the process the facilitator had intended. Facilitator had high compassion and industriousness traits. Displays a sense of	*Pretty much off the bat, the CFO starts posting his opinion, his suggestions as to what we might do to put this right. Straight to solution - fix this stuff up. And he got a bit of support from his team as well, the process owners.* *As soon as he started jumping to solutions, I felt a little unsettled and began questioning myself. I saw that, all eyes are on me, and waiting for a response, or looking for something. I was feeling a little bit of anxiety, a bit of doubt. There was that sort of initial, panic, sort of initial anxiety as it started first happening.* *I thought 'oh hang on I better start writing this down'. I started scribbling down their ideas, and then thought I've got a deck of 10 slides I want to go through about all this. This is what I want to get over. I'm sort of processing, as I'm sort of going through it, then switching in my mind and saying, no actually let's bring it back to the methodology. Bring it back to him and get him on board.* *I didn't want to lose all their support and just say that's wrong. Let's ignore that!! So, I said, okay we'll take a note, we'll come back to it. And then brought them back to the presentation, the timetable we proposed, the ideas and explained the phases and tollgate sessions telling them some of the things we might do. After explaining they accepted it, at the time. But then I found over time I needed to continue to help them understand what the process we were going to be going through. They sort of*

compassion and empathy for the people involved. Patiently explains and teaches about the process that helps achieve acceptance and support. This effort continues over time. Gains insight into sponsor and other senior stakeholders and confidence about the methodology.	*understood that by the end, or at least they accepted it and were more supportive.* *It ended on a positive note. I think we allayed their fears that we weren't just going to be wasting everyone's time. We were taking on board what they were saying, and it would be brought into the project. They had a better understanding of where we were headed. Their concern was we wouldn't uncover things. We ended the tollgate on the next steps in the plan with the high-level timetable and then exactly what we're going to do next.* *From the meeting I got confirmation that the sponsor is someone who has high expectations and wants things done and wants his money's worth out of it. Afterwards I felt more comfortable at being able to handle them in that meeting.*

Evocative Account 27	
My Annotations	***Summary of Experience***
'Jumping to solutions' impacts the facilitator and team towards the end of the project creating a lot of turmoil. The threat to the project, the team and to the facilitator personally was deeply felt despite the facilitator's personality characteristics. The role of senior stakeholders and the supportive relationship with them is key in this	*We'd designed five or six prototypes and were on our final version that would save 'customers' many million dollars a year. During a discussion my director says, "There's all these fireworks going on. There's pressure to cut the project short. We're being told we need to do it in six weeks but we're pushing back."* *A Senior stakeholder had heard we'd shown some really good results with the prototypes. This executive suddenly wanted to just bank those wins and not see the full benefits of the project. He also wanted my team to finish in six weeks when we still had six months to go. It was totally unrealistic.* *When the Director used the word 'fireworks' it affected me. I'd heard about the fireworks from various other people, so I knew what that was about, and I could sense it in the team. I think with that comes the threat of, 'I don't know if I'm going to have a job anymore'. Someone can come along and basically just blow up what we're doing because there's ambiguity, or because they can't handle the pressure of the uncertainty in the middle of a project, or because they don't understand it. There is an element of anger and frustration and rage, of how can some idiot come along and just decide? We've got a whole thing mapped out with all these people invested in it. It's going to be amazing. Just because you have not been part of the process, can't be patient, you can't handle the ambiguity and you've got political pressures, you're going to write a check for many millions of dollars!! So, anger and frustration!* *I'm sure my face colour changed. I'm sure I went red. Quite a steeled look. It felt like almost equivalent to someone telling you that you potentially don't have a job anymore. Being the person who's leading that project, I'd already seen the solution. So, it's like someone killing your baby. Yeah, quite threatening. It's the sense of essentially all the meaning in your job just gone. It's being told that you potentially could be made redundant because this threat has come up and, by the way, you're finished. So, there's a high degree of internal anxiety, or turmoil.* *Our team felt that if we could just hold to the plan, stick with it, we'll get the full benefits.*

difficult situation.	*During the meeting the director said, "Don't worry, I'll handle it." The fact that we had a very strong director and executive director on our team was a success factor for the project. They pushed back and said, "No. Stuff it. We are holding to our course." And they held to it. They actually refused the demand. The project was completed and was a great success for the organisation and its customers.*

Type 2: Obtaining Sponsor Support for Resources

Evocative Account 19	
My Annotations	***Summary of Experience***
Sense of worry because of needing to ask for more time with staff. Using communication techniques like active listening and paraphrasing and generating awareness of consequences. Very strong sense of not showing emotions. Profile is very low in withdrawal and volatility. Understands the context and has empathy for the managers. Sense of anxiety because threat to reputation and assignment of blame if project is delayed**.** Recognises own behaviour traits. Very driven to meet schedule matching profile of high orderliness, industriousness, intellect but low in politeness.	*There are always a million priorities happening right! During the Analyse and Design Phases I needed more time with the SMEs both for the cause-and-effect analysis and the DOEs. The SMEs themselves are stretched for time so were not available. Each time I met with the supervisor and the manager.* *There was a bit of a discussion. Firstly, they were unaware of the conflicts that their team had. Then that turned from lack of awareness to saying we have other priorities. I listened to their frustrations and paraphrased their statements. I was listening to their concerns. Then I stated the repercussions of not meeting these timelines and using that to influence them to go okay we really need to do this rather than arguing. More of a discussion. So, then they conceded - okay we will give you the resources. Denial then okay then here are the resources.* *I am frustrated and disappointed because we had agreed the resourcing up front in the Define phase. But I am not showing that emotion because you can't show that emotion when you are the project leader. I understood they themselves were being pulled in different directions and are frustrated as well because someone is coming and saying we need more of your team's time.* *I am responsible for the timeline to the senior management team. At the company the CEO sees that if I can't influence them then it is my fault. It is my responsibility to influence people. Yes, a feeling of anxiety and threat because I could be seen as a failure with senior management, but I would not show that. No matter how you are feeling, don't show emotion.* *I think in these types of scenarios you really got to push and stick to schedules. That is the driver. You also need to be willing to push back when challenged. But you are being respectful and polite in influencing them. Individuals low in withdrawal can handle new, uncertain, or unexpected situations.*

Evocative Account 21	
My Annotations	***Summary of Experience***
Similar experience to previous account. Facilitator profile has high politeness, enthusiasm, and openness to experience but with moderate volatility. His emotions and thoughts focused on a negative outcome. Surprised by the positive reaction of the sponsor. Appreciates the trust given which strengthens his relationship with the sponsor and reinforces the effort expended on the project. Interpretation reflects on personality and raises lessons about handling similar situations. Appreciates the importance of a supportive sponsor.	*This happened twice around Analyse and the Pilot where we had to have more workshops and needed the same group of people. It's not just the one-day workshop. They have to do their own bit of homework. Throughout the life of the project, I was getting them to break into groups to do little tasks. Gather data. Look at the existing process. So, there is work that is outside the one-day workshop that they would have to come in to present. Prior to asking the sponsor for more resourcing, my mental state was he is not going to be happy. He will think I am doing a bad job. In my mind I just went straight down the negative route. This was in a peak time. Everyone is really busy at this time. So, I was anticipating him saying no.* *I was nervous and anxious so probably short of breath. So, the sponsor, process owner and I sit down in the meeting. Immediately I relax a bit because I can sense my sponsor smiling and cracking like mini jokes. I remember being grateful. I kind of set the scene of where we were up to and then just said we are going to need another workshop and more resources. Without any hesitation he was like yep, no problem. We just need to get this thing over the line. He didn't ask any questions, just took my word at face value. It was a proud moment for me because it's like he actually trusts me enough to go ahead on my advice. It was such a relief and surprise.* *My reflection on the worry that I was demonstrating goes to me planning a lot and thinking that's how it will be. A key learning for me was 'don't anticipate what your sponsor or key stakeholder is like – don't assume'. Have your facts and data and just don't assume. Although I need to plan as much as possible things are not going to always turn out that way. I had to learn to accept things a bit more. We didn't get through as much as we planned and anticipated which is another lesson I have learnt. I think the more mature I get in LSS facilitation the more I need to start trusting the philosophy when stuff is going wrong - just need to roll with the punches and deviate, pivot.*

Evocative Account 24	
My Annotations	***Summary of Experience***
Realises that resources to implement solution will not be provided. Sponsors suddenly add an additional line responsibility to facilitator under guise of handling confidential information.	*We were in Design at the proof-of-concept stage. We needed resources to complete the tasks. In the meeting with the sponsors, I outlined the solution concept, what we needed, the key risks for it, including the resourcing piece for it to be successful. The sponsors were concerned about protecting sensitive and private information so they wouldn't provide us with anyone. Ultimately, they decided it was easier for me to do it because I guess, they felt I would ensure that the sensitive information was protected. The meeting finishes and it's decided that I'm it!* *Later we're explaining that the proof of concept has been successful, and the*

Again, facilitator points to the need for resources given the volume of work. Sponsors resist generating frustration and anxiety for the facilitator in terms of handling extra work. Shows empathy for sponsor position, is driven to get the project over the line and so does not resist event though there is resentment for additional workload. Reflects on personality trait to get it done even though tiredness kicks in!!	*resourcing and timeline needed for the pilot. Huge amounts of material needed to be created! They weren't willing to provide someone full-time, it was only a part-time person.* *By this stage my frustration was we just need to get it done. They just don't realize how much work's involved, why can't they realize that we need more resources. In both instances feeling a little bit like, "Oh God, how am I going to do this?"* *I can empathize with the sponsors from the perspective that obviously budget-wise they have to work within their constraints. On the other hand, I thought 'you've got a whole division you have access to!! What's one or two more people going to matter. If they signed the confidentiality agreement from a contractual perspective, it shouldn't be any different. So, that was frustrating.* *For me there is this very, strong drive to get it done that dominates. It's after the fact when the tiredness kicks in. I wanted the project to be a success. Strong desire for that. I did believe that if I showed that we could get it done I would be rewarded from a personal perspective. I'm not thrown necessarily by things, so don't go withdrawing when suddenly, 'I'm it, I'm going to work harder'. Long hours outside of work hours to get it done! Mental toughness, I guess.*

Evocative Account 35	
My Annotations	***Summary of Experience***
Assumed support for resourcing was there and suddenly team leader begins to resist taking responsibility for the task. Leader gives various excuses even though the task fits in the team. Reflects on leaders past behaviour and personality. Gets frustrated as realises that she has to do the work which is a line responsibility. Shows empathy for the leader despite their resistance. Reflects on own trait –	*As an experience this was the more challenging piece for me, so that's why it sticks in the mind. Part of the solution was preparing a pack of information that the CFO wanted to track. People agreed that it should sit with a specific team, because they already did it every month. The leader had participated in all the past meetings and not said a word. So, we set up a meeting with the head of the team, just to get their endorsement, and go over the training plan thinking this is already sorted. I explained the plan, the logic, the justification, selling the reduced time and benefits for the team – things she had heard before during the project meetings.* *There was that sort of deflection, it's not me. And then it was oh I haven't got any resource; my team is too small, being evasive. She is just saying anything to try and get out of it. I'd seen in the past that she was pretty good at deflecting, had a way of over complicating situations and causing a bit of confusion to be able to then walk away from it and not deal with it. The meeting closed with no resolution. There's initial frustration, and then I was also thinking, well okay if you're not going to do it, who is going to do it. I actually did the work.* *It could well come down to a resource thing in their team. She is very protective of her team. Maybe she had bad experiences in the past where they had things happen to them that caused problems for them, in the workplace, and they are resisting. I just took it, I didn't get overly worked up about anything, I don't get thrown by stuff too much even though it might upset you a little bit. I can cope with things that don't quite fit with what I am trying to do.*

very low on neuroticism.	

Type 3: Struggle to Maintain Project Sponsorship

Evocative Account 12	
My Annotations	***Summary of Experience***
Shock comes from the familiar and supportive relationship with the first sponsor is broken.	*I found out about the initial sponsor leaving in a one-on-one meeting with him in a quiet room early on in Define Phase. He told me a little bit apologetically. It was a shock and had a big impact on me because he was my sponsor from the past. I had developed a very close working relationship with him.*
Strong empathy for the person leaving because of past relationship. Facilitator has high Compassion in personality profile.	*He understood in detail what I did. He established the function from scratch. The amount of knowledge he had passed on to me was huge, I called him Mr. Google. When he told me this, I felt deeply sorry for him. His departure created a kind of a fear in me because I was losing that source of knowledge. It impacted me because he had been very supportive, and I was going to lose this person. I'm a very calm person, there's not much body reaction from me, apart from my facial expression showing I am very apologetic as well, deeply sorry. I just simply had to accept I'll be operating without this very supportive and understanding sponsor.*
The shock impacts confidence but displays Industriousness, Enthusiasm, and determination.	*I'm losing a bit of my confidence. Immediately I start thinking about; where do I go, who do I escalate to if I do hit roadblocks? And all the relationship building needed outside what I do. I had a level of comfort in approaching him to remove roadblocks because I trusted he'll be there to support me. Then I thought about how I comfort the team and give them the confidence and essential security to continue the journey - we're not stopping. I was continuously operating in my own way, still leading this project.*
Gets another surprise but does not give up.	*The immediate replacement wants to make radical changes to the function. I wanted to get full engagement and her support to move on with the project. I learned from other sources she was moving on. This was out of the blue. I had just started to engage with her on the project – set up fortnightly catch ups, formal meetings, check in points. All were cancelled!! I continued to operate in my own way, still leading this project. I don't give up. I may not have that level of support, but I still have my team with me. So, the original goal is not changing. We're still committed to deliver benefits to the business.*
Continues to show empathy for the team. Exercises leadership and coaching.	*The third sponsor came in as an interim one and so was very much detached. There was not much connection or engagement with staff. So, we continued still working it out. But impacted the flow of the project and team morale. I could see the doubt and uncertainty in their faces, should we still work on or should we not. But I encouraged them to keep on going and managed to keep the team on side. I'm trying to be a different leader in the context of what we do despite the circumstances. And then this person also went.*
Interprets what	*The fourth one is the final sponsor. He is from an operational background but had no specialist knowledge coming from a different area. So, he is learning himself. Given the context, I didn't expect support apart from sign offs. It was limited support. He stayed to the end. He was more cooperative than the third one who was more*

happens in terms of understanding the circumstances within the organisation as well based on his own personality - high conscientiousness, extraversion, and emotional stability.	*resistant.* *The frequent change of sponsor was obviously a frustrating and difficult experience. Every time the senior sponsor changed; I have to bring them up to speed so that they realize what we are trying to do. It creates uncertainty.* *My thoughts were always oriented towards how do I keep going? Continuously trying to take the project to the end, to the finishing line. And kind of trying to sense what's happening in the management politics and reshuffles. I'm not the kind of person that gets easily knocked off – feeling that you're finished. I tend to be calm so there is the emotional stability in me coping with all the changes and not giving up. I'm not that type of person.*

Evocative Account 33	
My Annotations	***Summary of Experience***
Facilitator describes actions after a change in sponsorship at the point of implementation. Shows empathy for new person but is worried about the impact on the project. Within a week held meetings with the new sponsor to make him aware of the project journey and that the outcomes were going to positively impact him and his team. Sponsor appreciates the effort and facilitator becomes more confident. Reflects on the drive to get the work done.	*I kind of did a mini stakeholder analysis in that meeting - kind of doing a mini Define phase, right there in that meeting to make him feel like he is the stakeholder making the decisions and feeling part of the project. He was happy with the fact that I proactively met with him'* *I was worried about what could happen to the project because it happened late in the piece. But I wasn't showing that in the meeting. That would be unprofessional if I did. He showed enough to convince me that he was interested and would support it. Afterwards I was happy and confident about the project.* *I clearly understood the situation. I needed to influence him to make him feel like he was part of the journey. I knew if I did not achieve those things then it could derail the project. At the end of the day, it is really about managing the project, hitting those timelines and achieving the outcomes.*

Evocative Account 13	
My Annotations	***Summary of Experience***

Facilitator describes difficulty in getting a sponsor. Is forceful about the need for the sponsor role. After conversations the line manager agrees to be the sponsor despite the lack of LSS knowledge. Facilitator spends much time coaching the sponsor who appreciates the effort and learning. Reflects on level of assertiveness that comes with belief in the methodology.	*We are at a meeting on the customer's premises. Nobody had a clue about Lean Six Sigma. But they had views around doing this complex work in two weeks!! In the meeting I'm seeing resistance to taking the sponsor - leadership role. Pretty soon the volume increased with me almost dominating the conversation with them. I am physically arguing this out with these people. My colleague has got no idea and he's going to be the sponsor. I was not going to give in – I was like a dog with a bone.* *I had a conversation with our operations manager. I said, "I think you got to be the sponsor; it can't be me if I am the facilitator. I'll hold your hand all the way through, and we will work together around it". He had no idea of Lean Six Sigma, so I had to go through the whole teaching and mentoring process for this person. But we managed to do it with our own guy, and he did a good job too. At the end of the day, he said, I've learned so much by doing this exercise.* *My assertiveness came from believing in the methodology and wanting to take them through a particular process. I'm a fairly polite person. I didn't burn any bridges, but I certainly wasn't absolutely polite.*

Type 4: Mistrust and Anger Over Sponsor Behaviour

Evocative Account 14	
My Annotations	***Summary of Experience***
Gets a shock from the sponsors words and immediately pays attention to how she will deal with it. Feels manipulated and loses respect for the sponsor. Modifies approach to sponsor after consulting with trusted others.	*During the Measure Phase I was doing a check-in with the sponsor. I highlighted to her that there were some people on the project that weren't quite on board. I wanted to get support to influence and sway these people to come on the journey with us. Her words that stick with me is, "Do you think this person is someone I want to keep in this organisation. Come back and tell me whether you think they fit in and then you need to let me know when you're having problems with anyone else in my team". She wasn't saying this from the perspective of - "Because then I can help influence them".* *I realised there was another agenda - an ulterior motive. Her priority was to have me provide intel on her staff to help identify people that she felt didn't fit within her structure. She's got a different set of priorities, not necessarily about helping me manage some of the issues in the project. I'm frustrated and angry. I began to sense that, "I'm going to have to be careful here otherwise there's an impact on my career and so on."* *I start to become a little bit less open with her in meetings which was a challenge because she was one of the main sponsors on the project. In meetings, she acted like she was supportive, but she wasn't, which from my perspective is extremely*

Appreciates the difference in the relationship with the other sponsor.	*hard because I don't deal well with people that aren't straight up and down. My other sponsor was so supportive and just happy for the project to just happen. He saw the value. I was more spending a lot of time with both, so I had to really keep her buy-in.*
Learns about being less driven (part of her personality), slowing down and listening to the concerns of people.	*I consulted my team about dealing with the sponsor. I decided I'm just not going to bring up issues like that. I'm going to address getting team member's buy in myself. I learned I just had to sit back and go, "Okay, let me listen to your concerns." Ultimately by letting that person download, it made it a lot easier.*
Explains the behaviour of the sponsor and her behaviour in the context of the organisation, the sponsor's personality, and concern about the impact on her career.	*There was a restructure going on in the background within this division. The combination of new people, restructuring, plus her personality perhaps explains why she's doing this and can't separate that from the project. I don't think I was assertive in this relationship; because I was concerned that she could impact my future success at the organization. When you're dealing with executives and you're in a project role, if you read it wrong or if you step over a certain line, it can impact you as an individual. I was trying to ensure that that wasn't the case. Because I'd identified quite early that she was a manipulative kind of person, I really didn't want to confront her on the issue. So, that's why I was like, "It's not a time to be assertive."*
Very clear about losing respect for the sponsor and expresses insights about the display of her personality in the experience.	*From a very personal perspective, I am one that takes respect very seriously. At that point I lost respect for the sponsor because of the ulterior motive she had. She wasn't being open and honest, and doing things, that I felt was underhanded and went right against one of my core values. Having respect for the person for me plays into the agreeableness, compassion side of things. I'm quite low in terms of agreeableness, so can be stubborn and dominant. From the compassion and politeness side of things, I'm respectful to those that I think deserve it, rather than just people that are in a certain position. When this became a barrier for the success of the project, I just had to figure out a way of how we can get it done. So, I was driven to sort it out.*

Evocative Account 32	
My Annotations	***Summary of Experience***
Profile is high compassion and politeness with very high extraversion and low withdrawal and volatility. Most significant experience for the facilitator because of the impact emotionally. Gets a shock to learn that he will not be involved in implementation despite carrying the responsibility for the project and all	*This experience stands out more than the rest of them. It was right at implementation. Testing was over. Management had seen the test results and said go roll out across the company. I was ready for that. I had developed all the learning materials from videos to handouts to changing the company resources that would go with it. Processes and procedures and templates – a tremendous amount of work. So, I was looking at this as some personal kind of pat on the back and at the same time enjoying travelling and meeting other people.* *Just the week before we were about to start, the regional coordinator who was on the team got a promotion to a senior management role and then basically took over the roll out and said we don't need you to do this anymore Phil. It happened at the office. A Phone call!! "Hi Phil. Cancel all those other bits and pieces. You are not doing that anymore. We will do it."* *I remember sort of nodding and accepting it and telling them that I understood*

materials. Very strong reaction in terms of feeling betrayed. Loses respect for the manager and the organisation. Relationship impacted. Forms a low opinion of the person and the actions of the managers.	*their decision while at the same time wanting to give them a bit of a mouthful to say you know you are being jerks. It was a bit of a knock. Could feel the clamminess in my palms. I was pretty angry afterwards without a doubt. There was a bit of debrief with colleagues who were in the room afterwards. A bit of a pity party. 'You put all this work in and now they are going to rip it out from under you.' I was quite happy to indulge in that for a little while.* *I felt betrayed - usurped. It had not been brought up as a possibility before. The expectation was that I would be doing it with one of the trainers. The top-down approach was a shock. Certainly, downgraded my respect for the managers and for the company. I would see this as potentially one of those things where you have put in a lot of effort that hasn't' been properly recognised or simply ignored. I sat through the training sessions that I designed, making sure they got it right. And it got rolled out and the process worked. So validated the work anyway.*
Interpretation draws on sense of the management style and personality seen in the organisation and in general. Subsequently leaves the organisation.	*I can be a bit philosophical about it and go, well that is probably a good thing for the profile of the product that some senior managers did the roll out the training. People would take it seriously on board and all that kind of stuff. But it was done in a pretty selfish way. Being treated poorly by a manager who does not know how to manage people well.* *From the history of the interactions with him, I always thought of him as someone who was very action orientated. After this episode I changed my opinion to pig headed and narcissistic, probably wanting to grandstand a little bit. I could be wrong about that, but I am pretty happy with that assessment. In this organisation it seemed like those types of attributes got you promoted. Eventually I left the company not too long after that.*
Being highly extraverted, enjoying working with others, feels let down by people who are perceived as having 'low emotional intelligence'. – calls out a personal universal theme	*I see it as common sense to treat people with respect and some good communication to let them know what is going on to help them transition through things. So, I tend to think and feel that treating people with a lack of information or a lack of due process around changes is an unskilled way of dealing with people. I know there are different ways that people operate. But it always seems that the people who have the higher level of human awareness are the ones doing the adjusting for those who don't. And those that don't, get to work their way to the top as they don't care who they damage along the way.*

Appendix 23: Additional Analysed Evocative Accounts for Major Theme: Confronting Issues that Generated Significant Angst

Type 1 Emotionally Challenging Experiences With Sponsors

See Appendix 22 – Accounts are in Type 4: Mistrust and Anger Over Sponsor Behaviour

Type 2: Frustrating Experiences With Contractors

Evocative Account 7	
My Annotations	***Summary of Experience***
Facilitator is confronted by someone who is naive about LSS and has own strong opinions on improvement. Through conversations tries to educate and influence the contractor to no avail. Realises the contractor feels threatened by the facilitator and the possibility of conducting improvement work in her areas of responsibility. Also shows empathy for the facilitator as understanding about the contractor develops. Concludes that involving the contractor will create ongoing difficulties and so seeks support from the sponsor to release her involvement and include	*The practice I was working in had no idea about Lean Six Sigma and this was the first time they had done an improvement project. The sponsoring partners were very supportive. During the Define Phase we were struggling over defining the project problem, objectives and measures. The team included a business administrator on contract. Every time I would suggest something she would say we are doing that. She came across as incredibly defensive seemingly trying not to have something that was part of her responsibility to be the focus of the project.* *To work through this, I had a couple of one-on-one meetings with her in a café to make it more relaxed. Again, I outlined the Lean Six Sigma approach. She makes it clear where I can focus 'but this sort of the stuff here, I am already working on this, so I've got that covered. There were flash points where her nostrils kind of flared as she talked. My thought was, oh! Oh!! She is getting defensive again. She is making it difficult for significant application of the methodology. I began assessing the possibility of my working relationship with her on the project. I'm thinking not only 'You just don't want to embrace what I am trying to explain because you are thinking it slices into your territory too much. That I was trying to get her out of a job!* *I felt it was not going to work. We just missed each other in terms of getting on the same plane of understanding. We weren't going to be able to work together and I was quite emotional, a bit yucky. I was feeling expectant and optimistic because she was gifted and talented. Then felt frustrated, then a little bit aggravated, then compassionate, then resigned as I'm hearing all of this.* *It got to a point where I realised that I needed to talk to the partner because it wasn't going to work and would become a hindrance to the project. I do remember her talking about her need to support her children. It went through my mind that if she's displaced, then this will be a real impact on her. I thought to myself, I need to do this in a way where she doesn't lose her job. That was important to me. But I also thought what if you could get this you can really contribute some good things, but she didn't see that, boy! I felt sorry for her.* *I met with partner and explained what I felt and suggested that he nominate some key health professionals for the team, and she be released to keep doing her other consultant work. He agreed and that is what happened. The little interaction with her for the rest of the project was fine and she was supportive. I*

health professionals. Reflects on the sponsor's lack of engagement early on and own decisions from a personality perspective.	*think part of the issue is that the sponsor partner delegated to her without any realisation of her attitude and mind set. From his perspective he's just saying get on with the project.* *My reaction was a realisation that I needed to be more assertive if I was going to get anywhere. I needed to find a way to define my own space otherwise I wasn't going to have one. I was driven by my need to get some order after three weeks because it was frustrating not getting it nailed down. I also think it was my feeling of compassion for her. So those two things in balance was me trying to make this real and work.*

Type 3: Aggressive Confrontations With Individuals or Teams

Background to Account 38

The account is from a facilitator in a large multinational organisation where LSS has been introduced through the influence of the parent entity. The project is complex, impacts a customer group, involves senior staff and multiple teams. In the background, there has been some restructuring that has occurred and the feelings about this surface in the situation faced by the facilitator. One team has been transferred to another, leaving latent feelings among some staff. A team leader has been transferred out of his role and learns about this after taking some leave. The level of commitment to the project amongst other team leaders is low and the sponsors seem unaware of this social dynamic.

The personality profile for the facilitator, in comparison to population averages, shows very high levels of compassion, politeness and enthusiasm, and moderately low levels of withdrawal and volatility. Whilst she has typical scores in other personality dimensions, she has the lowest score on Assertiveness amongst the research participants. The account focuses on trying to mediate between teams over the inclusion of a designed solution. She begins by placing the experience in the project timeline.

Evocative Account 38	
Situation *This was probably one of the most distinct moments of the project dealing with the really aggressive reaction of the salespeople. This happened after the pilot and at the beginning of implementation. There were two separate forms customers needed to fill out with exactly the same type of information. Quite often they wouldn't fill it out. An analyst suggested we simplify and reduce the forms to one application making it easier for customers to complete quickly. She said, "If we put all the information in order, that would be a lot faster. They all started thinking about how they could improve it." One is you're making it simpler for the customer because it's less. And two, it's in the order in which it's entered by the analyst team. A draft of the form was prepared to discuss with the sales and product team leaders. It would have been a really big improvement with the process and would have saved a lot of time for, both the processing side of things and the actual application approval.* *The analyst was really enthusiastic about trying to make it work. She put a lot of work into it and worked quite hard training the credit officers in different things as well. We'd set up a meeting with the product manager and sales team. We debriefed beforehand because we knew that they wouldn't be happy, but we thought, "We've got enough facts and figures to convince sales.*	
My Annotations	***The Qualia of the Experience – What was Seen and Heard***

Focus is immediately heightened by what is seen and heard. Interaction is immediately abusive. Surprised by the behaviour of a previously supportive lead. Stakeholder behaviour suggests serious conflict between project focus and own needs.	*When the analyst and I walked into the meeting, they had obviously been there beforehand. You could tell that they were having quite a heated conversation before we walked in, because the door was closed. As we opened it up, everyone went quiet, so that's how it started.* *As soon as we walked in we see the specialist team lead sulking in the corner like a child, to be honest. His arms are crossed. His face all red and aggressive. Not sitting at the table but sort of in the corner. He immediately says "What are we going to F' up now? I hate this F'ing project. Why are you wrecking this?". He was the team lead that had been on six weeks leave. Before he went on leave, he was very on board and helped with a lot of things, so it was a massive change in his attitude.* *The product manager was standing up, pacing around and initially not speaking at all. He didn't want anything to do with any of the project anyway. He was dead against it: "We've already done it. It takes too long to change. Let's wait.". According to the product manager they didn't want to touch it because they didn't want to upset the customer.*
	The Qualia of the Experience – What was Thought and Felt
Facilitator feels very anxious faced with aggressive behaviour. Shows empathy and concern for the analyst. The facilitator's enthusiasm for the idea's logic may have masked the possible negative reaction.	*I was feeling, very anxious - knot in my stomach, because I don't like that confrontation. It was so overt, in your face and so ridiculously childish. It was such a surprise, because it's not how you expect people should behave in the workplace. I did get a bit protective of the analyst, because I knew that she was a lot less assertive. There was so much conflict in that stage, that it was just another situation. You're just like, "Oh, seriously, do I have to deal with this again?"* *The analyst who designed the form was sitting down quite calm about it. I wasn't expecting it to be that aggressive. I felt for the analyst who had worked really hard.*
	Facilitator Intervention and Response
Empathy and sense of professional behaviour pushes the facilitator to be assertive beyond her tendency to avoid confrontation. Facilitator interrupts the aggressive behaviour and directs the exchange to the person who does the work and is willing to listen. Encourages those in	*I realised I needed to control what was happening. The team lead was very aggressive, very negative. I actually blocked him out. I thought, "I'm not going to deal with that child-like behaviour," because I was feeling very protective of the analyst. She was doing a really good thing; it was something that she was quite passionate about. I focused on speaking to the person that was going to be changing the form and getting the feedback since that was more constructive. She was the person who actually did the documentation and was quite willing to listen to what we had to say and modify the form.* *So, then the conversation was directed to the lady that was responsible for the work because she was willing to listen and understand. and deal with the issue. That sort of shut the leads down a couple of times. I kept saying "Let's just listen and understand, and if you're not happy we can discuss this further.". They kept saying "We don't need to do this.'. I just stopped that with "Well, let's listen. "Have you got any better suggestions?" If we don't change it, then we're just going to continue on with the same thing".* *We presented the reasons behind the form and the benefits. But the specialist and product leads continued saying "Look at this. Why are you doing this? This*

conflict to listen first. Ultimately the suggestion is not adopted. There is no evidence of sponsor escalation.	*is a joke. This was supposed to be out of scope. You're wasting our time". It was a long intense meeting and they said that they'd think about it. Subsequently they rejected it and it didn't end up happening. So, we put it out of scope to appease the situation and try and get them on board for more changes.*
	Facilitator Interpretation
The facilitator spent some time reflecting on the experience to draw learning for the future. Several observations are made that come to light after the experience. They reflect insight into the social system, interpersonal dynamics, and personal attitudes of the stakeholders. Again, the facilitator moves out of her personality comfort zone and engages in one-on-one conversations with the main protagonist. The interaction involves feedback, counsel, and encouragement in therapeutic form. The interactions show how stakeholders exert power individually or collectively to resist changes even when they appear logical and beneficial. The facilitator reflects on her own expectations for standards of behaviour. The methods of resistance include deceptive behaviour.	*There were two analysts. One I found out later was a bit of spy, going back to the team lead telling him what was being developed, and so stirring up and perpetuating this type of behaviour. Whereas the other analyst was really positive trying to make these changes work. She liked the different team environment better. In hindsight the lead was attacking the analyst personally, because she reported into the team lead and they had not got along. So, maybe the team lead felt like "You're betraying me." And was attacking her that way. The type of betrayal was, "I'm not going to help you out."* *After that meeting I met and spoke to the specialist lead. My own team leader had encouraged this after reporting back to her. His behaviour was a massive change between before he went on leave to when he came back. In the one-on-one I said, "Look, that was really unacceptable the way you behaved. It was unnecessary. The support, your knowledge, and skill set that you have, and brought to the project, is very valuable. I'd like to understand if we can get back to that stage." It's in the one on one he was honest about what had happened to him. When he comes back from leave, he gets told by his boss that he's not sure what the role's going to be anymore. His team members had been moved into the operations space. He was very threatened by that feeling he had no role. He felt lost through his leadership role and identity being undermining. He had been there for a very long time, and he was very knowledgeable. So, I guess he was full of anger and strife and really striking out.* *My interactions with him didn't really break down the barriers that much or resolve his contribution to the project. But we did manage to involve him by getting him to apply his knowledge in training the credit officers. He did come to some of the stand-ups, but then he didn't come at all. We tried to involve and engage him again and just get an understanding, but I think the damage was done.* *However, there's a certain level of professionalism, that no matter what you're going through, you can still carry on with your job, and do the best for the company. It was just so overtly childish and ridiculous, but it didn't throw me too much.* *I'm not sure, why the product manager was behaving like that, walking up and down. He didn't play a very big part in this project, except for that scene because he didn't want to be involved. He didn't turn up for many of the steering committee meetings. According to the product manager they didn't want to touch it because they didn't want to upset the customer. As it turns out, the customer wouldn't have cared, so this was a set up by the product manager.* *All the sales team leads sat together and didn't like what was happening. I think there was a lot of gossip, and whispering, and not trying to understand the project. The manager (sponsor's representative) didn't want anything to do with the project to the point where he actually sent an email saying he wanted*

Empathy is displayed as the facilitator raises explanations on behalf of the salespeople in terms of their fear of the impact on their customers and so their commissions. Later the facilitator acknowledges she was slow to make the sponsors aware of the behaviours and so loses the opportunity to obtain early support (see account below). Reflects on her responses in terms of personality traits.	*to revert back to the old process. He championed his group who were yelling in his ear, "I want to go back to the old way of doing things.". They didn't want to change their relationship with the customer at all. Maybe they were worried they would get a negative reaction from their customers and that would impact their commissions. So, they weren't willing to listen to the positive impacts of the changes. These are supposed to be customer-oriented people but could not realise that the specific change was going to have a positive impact on their customers. Why were they blind to that, by their change-aversion? In a sense it seems like they were old fashioned.* *I see my compassion because I did feel very much for the analyst because I thought she was doing a great job. I intervened because I did feel more protective of her than worrying about my own reaction. The lead had a superior role over hers, so she had more to lose standing up to him.* *I guess the enthusiasm sort of comes in there, more so than the assertiveness. I did feel it was going to be a positive change if they'd listen. I saw the solution was more beneficial than their reactions. I was much more open to the change than the salespeople.*

Evocative Account 9	
My Annotations	***Summary of Experience***
Facilitator is enthusiastic about the project and is then confronted by a very opposite view in one stakeholder. Facilitator is shocked that the staff member sees the project as a blaming exercise when this was not considered by the facilitator. The emotional reaction takes the facilitator by surprise to the point of going quiet and then reflecting on the experience.	*Just before my first big workshop in Define, I was in the kitchen making coffee with a guy from a team that was involved in the project but he was not the representative from his team. We just started talking about what we were each working on, just general chit chat. I was pretty excited and I was just telling him about the project.* *He got really negative. He was saying things like 'what is the point of this project?', 'it's a waste of time', 'I can't believe you are doing this'. His posture and his energy that he was emitting was very negative and very nonunderstanding. Being an enthusiastic, positive type, I was most taken back by that before I had unwrapped what he was actually saying. When I tried to kind of delve into it a bit deeper, he appeared very insecure about his job. I did not anticipate so it completely caught me of guard. Up to then it had been such a positive journey. The process owner, the project sponsor, all the team members, everyone that I had spoken to was so genuinely excited that it just caught me completely off guard. I just did not anticipate in any capacity that anyone would be thinking this improvement was a negative.* *I think I was in a bit of shock. I remember not saying too much because I went into a quite frozen state. This experience is where I learned to emphasise improvement work is not a finger pointing exercise. This isn't about us saying you guys are doing a bad job, it's about where can we make some improvements to make our lives easier. I thought he was kind of having a joke but then I quickly realised he is not joking. That is why I was probably so quiet. I think maybe my*

Pursues understanding with the staff member and others which then makes this a learning experience for the facilitator.	*face looked confused. I was in a bit of shock and then I didn't get enough time to actually think about what he was saying, unpack it and then discuss it with him. It was a surprise kind of shock that hits me. I just remember being shocked.* *In subsequent catchups after I had time to digest what he had said, I kind of unpacked that with him. He was worried that by us improving certain aspects it was going to make his job more redundant. That was a key learning for me as well. You need to be able to empathise with people to understand their perspective. Then I met other people from that team who also had a negative vibe thinking this will be a finger pointing exercise.*
Shows empathy for the person and realises the dangers of being overly industrious and enthusiastic assuming others think the same way.	*There is compassion as I am trying to understand the person even though I am not naturally like that. I am not very willing to make other people experience negative emotions by engaging in conflict and competition – I don't think that is me at all. I also think I was just hyper nervous. It was me teaching something that I was not overtly familiar with myself. If I look back this was a big learning situation and that is why it sticks out in my head.*

Evocative Account 16	
My Annotations	***Summary of Experience***
The facilitator is oriented towards involving staff enthusiastic about the results and expectant of support.	*This happened towards the end of the Measure Phase over a series of update meetings involving the line supervisors in charge of running the process. We wanted people to feel engaged with how the project was going, what results we had and the next steps. We presented and discussed information in a very nonthreatening, analytical way showing the process with the numbers plus some photos to get people share their ideas. The data showed that the way water was used was key. This challenged an ingrained view about water use in the process.*
Surprised by the intensity of the negative reaction. Stakeholders collectively object to the findings and refuse to cooperate. Emotionally impacts the facilitator.	*From the get-go, it was hostile, a bit cold. As further discussion and meetings occurred it did become more difficult. There were two dominant voices from the production team. Both very senior guys that had been around for a very long time, very well respected within all the teams. They had an influence on others. We heard a lot of negative language like. "Don't start there, you'll turn the place on its head. You don't play with water guys. You don't know what you're doing. The place will be shut down.' The body language of people changed, and people went from interested to straightaway dismissive. They would cross their arms and they would say, "No, you're on your own." People were walking out of the room as soon as the issue was discussed. That really stuck with me as a defining moment for that project. I was gutted. It was quite confronting.*
Facilitator tries to remain calm and seek reasoning behind the objections.	*I had to be very careful with my language because we wanted their support. They were not as polite as I was with them. Even though I was disappointed and angry, I still had to remain calm and just keep redirecting to get to reasons why people felt like that. When people would say to me, "You can't do that because water runs this factory," I would start asking questions. Where's the evidence? Why is that the reason? Where's the data? Do we measure it now? I was questioning them to get to the basis of their thinking. The evidence they presented was on graph from 1979*

Long term ingrained belief of stakeholders is tied to past knowledge and practice.	*from a strip chart recorder taking measurements from sensors. There were two intersecting lines on the chart and that was where they kept going back to. It was an old screenshot of when they had one issue on the lines on a particular day in the early days of the factory. I tried to draw attention to the year the data was collected or the conditions that were happening at the same time, but they would not budge. This is the power of belief. I really felt I wasn't doing a very good job.*
Stakeholders kept their views hidden from management. Facilitator shows empathy for the supervisors but is also disappointed by their lack of openness to learning from a test.	*In the initial meetings involving senior managers no supervisor challenged their support and vision for the project. We were told middle management were on board, but it quickly became very apparent by the end of first meeting with team leads that they were opposed to this project. This was a shock. I thought for certain that the project was going to stop. I was both surprised and disappointed that the experienced line supervisors for whom I had a lot of respect, were so closed about the opportunity to look at something differently. I was just angry that a good idea wasn't going to get up which for me was an easy quick win. I just felt that we could've just rolled it out, done the trial work, had a discussion around it and looked at some actual data to make some better decisions.*
Senior management prescribe that the work will continue. The staff views don't change even considering performance success.	*When the senior managers became aware of the situation, they again supported the direction of the project. During implementation we would have to continually go back to reinforce the learnings because the new process wasn't supported as the data suggested that it should be. Incredibly these views were still held, even when we were rolling out the project results. They did not believe the successful outcome.*
Significant learning experience for the facilitator.	*The experiences stick with me because from a growth and the learning point of view, they're the lessons for me for the next time that I go into a project of this magnitude to make sure that it's more of a success.*
Reflects on subsequent restructure and stakeholder changes in attitudes towards improvement and the facilitator team.	*There's since been a restructure, some of those guys have gone. Our improvement journey at our plant is improving. I think there is a correlation between when the old guard went and when people who had more experience in other businesses with Lean and Six Sigma have come in. We're in an environment now that encourages openness. When this project started, there was nowhere near this much openness, people were sceptical. People had looked at the continuous improvement team 'as apart', as people who were just moving in to tell people what to do. 'Those guys, they don't understand, they're just here to tell us what to do'.*
Empathises with the stakeholders based on the fears they had but also the role of senior management in engaging with staff.	*If the senior managers and had got together with the key supervisors to get them on board at the start instead of pretty much prescribing to them all, I think it would've been a completely different picture. I've learned a bit more about people. I understand now that they were threatened. If something had gone wrong with the process, they were the guys that people would see first. At that stage we were having some issues with inefficiencies so they felt that if things had gone bad, they would be the ones that would burn. They would be blamed for low efficiencies. That wasn't true but to those guys, that was precisely what was going to happen. We were going to interrupt the process that they controlled, and it was going to create a big problem and then they were going to get the blame.*
	I had to remain assertive and enthusiastic. I feel that if either one of those two things within me had faulted at that stage, it really would've been a dead duck. At times I felt I was the only person driving the work. It would've been very easy for me to get quite vocal in some of those meetings which was not in everyone's best interests. So, I feel a low volatility worked for me. Working against me may have been my drive to solve problems (the intellect aspect) and then striving to force people to my way if they don't look like being an active participant. It is possible that

Interprets own behaviour based on personality traits – particularly the impact of driving the project and appearing to force people into adopting new practices.	*people picked up on that which might have worked against me. Looking at those guys, maybe I kind of judged them a bit too harshly.*

Evocative Account 34	
My Annotations	***Summary of Experience***
Enthusiastic about the positive results from the pilot the facilitator moves into implementation mode assuming support from others.	*At the start of the implementation process we conducted a communication meeting for 20 people who were not involved in the project previously but who going to implement the changes. We got to the meat of the presentation, which was the five or six proposed changes that we were going to make, that had worked successfully during the pilot. We didn't get very far before we started to get a few fireworks. The first solution was making the month end analytical review easier and quicker. Part of the form included the name of the person doing the review.*
Immediately confronted disagreement with the ideas already successfully tested based on perceptions of the threat of blame. Disappointed and frustrated by someone with little involvement being at the centre of the disagreement and with the SME's who did not voice their support forcefully.	*Even though it had gone through a pilot and people using it were comfortable, people in the room started saying, no we can't use this. When we asked why not they said there will be hell to pay. They were worried that internal audits would see a file with a name and expect some action to been taken. One of the most vocal people had little investment in the changes. He starts raising the issue about the audits when he wasn't even involved in the work. He just dominated really being a pain. That got some others in the room talking. Even though we reassured them by saying that wasn't the purpose of the file, it became a free for all for a while with everyone chipping in.* *I was pretty annoyed with him. I was also disappointed that the SME's, who had been involved in the pilot, had not been more supportive. I was frustrated for the rest of the people because there were things that we did need to get over to them that was being lost because of all this.*
Facilitator's deepened sense of anxiety reflects own threat to reputation and performance in front of sponsor.	*There were new staff in the room who didn't know me, and I'm thinking how are they interpreting this? that's not a good start! I probably got quite defensive and remember feeling like standing up but then felt I needed to calm it down. I remember feeling very hot and getting a bit sweaty on my head and coming out of the meeting thinking, I need a bit of a timeout. Get a drink!* *This set the tone for reactions to the other solutions. We realised that this group were not going to seriously consider them, and it derailed the session. I was under pressure because that meant we would have to wait another month end to implement. Our sponsor had made it clear he wanted it done by the end of the quarter which we had already missed. I said okay we'll take on board what you're saying and come back to you with something that's going to address the concerns you have next week but pointed out that this was happening.*
Shows empathy in reflecting on the reasons behind stakeholder reactions.	*The reaction came out of feeling they were going to be blamed if there were errors because their name was on the file. I think the other aspect was they were concerned that this was more work for them. Despite our explanations to show the*

Draws on the experience as lessons on forms of engagement in the future. Reflects on the impact of own drive to get the project done and on the personality of the very vocal stakeholder. This also suggests using such insights on people in the future.	*value of a review tool they didn't see the value in the diagnostic process reducing rework down the line.* *The lesson for me was about engagement and awareness. Giving email updates are not as good as sitting with everybody and discussing what is being done. I'd assumed that the people from those teams, involved in the project, would go back and talk about it but that didn't happen. So, I can understand why those people had that reaction. Because of my drive to get it done I get frustrated with people who are not pulling their weight, or sort of trying it on.* *I had seen the very vocal guy behave like that before. I wonder whether he's deliberately being awkward because he feels that's his job or his personality – I want to be seen challenging things or pushing the meeting along! He's not bothered about being agreeable and not particular open to new experiences. He's standing in that room being quite assertive, an Extrovert. In casual conversation he's fine, a pretty jovial guy, but then he has these explosive moments.*

Evocative Account 39 – Excerpt Summary	
My Annotations	***Summary of Experience***
Resistance to solutions previously discussed. Facilitator indicates motivation stems from reorganisation of team. Senior representative from the sponsor is the most resistant and not supportive. Issue finally escalated to sponsors who were unaware of the situation. The sponsor had nominated the lead to the team hoping the dominating behaviour and attitude would change. Reflects on the need to personally engage with the sponsor early in an issue.	*"They were saying that they were getting calls, that they were worried about the delays and things like that." This was being argued even when implementation had not started. There was no real impact to the customers at all. The sales team simply wanted to revert to their old structure with the assessors back up to their floor near them. They just said, "Our girls need to come back up to where we are, and then we can look at the old process.* *The sales sponsor immediately took over saying, "This isn't on. This is the direction we're taking. This is what we're wanting to achieve. We won't be going back to the old process. I want to see the changes in behaviour.".* *That's when it got escalated to the sponsors, who had not been aware of any of the behaviours or issues. When we escalated it to the sponsor and discussed the types of behaviours, it turned out that he had allocated his representative to the project fully aware he was a very aggressive and disagreeable person to work with. We didn't know he had done this to try and behaviourally manage that person!!* *So, one of my reflections is escalating and getting the sponsor involved a lot earlier, keeping him engaged, not just at the steering committee meetings where it's all nice and pretty, but having those one-on-ones, giving him that real what-to-know type of stories and depth of understanding so he was fully aware and involved. HR eventually got involved. They only stepped in right at the end, when it did get ridiculously unmanageable and unpleasant. I got to the stage where I ended up leaving to get away from quite a toxic environment.*

Type 4: Workshop Mishaps Cause Embarrassment

Evocative Account 10

My Annotations	***Summary of Experience***
Conducting first workshop with all stakeholders.	*This is the first workshop I ran in the Define Phase. I have my project sponsor, my process owner, my team in there. It's a one-day workshop. There are probably ten of us including myself. It was really one of the first workshops I had ever facilitated so I was nervous about that. And it just started off on the worst possible foot. Walk in and it all goes downhill from there.*
Describes a sequence of mishaps – Laptop breaks down.	*Initially the laptop just breaks down. Blue screen and spinning wheel. Meanwhile there is the most awkward energy in the room. Not everyone knew each other very well. This is before we had done any ice breakers or anything. There was just nervous energy in the air.*
Becomes anxious, senses the awkwardness in the room because people did not know one another.	*So meanwhile I am trying to fix it but there is awkward silence and everyone just kind of staring at each other, so I am trying to make small talk while I am trying to fix it. An awkward vibe from people. They were not making small talk. They had blank looks on their faces – no emotions in the facial expressions. They are very, very reserved.*
Next mishap – Projector doesn't work.	*I get the laptop up and running, plug it into the projector and the projector dies. Then I have to start dealing with the projector issues. Meanwhile no one is really talking - unbelievably long awkward silence. At this point we are probably twenty minutes into the workshop.*
Still senses the lack of interaction and that time is going by without starting the workshop. Has to get IT support.	*It got to the point that I could not fix the projector, so I had to go get IT support. IT support then come in and they are trying to fix it while I am trying to talk to people. Then eventually we fix it. We are about 35 to 40 minutes late because of the technology issues.*
Conscious of his responsibility for the issues and feels the experience was 'scarring'.	*It was completely on my shoulders to drive that conversation while I was trying to fix all that was going wrong. It was very, very difficult. This is the reason it has stuck out as part of the learning experience; it is like it was a scarring. Cringe!*
Feels deeply disappointed and anxious by the way the project has started and the risk of losing support from the stakeholders.	*I am really feeling disappointed that I am starting off the first workshop peppered with little cringe moments, why is this happening, this is so argh!! I did not want to start out on this foot. I wanted to start out on a strong, positive note, set the scene, set the vibe. At some points I felt that had I lost them. Am I going to lose them now for the life of this project? First encounters. I am not going to get this back. I was tripping out a little bit. Feeling very anxious. Very anxious.*
Anxiety driven by concern over damage to his reputation. Feels heart racing. Self-doubt creeps in.	*How am I looking in front of all these people? Anxious and disappointed. Self-doubting. What have I got myself into? Should I be doing this. I am sensing like slight heart palpitations. I am anxious taking short breaths. Just all over anxiety when it initially went down. When I fixed my laptop. I was Okay diverted. Like breathe! Then the projector shits itself! Someone is having a good old laugh- is this karma? I remember going home that day just really deflated.*
Reflects on the impact on him when experiences don't turn out as expected. Realises people are not as enthusiastic as him.	*It was not what people said but what they did not say. I probably do this a lot, where I anticipate where how things are going to play out. Then when I reach that situation, it does not play out anything like what I envisioned in my head. This was a prime example. I thought in my head that day that they would be a lot more interaction. I reflect back on my training where we started to get into the psychology around it. I remember thinking why – just get on with it. And in reflecting that was the most important thing and you could have spent five days just on that. I just anticipated everyone to be as enthusiastic as I was. And they weren't. I just remembered thinking that day I got my hands full. I don't think I had a mentor*

	during that time. Throughout the life of the project I had a mentor but for that initial workshop there wasn't one. It was not what they said but what they didn't say. There was a lot of awkward silence. They were forming.
Engagement in the workshop improves and that reduces his anxiety.	*As the day wore on, they were getting better. Everyone kind of let their guards down. So as the day wore on it my feelings did change – less anxious. It got better. But I still remember leaving disappointed that I wasn't I able to reel it in enough.*
Still has a residual sense of disappointment. Begins to doubt whether he had the right team members. Again, realises people are not as enthusiastic as him.	*I am not sure. I am thinking, do I have the right team members even? I started to second guess some of the team members because they just weren't giving me much. Do I have the right team? Is this going to be the whole life of this thing? Do I have to go off and do all this stuff on my own? In retrospect some people didn't bring their A game, but some people brought their A game which definitely enabled me to get this across the line. Still I would've expected them to be way better than that from the beginning of day then how they left it. I misread it. I misread their enthusiasm because maybe everyone is not as enthusiastic as me.*
Reflects on the learnings from the experience around the use of ice breakers. Achieved outcomes set for the workshop in the end.	*So, it was not a good start. But it just (set the tone). It was a weird energy that day. At that point I just told myself it cannot get worse from here it can only get better so just go with it. And it did. By all accounts it did. That is when I learnt that ice breakers are so important to get people's guards down. The energy got a little bit more upbeat when the project owner and the sponsor left as well. We got to the point where we got through problem statement, goal statement and project charter. I had pre done some measurements but then we started have some discussion around that as well.*
Reflects on the approach he takes to engage people even if he as ideas of his own.	*What I try to do is to be one step ahead of everyone. For example, I had a problem statement of my own, but I got them to do the problem statement themselves. My thinking was if they struggle, and they cannot get that at least I have a plan B to say to them what do you think about this. That is kind of how I rolled with my workshops. I would always do the workshop in my own head beforehand in case it goes awry and then I can just bring it back on track. And that is still how I do it.*
Reflects on his learning to cope when things go unexpectedly wrong.	*I was very nervous as I mentioned before that I was teaching people something that I was not overtly familiar with myself. I was still trying to find my roots. Like the actual process itself. I was familiar with my bit, but I was still learning other aspects of it and I was trying to do my homework as well. I did not just go in there blind I actually went in there with a bit of a plan, but it was a big learning. Such a big learning.*
Sees the experiences as a life lesson on how to deal with people.	*It is almost like it is a life lesson. Honestly. Sometimes things happen for a reason. I think maybe that happened for a reason early on. Teach me, like here is a crash course. Get thrown in the deep end. Here is a bunch of lessons that you are going to learn from. I can learn stuff by reading a book but until stuff goes wrong or if you screw up and you know you are never going to do it again. This is going to embed itself in my mind. It was a big learning experience. It was a very big learning experience for me. Not just in terms of lean six sigma facilitation but also how to deal with people. I was not reading the team as well as I thought. Just because I was preoccupied.*
Indicates how his process has changed because of the experience.	*Now if I am in a workshop, I really try and take the time to look at people and see their physical reactions to certain stuff as the workshop goes on. Whereas during that time I didn't really have a chance to take in and look at them physically to see how they are behaving. I know I was not hearing much. There wasn't anyone stepping up to the plate in terms of like helping me in that situation as well. People made small talk, but no one was really assisting me. It wasn't so much what they*

Comments on observing and taking notice of people – listening to them. Again, lists the learnings from the experience. Reflects on how far he has progressed in his workshop facilitation skills and his ability to generate engagement and enthusiasm. Sees the experience as life changing. Comments on the importance of drawing learning from the experience even if its negative one. Comments on how his drive for orderliness can become a barrier to be able to adjust to changes in the situation. Realises he needs to be more flexible.	*were saying but what they weren't saying.* *It was a memorable experience because it was one scarring but also because it was such a big learning experience. Inadvertently I had so many little mini lessons taught to me that day. Make sure your technology is all set up. There is a lot to running workshops and make sure you do your proper planning. Team building – like ice breakers are imperative. I think there is so much in getting people's guards down to get them to talk. Look at the big picture. Look at the long journey and not just day one. I compare my first workshop to my last workshop it was unbelievable. They were having so much fun. They were really involved. At points in later workshops I'd be like 'hey guys we need to stop talking like this' - they were so worked up and had the enthusiasm that I had anticipated they initially would have. So, look to build that.* *Talking about experiencing new things (Intellect and Openness to Experience). That was a first experience for me. Now I kind of appreciate when stuff like that happens because it is kind of interesting and makes the workshop interesting. I would love to know if anyone else in my team who was there that day even remembers that. Upon reflection it was a big moment in my life during the project, but did it even hit their radar. I am not even sure. I would be very interested to see if it did or not.* *Even though it was a difficult experience, I am still open to the experience from a learning perspective. It is a shock but there is this strong enthusiasm wanting to do the right thing and being full of energy. So, it hits me but I'm still open to the experience, drawing on it from the point of view learning. I don't withdraw in that kind of context. Probably I would say – I am leaning towards the emotional stability.* *I don't know whether it is assertiveness – but it is like I could have handled the situation differently. I definitely could have but again it took me off guard. I have this habit of pre-determining how a situation is going to workout – oh it is going to be like this and just planning around that - orderliness? When it is like don't plan around that as it is not going to happen the way you think it is. Have the fundamentals down and you just have to roll with the punches. I am learning to roll with the punches.* *My enthusiasm creates a scenario that may be puts me in a position where it does not turn out as planned. It is not one that I can easily control but you might have hit the nail on the head. It is not just work-related stuff. If something is planned, anticipation in my head is actually better than the actual event. My imagination was better than the actual event. That happens frequently with me. I need to not lessen my imagination but don't give it too much gravity.*

Appendix 24: Additional Analysed Evocative Accounts for Major Theme: Enabling Collaboration That Generated a Sense of Achievement and Joy

Type 1: Encouraging Individual Engagement and Learning

Evocative Account 11	
My Annotations	**Summary Experience**
Facilitator becomes aware of the need to coach the main team leader on the project and the need to involve the leader. Plans and prepares how the coaching would be pursued through regular sessions. Encourages dialogue and provides explanations, updates and material to help understanding. Experiences some anxiety over the need to be successful in helping the leader but also not appearing to take over. Wanted the leader to be clear on the leader's active role in the project. Over time confidence grows and the anxiety diminishes. Facilitator realises that the subject matter is where he was most comfortable. Achievement becomes memorable because of own growth and influencing and educating the leader. Reflects on own concern	*During the project I worked most closely with the dispatch supervisor because he was the process owner on a day-to-day basis. Just about every week through the life of the project I would catch up with him for about half an hour in a meeting room over at the warehouse. During these meetings I was trying to convey some of the concepts of Lean Six Sigma as we went through the various phases.* *The first session was a status update to see how we were tracking in the Define phase. What the feedback with the phase was. I brought up the DMAIC chart. I had that up on the screen. I also had the book there so I could talk through things, and I had some brief handouts that I gave to him to help guide him through it as well. I also used the Learning Cycle sheets. We sat next to each other as we're going through it. I was typing the notes and stuff as we went along. As we would set up for Baseline Measure (or the next phase), I'd give him a bit of a summary of the phase we're moving into and what it was about and what the objectives were and then starting to look at some of the tools that we thought we would use. I made good use from what I refer to as my bible.* *He asked questions. For a couple of the tools, I recall he asked why is this one better than this one? I had to have an answer. Explain why I thought this one would be useful or if this tool wasn't really suited because of the type of problem we were looking into. He's not a particularly prickly person so I think he just went along with it pretty much. As I'm talking through some of these concepts, I kind of see him, he's trying to process it and get what I'm saying. I'm hearing his questions. For questions that I could answer I knew it was fine. When he'd ask a question that I wasn't quite sure about, I would get a little bit of nervous. I had the booklet there (my props) and some things that I could refer to help me along the way.* *It's more memorable because of the initial negative feeling I had, because of the pressure of getting the communication right. I knew as part of this I had to make clear that it's not just about me doing all the work and him not really knowing what's going on. It's taking him through the process and helping him understand it and actively engaging him in the process. That's why it sticks out because I knew that was something important that I needed to do as we worked through the different phases. So early on it was making sure I was able to convey this effectively, so he understood his role.* *My sense of confidence grew over the repeated meetings. More and more confidence in this kind of coaching from the beginning to the end especially as I got more familiar with it. To be honest once we started getting to the meat of the problem, I was probably more confident than with the methodology concept side of it; trying to convey that, because we had something hard in front of us. When it comes to data, I think that's where my comfort zone is. So, once we got stuck into that, I was in my element. Of course, once we started to get towards solutions my level of comfort increased. We got through it!*

for engaging people in the process.	*It's memorable because I was feeling anxious trying to convey concepts that I was still understanding myself in a lot of ways. I wanted to be able to talk about that with some confidence because the last thing you want to hear from someone who is the expert, is that they're not 100% sure of what they are doing. That was probably the biggest thing - needing to convince him that this was a worthwhile thing to do to go through this methodology and this process to get an improvement.* *I had to find a better way of distilling down a lot of concepts and not just overwhelming him with stuff, words. From my point of view definitely one of the memorable things. I am trying to explain concepts I am not absolutely confident about and grow in confidence as the project goes on.* *The dispatch supervisor was the main one for this kind of educational teaching, coaching role. He was the one I was working most closely with and making decisions with. Even though he wasn't the sponsor, he was the process owner on a day-to-day basis. He was responsible for it. We did do a little bit of basic education for the project sponsor and the overall warehouse supervisor but certainly not to the extent of what I did with him. I was showing my concern for making sure that people come along with me and are engaged. That's always in the back of my head, so obviously educating, helping someone understand is key.*

Evocative Account 28	
My Annotations	**Summary Experience**
Facilitator realises the challenge in getting two key staff members to participate in conducting a pilot where extra work is required where neither had been involved previously. Existing positive relationship with the team members was seen as a possible factor in influencing participation. Realises that the approach would need more than friendship and	*We had two pilot sites for the process changes that included some role and task changes, for the reception/admin ladies in this instance. They were the front desk people both of whom were nice, sitting at not very pretty looking front desks with walls and walls of books behind them. Because of the bad process their work was a bottle neck. The start-up books visibly piled up around them waiting to be processed. But the task I was getting them to do in the pilot required them to do significantly more work on top of what they were already doing in the bottle neck. So, I had to convince these two ladies that this was only going to be a test for a couple of weeks to see how it worked. Both had not been part of the core improvement team, but the admin manager was part of the core and had validated the back end of the process.* *I knew them both personally and got along with them pretty well, respected them. I thought I had a bit of social equity to work with there. One was the receptionist where I worked. My thinking was that if we could get some runs on the board with the lady in my office, we would be able to use her to sweet talk the next woman to give it a go.* *The first lady was the cold guinea pig. I knew her personality well. I was conscious that familiarity and friendship can breed a bit of contempt. I wasn't coming in as a specialist but as the person next door doing a project and trying to explain the process. I needed to do more than just coldly explain the nuts and bolts of the change but also try to connect from an emotional point of view. Honestly though part of the method of the communication had*

cold facts. Initial resistance to approach and this was a key role in the office. Draws on sponsor requirement to get participation. Was particularly anxious through these initial conversations. Invests time in visits, explanations on benefits and practical help in carrying out the changes. The effort pays off and the change in task has a big impact on the workload and backlog for the staff member, producing enthusiastic support to the point where the person becomes an advocate and encourages the adoption of the change with others. For the facilitator there is both relief and elation in achieving engagement and support. Produces greater confidence in capability in the facilitator. Shows empathy for the team and reflects on the extra effort producing a positive impact on improving the lived experience of the team. Reflects on personality	*to be well trust me, it's only a test so if I doesn't work, we won't be sticking with it so please bear with me and I will buy you a cup of coffee at the end. You got to do all that friendship stuff to grease the wheels there.* *The initial response was get 'f', sort of stuff pretty straight up and down. There was no way she was going to do it. Let me say there was a lot of emotion coming back at me and that was something that I had to deal with. That made me quite anxious. Our friendship, my smile or easy-going personality was not enough. We didn't have very good work shirts so would have shown the sweat. I do remember standing while she was sitting in a bit of an admin power position. She had all the power and always had power in the office because everything went through her even the boss was kind of scared of her in some way. Eventually I had brought out the management stick to enforce the new change. I had to say well our boss and our boss's boss have said we could give this a go. I was quite anxious about that.* *I felt a bit of the old pulse racing at times. Going through my brain was the possibility of the project failing wasting 9, 10 months' worth of work. I was thinking threat to reputation and future. You realise that there is a lot on the line. I can feel my pulse racing now and my hands going clammy just thinking about it.* *Over a week I had multiple face to face daily visits with her initially talking about the background to the project later explaining the changes trying to convince her of the benefits of the changes to their workload. A strong part of the message was acknowledging her efforts and all the many headaches and pressure experienced by being swamped by the number of these start up kits. She could see it as a physical presence around her. To make matters worse the front reception area was looking messy because of the work building up.* *I kept giving daily refreshers and tips on how to go through the new process. We began to quickly see the process easing the workload and then it did not take long to start putting a smile on the dial. She was ecstatic. Really was stoked. She was already on email and on the phone with the other lady who knew I was coming a week later. 'This is good, you've got to give it a go. We are getting results out of this. You know all that paperwork around you, it is going to go'. Couldn't pay for that. That is what I was hoping. The peer feedback was really positive and made the second sale really easy. The change stuff with that first lady took a lot and just the human friendship side of things that allowed her to just suck it up and take on the extra work. By midway through the two-week pilot and testing phase they had both seen the quagmire shift around them. They got their office back and the customer complaints were going down so thankfully this showed this was a well-conceived process change.* *Now on the flip side there is a sense of elation as you see impending success. You realise if it can work here, it can work anywhere so then you get relief. Relief then the elation that comes after that. It is worth a little celebration. There is no doubt when you have finished your first week of pilot you know you've got another one to go and the person has turned from enemy to prophet. It is pretty satisfying in a lot of ways.* *You realise I can do this stuff and not just talk about it. You can deliver it in a place where people have never heard about it before. You can do different*

elements driving behaviour.	*methods of coaching on the fly. You can train people when they don't know they are being trained. Informal learning works quite well. Emotionally and ego-wise it's a great pat on the back.* *Navigating that human response and not backing down that is the thing that I remember most about it and their flip from negativity to positivity when it was working, and they got control of their workplace back that is what stands out to me. A big part for me is that I like people to get some kind of benefit out of it. What makes it sweeter is you experience people responding in a way that goes against the grain. It is almost like human splinters and a build-up of pain and anxiety. When it does work then there is this relief but also the joy that I have made someone's workplace demonstrably better. My personality type is very people oriented, very people focussed. I do not like causing people pain and angst. I think part of the feeling of getting that response from someone initially is either that they don't trust you or that you haven't done a good enough job of explaining or understanding their work to get inside their experience*

Evocative Account 36	
My Annotations	**Summary Experience**
Facilitator becomes sensitive to the needs of the three team members and their personalities.	*This happened when we worked on developing solutions. We did a brainstorming session with the three team members and the supervisor. I'd never really worked closely with these three guys before the project. I had worked with the supervisor on various things. So, I didn't know them particularly well. Early in the project I had spent some time with these three operators. I basically shadowed them as they were working asking them questions about the why and how of their tasks. I got the sense that they had different learning capabilities and weren't as educated as a lot of people in the organization. They were doing much more simple tasks. Two of them were quite introverted. This is the second more significant interaction with them.*
Designs a process to try to get the team involved. Initially they are slow to respond.	*We set aside an hour for the session. To start we gave them a review of where we're up to with the project and what we're looking to do now in this session. I had some white paper up, 'post it notes' and that kind of stuff. I asked what they thought the greatest challenges were with this process. The silence is probably the thing that I recall the most to start off with. One person had his arms folded, not really participating too much. It was a definite struggle just trying to keep things moving, get the energy up, rather than having these big silences. They started with pretty short and nondescript comments.*
Facilitator starts to feel anxious trying to think of ways to get them to open up. Uses follow up probes to keep the conversation going and surface their knowledge.	*I was feeling pretty good and positive in the beginning because I was prepared but then felt anxious as I was thinking how I get these guys to open up and participate. I had my notes and referred to those a bit to give me some additional thoughts. Probably lost eye contact with the guys while I'm thinking through in my head what am I going to say next? Probably wasn't as calm through that initial session. I tried to get them to expand on their answers by probing a bit - okay well, why is that? And now why is that, to try and really get to the meat of it. I got the supervisor to chime in from his point of view to get them talking a bit as well.* *It probably took a good 20 minutes or so before they actually started to talk and*

Eventually the team opens up and actively participates.	*think a bit about the problem, delving down into it and then I felt a lot more comfortable and relaxed. And it flowed a little bit better into the rest of the session from there. I wrote the ideas on the post it notes and then stuck it up. Once we'd had a whole range of ideas, we put them into categories. After some coaxing, I got them to come up to the board few times to move things around and get them a bit more engaged. We went through the root causes and ranked them. We then moved into brainstorming what our preferred solutions would be. Trying to get them to open up took a bit of time but eventually we got some good discussion going. We got the ideas, ranked them, and put them on a 'do ability matrix' and came up with our preferred solutions and wrapped up.*
Facilitator reflects an understanding for the team rather than judging them as incapable.	*Given the team's lack of engagement in the past, they were probably sceptical of what we're trying to do here and whether it was going to be a waste of time or not. It could have just been a foreign thing for them, trying to get them to think in a way that they weren't used to doing. So, they didn't quite know how to react at the beginning. The feeling I got was they found it positive because by the last part of the session, all three of them were contributing, one of them more so than the others because I guess there're different personalities there. The supervisor definitely agreed that we needed to get the guys involved and saw that as a positive thing. His interaction during the session I was quite positive and helpful.*
Displays an empathy for the team in the patience displayed and in their growing involvement and takes pride in what was achieved.	*There were lessons for me. The experience sticks out because I had to be deliberately patient. I had to hold myself back from jumping to get things done which is a very strong trait and take a different approach to get them to collaborate and take ownership. Also, being careful not to judge or shut down ideas. Trying to be a little bit more open to other people's views despite all the solutions that were in my head. Let the ideas come out and then try and expand on that. Realising people have different rates and styles of learning so they may not get the concept the first time. I think, by the end of that session it was satisfying to have them engaged. I also didn't want to make them feel like I was coming from another area telling them how to do their stuff and forcing change on them.*
Reflects on being open to differences in people.	

Type 2: Collaboration to Generate Ideas

Background to Evocative Account 23

This account is from a facilitator in a medium-sized health services organisation where LSS is being introduced for the first time. The project is key to the success of the organisation and impacts all staff. During the project, the sponsor partner has been involved to some extent. The other two partners have not been involved. Early in the project the facilitator struggled to establish the project purpose because of the desire to jump to solutions. Helping the sponsor and staff understand the LSS concepts has also taken some effort.

The personality profile for the facilitator, in comparison to population averages, shows typical compassion and moderately low politeness. However, his profile shows very high to high levels of Industriousness, Orderliness, Enthusiasm, and Assertiveness with moderately low levels of Withdrawal and Volatility. He begins by placing the experience towards the end of the project timeline.

<table>
<tr><td colspan="2">Evocative Account 23</td></tr>
<tr><td colspan="2">Situation
This a significant, memorable, experience for me in the whole journey because it was breakthrough. I felt on the front foot for the first time because the whole organisation came together on the same page. We are in the Design phase in solution development mode. So, we had a brainstorming session in one of the meeting rooms in the practice. All three partners were there and that was the only time they were all together. All seventeen health professionals are there and a couple of admin people. Before it was working with a few people and trying to get their input. Now all of a sudden, they are all there.</td></tr>
<tr><td>My Annotations</td><td>The Qualia of the Experience – What was Seen and Heard</td></tr>
<tr><td>Focus is immediately heightened by senior stakeholders dominating with their own ideas.
Staff do not offer different ideas and simply restate sponsor views.</td><td>We started by revising what we had learnt up to the Analyse Phase. We reminded ourselves of the problem, we put up the baseline results and the top line results from analyse and the cause-and-effect diagram. We then opened it up to brainstorming the solutions. Now suddenly, all the partners who turned up are dominating. They already knew what the solutions are! They would just keep talking and just dominated the air waves to the point where the others are now confirming their ideas. I tried to redirect the conversation to others. ‘Okay, so Matt what do you think?’ Matt just feeds back what the partners are saying. This dynamic kept going. They were sucking up to the partners going yeah, yeah, we need to do this.</td></tr>
<tr><td>My Annotations</td><td>The Qualia of the Experience – What was Thought and Felt</td></tr>
<tr><td>Facilitator senses sponsors are caught in their own perspective and are not encouraging staff contribution.
Shows empathy for staff realising their engagement is being lost.
Comes up with a lateral thinking scenario to get sponsors out of the session for a time.</td><td>I just thought this is going nowhere fast. I see the narrow perspective of the partners. The posture of the two partners (not the sponsor) was very much as the partners we are the ones making decisions – a thin narrow point of view. It was like listening to a drum repeatedly beating the same sound.
Whilst I was observing the partners dominate the conversation I'm thinking 'Here we go again'. I realized I needed to get rid of the partners whilst still involving them in the process. In the moment I thought ‘okay, how am I going to get them out of the room’. The idea for ‘provocation for generating ideas’ came from my black belt training. I jotted down on a piece of paper this provocation. On the spur of the moment, I thought ‘the partners are away skiing’ - I think one had mentioned about them going skiing. On the ski trip and they get badly injured and are out of action for a long time. I took the partners aside and said, I need you to go for 20 minutes or so because it would be good to see the dynamics just with the staff and see what they come up with when you are not in the room. Maybe they realised they needed to shut up, but they were fine with that and so left.</td></tr>
<tr><td>My Annotations</td><td>Facilitator Intervention and Response</td></tr>
<tr><td>Staff engagement and collaboration becomes visible producing an integrated set of new ideas.</td><td>When they left, I explained the scenario to the staff, that you get to run this place. What do you do within the context of the root causes identified? And then we brainstormed. I think it took us 30 minutes or so. Within three minutes the word collaborative was being used and the solutions started to surface. Chalk and cheese between the partners dominating the ideas and over against that the sort of the chatter amongst the staff as they got going. We literally came up with a map on the whiteboard where they had drawn things up and connected dots and this whole collaborative idea was just huge that they had mapped out. After we got a reasonable</td></tr>
</table>

	way along this whole collaborative team idea with partnership, patient sharing, and mentoring was surfacing, I remember one of them saying "do you reckon this is possible?". I said, "Well if you think it's a real solution and we convince the partners then Yes". You could just see them going 'wow' and just feeling this energy lift in the room. Suddenly, they've got something to look forward to in which they are invested.
Staff worry they will not be heard. Facilitator encourages their enthusiasm and courage to report ideas.	*The worry was what would the partners say! I prepped the staff. I said "look the partners just want the business to go off, so if we can convince them that this will help the business, your in. When they come in you need to show them your passion for this so they can see. They trust you, they hired you. You are in key roles in this business, so you convince them." I was very intentional about not talking much myself.*
Staff convince sponsors who observe the contributions, options they had not seen and their excitement.	*I watched them fight for it when the partners came back in. The chains had been taken off and now they had a valid reason to put this forward. And they did it. When the partners came back in, I got the staff to share the solutions. Initially the reactions were "hmm talk to us some more, hmmm, hmmm" but they got there. In the end they could see and feel the excitement in the staff and how genuine they were about these ideas. The health professionals were saying "you know we could X, and the admin people were saying and that would make this is easier for me too because that would then work that thing". The sponsor partner is going yeah, "I hadn't thought about that". We sort of got to a point where I said OK, how about we try to summarise this, send it round to everybody to have a final look. You can add what you want; change what you want and then let's see what we've got. And that was the next stage. So, there was a bit of excitement generated for the First time.*
Proposals are accepted and move forward for detail development.	*I felt jubilation, 'yeah finally', light all of a sudden. I felt vindicated and relieved. At this point I'm feeling pretty good. But I remember feeling drained. There quite a few people in the room including the partners. I had made a stand with the partners and the dynamics were quite hard to start off with. So, I felt tired - emotionally drained but very happy and really excited.*
Deep sense of satisfaction for the facilitator. Sees a shift the culture of the way they work. Sponsor at the end of the project recognises the benefits and the impact of staff engagement.	*At the end of the project, I sat down for coffee with the sponsor partner. He talked about how the other partners and all the people had responded - and performance just going through the roof. Him looking at me and saying 'you know what, our business has lifted in a way that it hasn't in 10 years. This is the first time we have bought capital equipment. All this potential is being realised'. You think WoW! You Know - I need that! - it was a real feeling of validation, affirmation.*
My Annotations	**Facilitator Interpretation**
The facilitator reflects on the strong sense of achievement and pride in getting collaboration going.	*The solution package was presented, developed, implemented. They achieved a lift and an experience of success. It was a very euphoric thing feeling the fruit of implementing it, fighting for it. An emotional reaction to the whole journey and working it out with all its issues. Because it was hard at junctures it felt sweet at the end.*
Draws attention to the characteristics of the organisation and its impact on the initial problems with the	*I thought man you guys make it so hard. This could have been so much easier. If you guys had the capacity, we could have sat down four weeks ago, and come up with something like this. In the end this was a very simple exchange where everyone was given a voice. The main difference was that the staff were given a real voice. A lot of them were young. It's their first opportunity and it's about their work environment. For some of them it was just come and do my professional work. Whereas suddenly,*

project. The impact on management thinking towards collaboration is seen as a breakthrough for the organisation. Reflects on emotional responses in terms of personality traits but also the traits underpinning the drive to try the provocation within the workshop.	*with the ideas on the mentoring and patient sharing they were thinking I get an opportunity to get something passed on to me! To actually learn something. For the partners it opened their eyes to see their business in a different way - suddenly, they are starting to realise what's driving their business. I think the breakthrough was waiting to happen; it just needed an opportunity and it happened.* *There were several points all the way through where I got frustrated, angry with the partners. At points I just felt like slapping them around the face wishing they could wake up! I think in all of it, my low tendency to withdrawal and volatility helped. Then sticking with it; fighting to keep going 'come on - can't you see, wake up'. Thinking we are not going to stop until we get this out. Okay let's do a provocation; let's keep going. I was not going to let them out of that meeting until we came up with something that was a viable way forward. Because I thought I am not going to have this opportunity again. This shows my strong tendency towards conscientiousness.*

Evocative Account 20	
My Annotations	**Summary Experience**
Facilitator being sensitive to the past experiences of the teams is aware there maybe issues in encouraging participation. Teams distract the workshop process by venting about the past. Facilitator is anxious and conscious that this is precious time to be used with team members. Decides to let them vent and actively listens to them and indicates this time their ideas will be used. Idea generation then works well and team drove the process. Facilitator reflects on the	*This happened deep into the analyse phase. We had 90 minutes to brainstorm potential causes for the scrap we were generating. The manufacturing technicians and engineers who are the experts on silicone had been there a long time. In the past had ideas on how to redesign vent flow but felt they were not listened to. So, they started the session by unloading their emotional baggage saying we have talked about this in the past and management have not listened to us. The project was about the control of the manufacturing process parameters to hit the scrap loss targets. Design considerations were out of scope for this project.* *I hear them going off on a tangent not related to the project at all. I am thinking how I get them back on track focused on the cause-and-effect diagram. I did not want to waste time bogged down with anecdote whinging. I began to feel a bit agitated and frustrated because I know that I am not going to get these guys again to have a meeting. This is my one opportunity to have them so let's get them back on course and stick to the timelines. How do I get the best use of the time? These people have a lot of knowledge which I need to draw out to populate the fishbone for the best possible outcome.* *The way that I managed was to listen. I gave them about 10 minutes to vent and I paraphrased back to them. I listened to them! Then moved the meeting along to go okay this is what we are going to do now. It is not just about listening but showing that you are listening. After that the brainstorming went smoothly. Once we started getting into it, they were really engaged because they really did want to make a difference. They would go up and put the post-it notes up on the board. So real good engagement. I stood back. After that event the feedback was positive.* *I clearly understood their perspective and the situation from the past.*

need to engage the team and personality characteristics driving emotions and behaviour.	*Management had not listened to them for a while, so I made it an exercise to listen to them and implement their ideas through the project. Very orderly people stick to schedules. Once again, I am sticking to a schedule despite the display of emotional baggage and participants going off task. But not expressing frustration or disappointment. I am feeling those emotions but not showing them.*

Type 3: Engagement on Data Collection and Analysis

Accounts 15 included in Appendix 25

Evocative Account 18	
My Annotations	***Summary of Experience***
Realises that there is no data and no culture of measurement. Starts the process of engagement and strikes resistance with union representatives.	*The improvement plan was signed off, but we had zero baseline measures. Before that we process mapped what was going on with the work activity. So, I had a meeting with first line manager supervisors, the sponsor, resource scheduler and the people who did the work on how to go about the measurement. We just needed a check sheet that supervisors would give to the people to fill in the times. Then the union reps got involved because they saw it as a time and motion study that was going to be used to clean people out the of organisation. So, they wouldn't fill the time sheets in.*
Expends effort in discussing the point of measurement within improvement. Reassures them about the focus on the process rather than looking to blame and cut staff. Invites participation so there is transparency.	*I talked them through the process showing it was part of improvement and you got to have a baseline so that you know where you are coming from. The contract with the customers were up for renewal. I said they might be a bit worried about one or two people not having a job. But if this work isn't improved and done to the satisfaction of the customer, there won't be a contract, and nobody will have a job. I argued this was about protecting jobs and the project was not about reducing jobs. I also invited and encouraged the organizers to be part of the process and come to the meetings. I was influencing the reps, essentially helping them understand this isn't a time and motions study. So, they agreed to participate in getting the data.*
Does the same with staff. Places emphasis on involvement of staff.	*I also spoke to the whole workforce at seven o'clock one morning with the same message. During these initial meetings the workforce was not trusting of the management team, they thought they would be duped and felt a bit frightened of participating. In speaking to them I tried not to over complicate the process. In trying to get that message across, my big point was, when you understand the 'Problem', it's not a people issue, it's the process, it's a systems issue and management. I encouraged them to talk to me if they had any problems at all. And I would go and talk to anybody. The ops manager also had a good relationship with the workforce, so it was a friendly face, rather than somebody that can screw them. Seeing their faces, I guess once they understood the process that I was talking through and the fact that they wouldn't lose their jobs, it would be beneficial to everybody in the long term, there was a sense of being reassured.*
Reflects on the anxiety felt in addressing the issues of no data and resistance to measurement.	*At the time I felt, if I can't get these people on board, then the project stops because I can't do the measure phase. The feeling of going back to the customer and saying we can't do the work would not be a good thing to do. So, a feeling of anxiety at the time.*

Measurement approach has high involvement and communication processes. Reaction to making the results known produces another negative reaction involving not disclosing results. Overall has a sense of accomplishment and pride in what was achieved in many aspects. There is a sense of compassion as well. Reflection on enthusiasm and drive.	*When we started the collection there was inconsistency in the recordings coming with the data for the equipment. So, we all sat down together and remapped it and started again. In the end we got from every area to get a reliable sample size and baseline. All the workforce were collecting data using the time sheets. Then it was handed to a person that did a validity check and then I put it into database. The results were discussed at our weekly management meetings and then the supervisors would take it back and give the troops an update.* *When the results came through, it was quite astounding. I had a feeling of achievement that at least we can now put a number on it. The productivity of the group was about 50%. I think everybody was surprised. So much so that the sponsor said we can't let this be made public. I argued you can't move forward unless you say it, this is what it is. Now we've got something to improve on. It was an argument the whole way through. I wouldn't give up like a dog with a bone. At the end of the day, we worked through a lot of issues to get the baseline. I felt pleased. The feeling was that the information came from the workforce, the people doing the work. I felt really pleased at the time and proud that we engaged the workforce, they trusted us.* *The customer reps became quite supportive saying things how can we improve that and so they became part of the journey. I managed to have conversations with their head of the procurement saying you know we are on a learning journey. If you look at the learning cycles, you got the incline from define to improve and we are the moving up the incline.* *The organisation only measured financial stuff, not process performance. I think it sticks in my mind because it was a journey. We went from no measurements available and established a baseline for the first time. We also got people over the line – staff, management, customer, and union reps. It was a sense of achievement in overcoming resistance. I felt I had done something good there with the support of our sponsor.* *Reflection was that it took effort and time. How the hell do you do that in a short space of time when there's no information at all, anywhere and the amount of time and effort that goes into physically doing it. I couldn't do anything else.*

Evocative Account 25	
My Annotations	**Summary Experience**
Focuses on the challenge that the issue confronting different departments cannot be fixed. Had established a relationship with	*During interviews all the orthopaedic surgeons raised on-time starts as their top priority to fix. But they all said, "but you're never going to fix it." So, this experience sticks out because it was a challenge – like a' red rag to a bull' to a bull for me. I had already helped deliver a few wins and was use project meetings with the heads of departments. I had been hearing about this issue for a while. I analysed the data and presented it to them showing how much time they were losing and how it impacted the number of completed surgeries and the orthopaedics KPIs. 'Oh No, we're never going to do it.' Was*

sponsors from previous successful work. Conflict between department heads. Develops a method to get leaders to open up. Uses a process map, humour, scenarios, and deeper probing to get them to share their ideas. Promotes confidentiality as a ground rule to get leaders to be honest and see the situation from other teams' perspectives. Achieves a breakthrough in leaders accepting changes to be made in the way teams worked together. Achieves collaboration in the way they worked the solution details out. So, shifts the tenor of the working relationships. Reflects on communication patterns and relationships and the role of the facilitator in encouraging dialogue. Sees her achievements as a memorable and positive experience. Reflects on the impact of training.	*the response.* *There was quite a bit of conflict between the heads and their teams partly driven by personality. The head of orthopaedics was a bull terrier. Really feisty guy and used to claim and rant. At the beginning, he wouldn't answer calls, and you'd have to corner him to talk to him. The Director of Anaesthetics, nice solid guy, really and everything felt everybody else needed to change. 'We're doing very nicely, thank you.'.* *So, I pretty much ambushed them. I developed a process map so they could see the timings and the interdependencies and took it to a meeting. They were all in the room and acted like they were doing it to humour me, partly because they were grateful for what I had already done. Fortunately, the head of anaesthetics was now quite keen to get some change happening. I wanted them to get over their preconceived ideas and be open to changes that would benefit them all. I tried humour to encourage discussion and lighten the mood. In thinking about the process redesign I stimulated the discussion by getting them to think through scenarios that would work and not work. Often, there was a bit of passive aggressiveness behaviour, and they won't talk. I remember particularly with the head of orthopaedics I would say, "You look as though you're not happy, that you don't think that's going to work. We want to know." This way I was inviting them to say the things that other people might not want to hear and reassuring them, 'This is a safe thing. What we're going to talk about in here, it's not going to be repeated out there, but we need to know the warts and all version to get a solution that will actually work.'* *Finally, the senior anaesthetist agreed to quite a big change for anaesthetics, which was what orthopaedics had been asking for. That put the orthopaedic surgeon on the spot to also change. He agreed. What made them click over was plotting it out, identifying why the process steps had issues and seeing the process logic from each functional perspective. For example, getting the anaesthetists to see that, legally they can't start anesthetizing unless they know that the surgeon is in the hospital. So, we set up this process whereby they had one phone number to ring so the anaesthetist to know that the surgeon was in the hospital, and they could start. There was just a whole lot of aligning stuff that occurred. The relationships started to improve because they stopped being angry at each other.* *We planned it all out, and the timing and agreed the implementation plan. I was there every morning making sure everybody was doing their tasks. Everybody had to change something they were doing, the nurses, orthopaedics, and the anaesthetists. It just changed overnight, and they did it. It was a fabulous experience, since they had said, "It's never going to happen". Previously there was a lot of hate between orthopaedics and everybody else, but particularly orthopaedics and the anaesthetists. Then we did this project that had them working together. Without this shift in working relationships, we would never have gotten over the line. The head of orthopaedics is actually a happier person now.* *This story is interesting, because of the flow on effect on relationships between people and between groups. It deals with the communication styles between people. Such a situation is dependent on your facilitation about the way in which they talk to one another and in the way you're presenting data.*

	I enjoyed those challenging conversations.
Reflects on the growth in confidence about her role.	*My confidence has grown. The Black Belt training refreshed my knowledge and confidence in the methodology, and probably the confidence in the methodology and my ability to mould the methodology to fit the problem. So, every time I do another one, I'm more and more confident, because I am more assured of the outcome.*
Reflects on her openness to experience impacting her facilitative behaviour.	*Not giving up because they said it could not be done is me being enthusiastic and assertive. My intellect tendency or openness to look at things is reflected in me diving into process analysis, working through all the different potential scenarios and failure possibilities, FMEA sort of thing. I think creativity is probably one of my biggest advantages, particularly in coming up with solutions, as well as in analysing problems. Seeing alternatives.*

Appendix 25: Additional Analysed Evocative Accounts for Major Theme: Teaching About Use and Value of Data and Enabling Measurement

Type 1: Helping Stakeholders Understand the Value of Data Collection and Measurement

Background to Evocative Account 4

This account is from a facilitator working in a major health organisation as an external advisor. She had extensive experience in clinical practice, particularly in understanding surgery and theatres. The organisation had very low maturity in LSS practices despite having science-trained professional staff and access to a lot of data. The organisation was under some stress in terms of the provision of its day surgery services. There was tension between professional teams and members of the executive. The project was complex as it involved improving surgery services, requiring specialised content knowledge.

The personality profile for the facilitator, in comparison to population averages, shows high to very high levels of Compassion, Industriousness, Enthusiasm, Assertiveness, Intellect and Openness to Experience with very low levels of Withdrawal and moderately low levels of Volatility. The account focuses on working with the executive and particularly the lack of use of data and helping them not move directly to an expensive solution.

<table>
<tr><th colspan="2">Evocative Account 4</th></tr>
<tr><td colspan="2">Situation
This happened early in the process in the Define phase leading up to a meeting with the executive. Pretty much as soon as I walked in the door, I am greeted by the solution they are pursuing. "We've got this great idea to solve the wait list problem. All we need is more day surgery beds. So, we're going to convert this equipment store, it'll only cost us $6 million. I dutifully followed around, and had a look at the equipment store, and heard the orderlies were disappointed, because that was where they hung out between bed pushing.</td></tr>
<tr><th>My Annotations</th><th>The Qualia of the Experience – What was Seen and Heard</th></tr>
<tr><td>Focus is heightened by what is seen and heard in contrast to the solution proposed.

Observations generate concerns about executive expectations for the facilitator to immediately help with implementation.</td><td>I went into the day surgery and started looking at everything as well as hearing about what was taking up all their days. Staff know the organization way better than you do. The nurse manager of theatres, a very good manager was struggling because people were putting pressure on her to churn through as well as hearing from the day surgery nurses that, "Oh, we're too busy. We can't possibly take another patient" – opinions like that.

There were maybe three people in the 18-day surgery bed spaces when we walked through at 11:00 a.m. Given I was going to meet the executive, I thought, "I better have a look at some data." Overnight, analysed the data on the demand and capacity for the unit. There seemed to be so much capacity in their existing day surgery. When results are a bit left field and against the status quo view I tend have a one-on-one with someone who knows the area, go through the evidence to test that my evidence and conclusions are valid. So, I had discussion with a senior person who was in there also providing problem solving help and got her to check as well. I then prepared for the executive meeting.</td></tr>
<tr><td></td><td>The Qualia of the Experience – What was Thought and Felt</td></tr>
<tr><td>Facilitator feels nervous</td><td>There were 15 People, all the Senior management, in one of the meeting rooms. In</td></tr>
</table>

given her conclusion based on observations and analysis and not knowing the executive. Another example of jumping to solution. Presents results in comparison to assumptions to support her recommendations. Realises many are not aware of the data. Executives are not defensive and inquire about the observations.	*arranging the session, they originally said, "Yeah, you can have 10 minutes in the executive meeting". I'm feeling a little bit on edge because it's so early on. Apart from one person, I hadn't worked with anybody in the room. That's always uncomfortable because of being unsure of the reception. It starts with announcing me. "Yes, here is... She has some thoughts about our plan to convert the storage to create day surgery." I say, "My understanding of the context is that you've got all these issues with day surgery cases and regulator stakeholders are unhappy". So, trying to get them to understand and define the problem first based on evidence rather than focusing on the solution. Then I say, "When I look at the data this is what it says." And began to do the presentation of the data analysis.* *I ran the data and demonstrated how many patients were in on those days, how many empty beds they had and what their nurse-patient ratio was. I started just sitting and talking to the slides, but then stood up midway and walked around a bit to diffuse the tension in me. I am presenting the data and challenging their assumptions. Looking at the reasons for thinking the decision was right and then challenging each of those reasons with the data. I was showing that the assumption of the problem was not true and consequently, the expensive solution was not going to help.* *Many of the executive just didn't know what I was talking about, there was a lot of blank looks. So, they start asking questions reasonably open not necessarily defensive. To tell you the truth, they don't do anything with data, they were so data starved. I was using the data to speak (rather than jumping to costly solutions without looking at the data). And eventually leading them to come up with options themselves. It was really important to do that. They were just asking questions to help in interpreting the data and saying, "Oh, yeah. That sort of makes sense. Why can't we do that?"*
	Facilitator Intervention and Response
Empathy for key executives in the way the information is presented without blame. Diagnoses that the group were not use to decision making in this way or use to looking at data. Grows in awareness that executive don't involve key people who know the process in the meetings. Facilitator leads them in a discussion on possible root causes which suggests alternative	*The Nursing Director, who was an angry man, got up and walked out. I thought, "Oh, well, that's kind of blown that." He's quite a scary person, so that was a bit intimidating. The solution they had jumped to, was the Director's idea, who was not an easy person to work with. It was a really challenging discussion, because I had to present in a way that wasn't making him look like a fool so they would listen. The acting general manager, who came from outside the organization, was asking a few questions and looking around. He didn't really know the organisation so went with the idea of spending money on converting storage because he relied on those in the organisation, and it seemed logical to him.* *It struck me that here were 15 executives all sitting around spending all this time when probably analysis with the data would mean a 10-minute discussion. I thought about the cost of wasted time in the meetings. It was one of those was big decisions, a huge amount of money, probably just needed the people who were key to it in there, and not wasted everybody else's time.* *I concluded with a discussion of what was needed to come up with a solution. That led to an examination of the assumed operational rules that blinded them to the possibilities. I ran scenarios with different rules to illustrate other possibilities to investigate. Once they saw it, it was a no-brainer. I'm seeing the reaction and my feelings are changing. I'm getting more comfortable as it went along. It was good news for the executive because they were having budget problems. Forty-Five minutes later I got their agreement not to spend the six million! Afterwards it was interesting that people would come up and say, "Thank goodness you had a look at*

solutions. Displaying empathy, facilitator immediately walks the line manager responsible through the logic.	*that" Everybody was all very relieved. The manager of theatres wasn't there in the room. She'd sort of got in her head that she just needed more day surgery beds. Once I sat down with her and went through in detail she went, "Oh, yeah."*
	Facilitator Interpretation
The experience is a highlight for the facilitator because of the success in her teaching / coaching role. She reflects on her responses in terms of personality traits giving emphasis to her high Intellect Personality score in terms of the drive to use data and ask questions. However, she hints at her confidence and content expertise in sensing her enthusiasm and assertiveness her make up that characterises her approach. Recognises the impact on her reputation and conversely her fear of possible failure when presenting to the executives.	*This was a teaching/learning moment for these guys in developing a better management style. Hopefully that was a step into their realm of consciousness. At least some of them understood that data is important. So, this experience is a highlight for me. This organization had lots of data but didn't know how to use data. Evidence-based decision-making wasn't strong within the organization. The leadership had such a fixed view of what was going to happen. Using the analysis, I was able to facilitate their understanding and learning and so change their perspective (slow them down), whilst protecting reputation and at the same time help with the next stage.* *Part of my own DNA is to use data all the time. Sometimes you can't get the data but that tells you what's important and missing. I'll always look for something that you can use and extrapolate in some way - triangulating with different sources of evidence so that the jump is not from hearsay or anecdotes to decision. It's the combination of my desire to get things done properly with this very strong sense of wanting to solve problems (the high score on intellect) and I'm enthusiastic and assertive about it. You can see that kind of coming out. In that sense, the data side is very much part and parcel of my intellect aspect. I tend to think outside the square, or maybe it's a questioning of everything. It seemed odd that they were in a brand-new facility and we're talking about refurbishing part of it. Although I tend towards agreeableness, I'm not a pushover. Sometimes, I can become semi-disagreeable if I really see that something is right. I think ethically it's right, and so often I see things happening that's not right. It's one of the things that gets me in trouble in managing up.* *I don't think I am particularly extroverted despite the profile. Even though I'm very confident and don't get nervous when I go into big meetings, it's not my natural habit. When you don't know people, it's always a feeling of, "Oh, God, I hope I get out of this alive." That's always my last thoughts as I start talking. But I am strong on enthusiasm and assertiveness. It's not necessarily extroversion in the sense of wanting to be out front that is driving me. It's more those other dimensions.* *It was also a significant experience for me because it meant that within the first few weeks it clearly established my credibility with the executives. It helped them gain confidence in my detailed understanding about theatres and that I was able to help them solve problems. It just made it so much easier continuing to work with them.* *Another observation was management's lack of engagement with the people most affected by the problem. Often the right people were not involved in the decisions like the nurse manager wasn't in the meeting! So, for the first few months I kept saying, "You can't do this workshop, you can't run this meeting and make these decisions without the line managers in the room." It was sort of indicative of what*

She also draws her attention to coaching the hierarchical organisation into more engagement with the staff.	*the issue was. It was a very top-down organisation. "We're just going to tell you what to do. We have no expertise ourselves, but because we're the executive, we must be able to tell you what to do."*

Evocative Account 15	
My Annotations	***Summary of Experience***
Facilitator becomes aware of critical need for data in the project and the lack of existing capability. Observes that there is resistance to embed a way of working with data. Feels frustrated but displays empathy for them realising the pressure they are under. Reflects on the personality aspect to keep driving the project forward. Embarks on a process of coaching and teaching. Places emphasis on engaging the whole team not just the supervisor. Introduces an agile way of working.	*The organisation was operating in a manual way with data it needed like spreadsheets, outlook and putting notes on PDF files. The immediate consequence of that was the business was suffering from a lack of efficiency and business intelligence. Information was very fragmented, very manual, and existing with different sorts of truths, very unstructured. We were working on reducing the amount of rework from a volume and effort perspective. No one in the team could give me a reliable, factual percentage or analysis. The team was not use to this way of working. They didn't sense the urgency for it or understand it's significance.* *It's on their faces. They do know it's a fact there is lots of rework, but they don't understand how much and its impact. I can tell from their faces they are not very keen to pursue this. They say we feel like maybe its 30% with a guess. They are simply not aware or concerned!! I do hear resistance because it's not something they usually do. In truth, I'm adding more work for them. So, there is a kind of resistance. They say I'm already busy.* *As soon as I realized that's the challenge there is frustration. But frustration was not going to stop me. I'm feeling, for me, it's an opportunity to take them on a journey. I felt a sense of caring about getting the team to do a better job and reduce their wasted time. This is an opportunity for me to basically embed a self-awareness culture in them. They should be the data owners of their own work. I want to empower them and say 'Hey, do you realize you are wasting X amount of hours here. There's rework that can be reduced if you take X, Y, Z actions'.* *We needed to collect information to quantify rework and make people aware of their current reality. The team leader would be the data owner, so I discussed the issue with him. I said, 'It's critical to your operation. It's critical to your team's success, to free up yourself from the current trap of continuously chasing your tail of having increased demand but falling short with your capacity. Then team morale goes down. You need to collect this data and the next step is basically for us to work it out. He was happy with that. Naturally we start with the data collection plan.* *In the first week I was checking in with the team regularly. In the meetings I tell them, hey, thanks very much. We now have X amount of data points that gave us this. They can see something come alive. We discuss the meanings, and they understand the purpose behind the data collection and analysis. They gradually understand and come on board. They're learning that's how we operate and know the quantitative way, okay, that's the world we live in.*

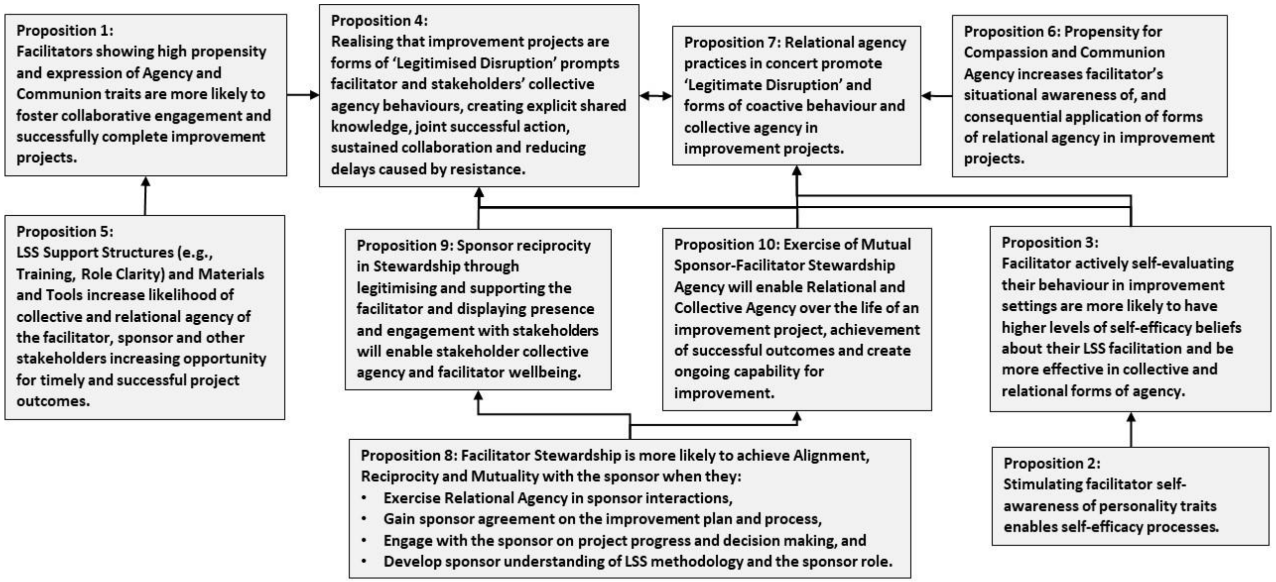
Expresses a strong belief in the value of data for continuous improvement and operating a high-performance culture.	*People do not really have that sense of operating in a systematic way with clear business intelligence that allows them to see how they operate. A continuous improvement culture had not been developed. So, people don't see the significance of looking back and they certainly don't know the impact on them. They are working blind!! By being able to see the amount of rework they were able to take actions to address it. The challenge will be to keep it going.*

Type 2: Interpretation of Data Provokes Resistance

Evocative Account 30	
My Annotations	***Summary of Experience***
Leads group in designing improvements to measurement system.	*This happened when we were ready to get out of the pilot phase which already showed we were meeting goals. We are with the production and the engineering teams discussing how to get accurate measurements. A good idea to get an electronic flow meter connected to the existing SCADA system is floated (sensors to monitor, gather, and process real-time data). That was a great idea because no one has to manually write down anything anymore and no one can falsify the information.*
Confronted by confusion over correlation or association versus causation. Stakeholders aggressively adamant about interpretation of data.	*The teams add an argument to get a couple of pumps at the same time as introducing the meters. We point out it's got no connection to what we are doing. Some of the process leaders pull out this page with graphs as the evidence saying, "You can't do that because your efficiencies will go down". People are leaning over the table now quite excited because "there is a fight on". Everyone's pointing because everyone wants to talk about what it means. The two graphs just happened to vary on the same page as if there was correlation. There was enough of a psychological link within people to go. "Oh! That might actually be true.". They got stuck on this perception (association) between pump flow and conductivity and saw it as causation that did not exist.*
Struggles to convince the process experts who believe in a graph from the past, Process leads exercise power by refusing to cooperate.	*We tried to show that the pumps were creating turbulence and would give a false result. What we were measuring wasn't being measured while the pumps were active. I also argued that getting the pumps would be an unnecessary cost and delay the project. But the process leads continued arguing that's necessary to do. 'This is our process, and no one knows it better than us, right?' So those guys are basically in power.*
Facilitator feels threatened because project is at risk. Compromises by conducting an experiment.	*I'm feeling threatened, disappointed and angry because all I can see is the end of the project. I'm imagining my heart rate's going up. I was a bit stressed and finding it very difficult to maintain control. I had to accept that it was necessary to move the project forward because the engineers and the production team weren't backing down. We managed to get agreement that we would try on one line, to prove the concept and minimise risk. The teams even resisted by delaying the purchase. We knew that it was a side-tracked, but we consoled ourselves by knowing that we had electronic flow meters hooked up. They process leads got their win and we got our win which was a lifetime of tracking the lead measure of the project. But the pumps in the system are a useless waste of time.* *People within their business will cling to an idea, rightly or wrongly, until the very*

Explains the events in terms of the power of tacit knowledge and the exercise of power by stakeholders.	*last, even if it has been proven well beyond doubt to everyone, but them, that what they're holding on to isn't correct. I'm reminded that correlation doesn't mean causation. It was difficult to shift this view.* *We were threatening their power, they are the experts, and they remain the experts to the very end of the project and well after to the point where they left the business. No one else understood the business but them. They felt they were in control. They felt threatened that if something went wrong, they would be blamed. With all the negativity around me, it would've been very easy to throw my hands up in the air and walk away. But for me, I had to stay positive. We compromised to get this project to work. So, it had to keep going.*

Appendix 26: Interdependencies of Agentic Propositions Based on Application of Agency Theories to Research Findings



Appendix 27: Situational and Psychological Factors in LSS Improvement Projects Congruent With Stewardship Agency

Situational Factors Applicable to Stewardship Agency		Psychological Factors Applicable to Stewardship Agency	
Factor	**Congruence with LSS Features of Improvement Projects**	**Factor**	**Congruence with LSS Features of Improvement Projects**
Participatory Management Philosophy Management is involvement oriented rather than control oriented. (Collective Agency) (Davis, Schoorman & Donaldson 1997, p. 32)	• Improvement Projects reflect LSS philosophy emphasizing participation and empowerment of staff. • Sponsors provide support structures and legitimise staff participation and facilitator role.	**Roles are Intrinsically Motivated** Principal and Agent are intrinsically motivated by opportunities for self-development, growth, working with others, mutual accountability, and responsibility for achievement. (Psychological view of Agency – Self Efficacy) (Davis, Schoorman & Donaldson 1997, pp. 27-9)	• Facilitator personality traits and pathic, pro social behaviour indicate intrinsic motivation and temperament for self-development. When this is frustrated, they leave the organisation. • Sponsors also display an interest in self-development and mutual leaning in the improvement process.
Collective Culture Emphasis on shared group goals, success of the group and working collectively. (Collective Agency) (Davis, Schoorman & Donaldson 1997, pp. 34-5)	• Sponsor involvement in planning and project process. • Facilitator striving to create shared agreement on project outcomes. • Project process and successful outcomes owned by all stakeholders.	**Identify with Organisation** Principal and Agent commit to organization's goals so work to overcome problems preventing successful achievement which contributes to work satisfaction and collective identity. (Collective Agency) (Davis, Schoorman & Donaldson 1997, pp. 29-30)	• The DMAIC process engages all stakeholders in achieving outcomes and collaboratively overcoming issues that impact desired performance. • Legitimised Disruption (Mutual versus Unilateral Control)
Engagement of Staff with Low Positional Power Allowing consultation in decision making and independence of action	• Stimulating teams to take ownership in making changes to improve their work. • Staff appreciate being heard and valued, which impacts their	**Use of Personal Power** Use of Personal Power (Expert, Referent) to influence others rather than institutional and coercive power	• Facilitator uses expertise, pathic orientation and pro social behaviour to influence managers and teams towards improvement practice and philosophy.

amongst stakeholders irrespective of positional power (Collective and Relational Agency) (Davis, Schoorman & Donaldson 1997, pp. 35-6)	intrinsic motivation and quality of relationships. • Legitimised Disruption (Mutual versus Unilateral Control)	(Relational Agency) (Davis, Schoorman & Donaldson 1997, pp. 31-2)	• Sponsors provide structures that empower and legitimise collaborative action.

9.0 References

Abbott, P. & Munro, B. 2004, *CommWay focuses on reducing turnaround time* Powerpoint Slides, Commonwealth Bank, viewed 23 September 2004, <https://www.commbank.com.au/about-us/shareholders/pdfs/2004-asx/0923-CommWay-Overview.pdf?ei=gsa_generic_CommWay-focuses-on-reducing-turnaround-time>.

Abdelnour, S., Hasselbladh, H. & Kallinikos, J. 2017, 'Agency and Institutions in Organization Studies', *Organization Studies*, vol. 38, no. 12, pp. 1775–92.

Aboelmaged, M.G. 2010, 'Six Sigma quality: a structured review and implications for future research', *International Journal of Quality & Reliability Management*, vol. 27, no. 3, pp. 268-317.

Abreu-Ledon, R., Lujan-García, D.E., Garrido-Vega, P. & Escobar-Perez, B. 2018, 'A meta-analytic study of the impact of Lean Production on business performance', *International Journal of Production Economics*, vol. 20, pp. 83-102.

Ågerfalk, P.J. & Karlsson, F. 2020, 'Artefactual and empirical contributions in information systems research', *European Journal of Information Systems*, vol. 29, no. 2, pp. 109-13.

Albliwi, S., Antony, J., Abdul Halim Lim, S. & van der Wiele, T. 2014, 'Critical failure factors of Lean Six Sigma: a systematic literature review', *International Journal of Quality & Reliability Management*, vol. 31, no. 9, pp. 1012-30.

Albliwi, S.A., Antony, J. & Lim, S.A.H. 2015, 'A systematic review of Lean Six Sigma for the manufacturing industry', *Business Process Management Journal*, vol. 21, no. 3, pp. 665–91.

Amaratunga, T. & Dobranowski, J. 2016, 'Systematic Review of the Application of Lean and Six Sigma Quality Improvement Methodologies in Radiology', *Journal of the American College of Radiology*, vol. 13, no. 9, pp. 1088–95.

Anderson, J.C., Rungtusanatham, M. & Schroeder, R.G. 1994, 'A Theory of Quality Management Underlying the Deming Method', *Academy of Management Review*, vol. 19, no. 3, pp. 472-509.

Andersson, R., Eriksson, H. & Torstensson, H. 2006, 'Similarities and differences between TQM, six sigma and lean', *The TQM Magazine*, vol. 18, no. 3, pp. 282-96.

Antony, J. 2011, 'REFLECTIVE PRACTICE Six Sigma vs Lean', *International Journal of Productivity and Performance Management*, vol. 60, no. 2, pp. 185-90.

Antony, J. & Coronado, R.B. 2002, 'Key ingredients for the effective implementation of Six Sigma program', *Measuring Business Excellence*, vol. 6, no. 4, pp. 20-7.

Antusch S, Aarts, H. & Custers, R. 2019, 'The Role of Intentional Strength in Shaping the Sense of Agency', *Frontiers in Psychology* vol. 10, no. May, pp. 1-6.

Argiyantari, B., Simatupang, T.M. & Basri, M.H. 2020, 'Pharmaceutical Supply Chain Transformation through Application of the Lean Principle: A Literature Review', *Journal of Industrial Engineering and Management*, vol. 13, no. 3, pp. 475-94.

Argyris, C. 1976, 'Single-Loop and Double-Loop Models in Research on Decision Making', *Administrative Science Quarterly*, vol. 21, no. 3, pp. 363-75.

Argyris, C. & Schön, D.A. 1974, *Theory in practice : increasing professional effectiveness*, Jossey-Bass, San Francisco.

Argyris, C. & Schön, D.A. 1978, *Organizational Learning: A Theory of Action Perspective*, Addison-Wesley, Reading, MA.

Arumugam, V., Antony, J. & Linderman, K. 2014, 'A Multilevel Framework of Six Sigma: A Systematic Review of the Literature, Possible Extensions, and Future Research', *The Quality Management Journal*, vol. 21, no. 4, pp. 36-61.

Aspers, P. 2009, 'Empirical phenomenology: A qualitative research approach (the Cologne seminars)', *Indo-Pacific Journal of Phenomenology*, vol. 9, no. 2, pp. 1-12.

Ataro, G. 2020, 'Methods, methodological challenges and lesson learned from phenomenological study about OSCE experience: Overview of paradigm driven qualitative approach in medical education', *Annals of Medicine and Surgery*, vol. 49, pp. 19-23, https://doi.org/10.1016/j.amsu.2019.11.013

Baker, G.R. 2011, 'The contribution of case study research to knowledge of how to improve quality of care. ', *BMJ Quality and Safety*, vol. 20, no. Suppl 1, pp. i30-i5

Bandura, A. 1982, 'Self-Efficacy Mechanism in Human Agency', *AMERICAN PSYCHOLOGIST*, vol. 37, no. 2, pp. 122-47.

Bandura, A. 2002, 'Growing Primacy of Human Agency in Adaptation and Change in the Electronic Era', *European Psychologist*, vol. 7, no. 1, pp. pp2-16.

Bandura, A. 2006, 'Toward a Psychology of Human Agency', *Perspectives on Psychological Science*, vol. 1, no. 2, pp. 164-80.

Bandura, A. 2018, 'Toward a Psychology of Human Agency: Pathways and Reflections', *Perspectives on Psychological Science*, vol. 13, no. 2, pp. 130–6.

Baracha, P. & Kleinman, L.C. 2018, 'Measuring and improving comprehensive pediatric cardiac care: Learning from continuous quality improvement methods and tools', *Progress in Pediatric Cardiology*, vol. 48, no. 82–92.

Beckman, S.L. 2020, 'To Frame or Reframe: Where Might Design Thinking Research Go Next?', *California Management Review*, vol. 62, no. 2, pp. 144–62.

Bendickson, J., Muldoon, J., Liguori, E. & Davis, P.E. 2015, 'Agency theory: the times, they are a-changin'', *Management Decision*, vol. 54, no. 1, pp. 174-93.

Bendickson, J., Muldoon, J., Liguori, E. & Davis, P.E. 2016, 'Agency theory: background and epistemology', *Journal of Management History*, vol. 22, no. 4, pp. 437-49.

Bergo, B. 2017, *Emmanuel Levinas*, Fall 2017 edn, Metaphysics Research Lab, Stanford University, <https://plato.stanford.edu/archives/fall2017/entries/levinas/>.

Best, M. & Neuhauser, D. 2006, 'Walter A Shewhart, 1924, and the Hawthorne Factory', *Quality and Safety in Health Care*, vol. 15, no. 2, pp. 142-3.

Binswanger, L. 1963, *Being in the World*, Basic Books, New York.

Birgün, S. & Kulakli, A. 2020, 'Scientific Publication Analysis on Lean Management in Healthcare Sector: The Period Of 2010-2019', *Istanbul Ticaret Üniversitesi Sosyal Bilimler Dergisi*, vol. 19, pp. 478-500.

Blaga, P. & Jozsef, B. 2014, 'Human resources, quality circles and innovation', *Procedia Economics and Finance*, vol. 15, pp. 1458-62.

Blaschke, B.A. 2017, 'Consciousness Of God As God Is: The Phenomenology Of Christian Centering Prayer', Victoria University of Wellington, Wellington.

Boeree, C.G. 2006, *Ludwig Binswanger* <http://webspace.ship.edu/cgboer/binswanger.html>.

Bortolotti, T., Romano, P., JoséMartínez-Jurado, P. & Moyano-Fuentes, J. 2016, 'Towards a theory for lean implementation in supply networks', *Int. J.Production Economics*, vol. 175, pp. 182–96.

Brady, J.E. & Allen, T.T. 2006, 'Six Sigma literature: a review and agenda for future research', *Quality & Reliability Engineering International*, vol. 22, no. April, pp. 335-267.

Brassard, M., Finn, L., Ginn, D. & Ritter, D. 2002, *The Six Sigma Memory Jogger II*, GOAL/QPC, Salem, NH, USA.

Breen, L.M., Trepp Jr, R. & Gavin, N. 2020, 'Lean Process Improvement in the Emergency Department', *Emergency Medicine Clinics of North America* vol. 38, no. 3, pp. 633-46.

Brocki, J. & Wearden, A. 2006, 'A critical evaluation of the use of interpretative phenomenological analysis (IPA) in health psychology', *Psychology and Health*, vol. 21, no. 1, pp. 87-108.

Broomé, R.E. 2012, 'The Phenomenological Psychology Of Police Deadly Force', Saybrook University.

Brue, G. & Howes, R. 2006, *Six Sigma The McGraw-Hill 36 Hour Course*, McGraw Hill, New York.

Buch, K. & Tolentino, A. 2006, 'Employee perceptions of the rewards associated with six sigma ', *Journal of Organizational Change Management*, vol. 19, no. 3, pp. 356-64.

Burkitt, I. 2016, 'Relational agency: Relational sociology, agency and interaction', *European Journal of Social Theory*, vol. 19, no. 3, pp. 322–39.

Canard, F. 2011, *W. E. DEMING, Pragmatism and sustainability*, 17th Annual International Deming Research Seminar, New York, United States, <https://halshs.archives-ouvertes.fr/halshs-00607366/document>.

Cançado, T., Cançado, F. & Torres, M. 2019, 'Lean Six Sigma and anesthesia', *REVISTA BRASILEIRA DE ANESTESIOLOGIA*, vol. 69, no. 5, pp. 502-9.

Carlsen, A., Clegg , S.R., Pitsis, T.S. & Mortensen, T.F. 2020, 'From ideas of power to the powering of ideas in organizations: Reflections from Follett and Foucault', *European Management Journal*, vol. 38, pp. 829-35.

Chelliah, J. & Skinner, A. 2016, 'Organizational Transformation: Strategic Application of Lean Six Sigma for High Performance', *Journal of Global Business Management*, vol. 12, no. 1, pp. 85-92.

Cherrafi, A., Elfezazi, S., Chiarini, A., Mokhlis, A. & Benhida, K. 2016, 'The integration of lean manufacturing, Six Sigma and sustainability: A literature review and future research directions for developing a specific model', *Journal of Cleaner Production*, vol. 139, pp. 828-46.

Chiarini, A. 2011, 'Japanese total quality control, TQM, Deming's system of profound knowledge, BPR, Lean and Six Sigma Comparison and discussion', *International Journal of Lean Six Sigma*, vol. 2, no. 4, pp. 332-55.

Cho, Y. & Egan, T.M. 2010, 'The State of the Art of Action Learning Research ', *Advances in Developing Human Resources*, vol. 12, no. 2, pp. 163-80.

Chow, A.T. & Moseley, J.L. 2017, 'Comparisons of Six Sigma, Lean and Human Performance Technology / Performance Improvement', *Performance Improvement*, vol. 56, no. 1.

Church, A.H., Rotolo, C.T., Margulies, A., Del Giudice, M.J., Ginther, N.M., Levine, R., Novakoske, J. & Tuller, M.D. 2015, 'The Role of Personality in Organization Development: A Multi-Level Framework for Applying Personality to Individual, Team, and Organizational Change', in A.B. Shani & D.A. Noumair (eds), *Research in Organizational Change and Development*, vol. 23, Emerald Group Publishing Limited, pp. 91-166.

Ciano, M.P., Pozzi, R., Rossi, T. & Strozzi, F. 2019, 'How IJPR has addressed 'lean': a literature review using bibliometric tools', *International Journal of Production Research*, vol. 57, no. 15–16, pp. 5284–317.

Clancy, M. 2013, 'Is reflexivity the key to minimising problems of interpretation in phenomenological research?', *Nurse Researcher*, vol. 20, no. 6, pp. 12-6.

Cohen, J. 2012, 'Introduction: Emmanuel Levinas - From Philosophy to the Other', *International Journal of Philosophical Studies*, vol. 20, no. 3, pp. 315-7.

Connell, P.J. 2003, 'A Phenomenological Study Of The Lived Experiences Of Adult Caregiving Daughters And Their Elderly Mothers', University Of Florida.

Conway Quality Inc 1987, *Eliminating Waste: A Methodology How to Attack Problems and Opportunities*, Conway Quality Inc, Nashua, New Hampshire.

Cooren, F., Thompson, F., Canestraro, D. & Bodor, T. 2006a, 'From agency to structure: Analysis of an episode in a facilitation process', *Human Relations*, vol. 59, no. 4, pp. 533–65.

Cooren, F., Thompson, F., Canestraro, D. & Bodor, T. 2006b, 'From agency to structure: Analysis of an episode in a facilitation process', *Human Relations*, vol. 59, no. 4, pp. 533-65.

Cooren, F.o., Vaara, E., Langley, A. & Tsoukas, H. 2014, 'Language and Communication at Work: Discourse, Narrativity, and Organizing: Introducing the Fourth Volume of "Perspectives on Process Organization Studies" ', in F.o. Cooren, E. Vaara, A. Langley & H. Tsoukas (eds), *Language and Communication at Work Discourse, Narrativity and Organizing*, Oxford University Press, Oxford, pp. 3-18.

Cope, J. 2005, 'Researching entrepreneurship through phenomenological inquiry', *International Small Business Journal*, vol. 23, no. 2, pp. 163-89.

Coronado, R.B. & Antony, J. 2002, 'Critical success factors for the successful implementation of six sigma projects in organisations', *The TQM Magazine*, vol. 14, no. 2.

Correia, J.H.R.D. 2014, 'The Phenomenology of Dreams in the Viewpoints from Freud, From Jung and from Boss, Plus One New Aspect', *Universal Journal of Psychology*, vol. 2, no. 5, pp. 167-79.

Craig, E. 1988, ' Introduction: Daseinsanalysis: A quest for essentials', *The Humanist Psychologist*, vol. 16, no. 1, pp. 1-21.

Craig, E. 1993, 'Remembering Medard Boss', *The Humanistic Psychologist*, vol. 21, no. 3, pp. 258-76.

Crainer, S. 2000, *The Management Century: A Critical Review of 20th Century Thought and Practice*, Jossey Bass, New York.

Cranley, L.A., Cummings, G.G., Profetto-McGrath, J., Toth, F. & Estabrooks, C.A. 2017, 'Facilitation roles and characteristics associated with research use by healthcare professionals: a scoping review', *BMJ open*, vol. 7, no. 8, p. e014384.

Creswell, J.W. 1998, 2007, 2012, 2014, *Qualitative inquiry and research design: Choosing among five traditions*, Sage, Thousand Oaks, CA.

Creswell, J.W. 2012, *Qualitative inquiry and research design: Choosing among five approaches*, Sage, Thousand Oaks, CA.

Cudney, E.A., Venuthurumilli, S.S.J., Materla, T. & Antony, J. 2020, 'Systematic review of Lean and Six Sigma approaches in higher education', *Total Quality Management & Business Excellence*, vol. 31, no. 3-4, pp. 231-44.

Cunningham, N. 1994, 'Deming and the Vindication of Knowledge in the Philosophy of C. I. Lewis ', *Quality Management Journal*, vol. April, pp. 7-15.

D’Andreamatteoa, A., Iannia, L., Legab, F. & Sargiacomo, M. 2015, 'Lean in healthcare: A comprehensive review', *Health Policy*, no. February.

Davis, J.H., Schoorman, F.D. & Donaldson, L. 1997, 'Toward a Stewardship Theory of Management', *The Academy of Management Review* vol. 22, no. 1, pp. 20-47.

Dawson, G., Denford, J., Williams, C., Preston, D. & DeSouza, K. 2016, 'An Examination of Effective IT Governance in the Public Sector Using the Legal View of Agency Theory', *Journal of Management Information Systems*, vol. 33, no. 4, pp. 1180–208.

de Freitas, J., Costa, H. & Ferraz, F. 2017, 'Impacts of Lean Six Sigma over organizational sustainability: A survey study', *Journal of Cleaner Production*, vol. 156, pp. 262-75.

de Koning, H. & de Mast, J. 2006, 'A rational reconstruction of Six-Sigma’s breakthrough cookbook', *International Journal of Quality & Reliability Management* vol. 23, no. 7, pp. 766-87.

deMast, J. & Lokkerbol, J. 2012, 'An analysis of the Six Sigma DMAIC method from the perspective of problem solving', *International Journal of Production Economics*, vol. 139, pp. 604-14.

Deming, W.E. 1982, *Out of the Crisis*, Cambridge, Massachusetts.

Deming, W.E. 1994, *The New Economics For Industry, Government, Education*, 2 edn, Massachusetts Institute of Technology, Cambridge, Massachusetts.

DeYoung, C.G., Quilty, L.C. & Peterson, J.B. 2007, 'Between facets and domains: 10 aspects of the Big Five.', *Journal of Personality and Social Psychology*, vol. 93, no. 5, pp. 880-96.

Dodson, E. 2015, 'Husserl & the Adventure of Phenomenology - In 12 Minutes', audio podcast, <https://www.youtube.com/watch?v=PjknxljepKA&feature=youtu.be>.

Dong, F., Wang, Z. & Gong, Q. 2020, 'Evolution of Operational Improvement in Management Science / Operations Research (2000-2016): A Social Network Co-Word Analysis', *South Asian Journal of Management*, vol. 27, no. 1, pp. 54-77.

Downs, S.D. 2010, 'Levinas, Meaning, and Philosophy of Social Science: From Ethical Metaphysics to Ontology and Epistemology', Brigham Young University.

Dreyfus, H. & Magee, B. 1987, 'Husserl, Heidegger & Existentialism - Hubert Dreyfus', audio podcast, Philosophy Overdose, Jun 12, 2017, <https://www.youtube.com/watch?v=KR1TJERFzp0>.

Ebrahimi, M. & Sadeghi, M. 2013, 'Quality management and performance: An annotated review', *International Journal of Production Research*, vol. 51, no. 18, pp. 5625-43.

Eckes, G. 2003, *Six Sigma Team Dynamics The Elusive Key to Project Success*, John Wiley & Sons Inc, Hoboken, New Jersey.

Edgeman, R.L. & Fraley, L.A. 2008, 'A System of Profound Consciousness: Building beyond Deming', *Total Quality Management*, vol. 19, no. 7-8, pp. 683–707.

Eisenhardt, K.M. 1989, 'Agency Theory: An Assessment and Review', *The Academy of Management Review*, vol. 14, no. 1, pp. 55-74.

Elley-Brown, M.J. & Pringle, J.K. 2019, 'Sorge, Heideggerian Ethic of Care: Creating More Caring Organizations', *Journal of Business Ethics*, vol. 168, no. 1, pp. 23-35.

Entringer, T.M., Gebauer, J.E. & Paulhus, D.L. 2021, 'Extracting Agency and Communion From the Big Five: A Four-Way Competition', *Assessment*, vol. 28, no. April, pp. 1-20.

Errasti-Ibarrondo, B., Jordán, J.A., Díez-Del-Corral, M.P. & Arantzamendi, M. 2018, 'van Manen's phenomenology of practice: How can it contribute to nursing?', *Nursing Inquiry*, pp. 1-10.

Errasti-Ibarrondo, B., Jordán, J.A., Díez-Del-Corral, M.P. & Arantzamendi, M. 2018 'Conducting phenomenological research: Rationalizing the methods and rigour of the phenomenology of practice', *Journal of Advanced Nursing*, vol. 74, no. 7, pp. 1723–34.

Evans, J. & Lindsay, W. 2014, *Managing for Quality and Performance Excellence*, 9th edn, Cengage Learning, Mason, USA.

Evans, J. & Lindsay, W. 2017, *Managing for Quality and Performance Excellence*, 10th edn, Cengage Learning, Mason, USA.

Feigenbaum, A.V. 1956, 'Total Quality Control', *Harvard Business Review*, vol. 34, no. 6, pp. 93-101.

Fernando, R. 2014, *Are Excellence Awards a Relic of the Past?*, viewed 16 Feburary 2015 2015, <<http://thriveplus.com.au/excellence-awards-relic-past/>.>.

Finlay, L. 2012, 'Debating Phenomenological Research Methods', in N. Friesen, C. Henriksson & T. Saevi (eds), *Hermeneutic Phenomenology in Education : Method and Practice*, Sense Publishers, Rotterdam, The Netherlands.

Finn Connell, S.E. 2013, 'Exploring Operational Practices and Archetypes of Design Thinking', Benedictine University, Ann Arbor.

Fong, A.J., Smith, M. & Langerman, A. 2016, 'Efficiency improvement in the operating room', *Journal of Surgical Research*, vol. 204, no. August, pp. 371-83.

Frie, R. 2000, 'The Existential And The Interpersonal: Ludwig Binswanger And Harry Stack Sullivan', *Journal of Humanistic Psychology*, vol. 40, no. 3, pp. 108-29.

Fried, E.I. 2017, 'What are psychological constructs? On the nature and statistical modelling of emotions, intelligence, personality traits and mental disorders', *HEALTH PSYCHOLOGY REVIEW*, vol. 11, no. 2, pp. 130–4.

Friesen, N. 2012, 'Experiential Evidence: I, We, You', in N. Friesen, C. Henriksson & T. Saevi (eds), *Hermeneutic Phenomenology in Education : Method and Practice*, Sense Publishers, Rotterdam, The Netherlands.

Garrido-López, M. & Hillon, Y.C. 2020, 'Where are the people in Continuous Improvement efforts?', *Recherches en Sciences de Gestion.*, vol. 138, pp. 101-30.

Ghaemi, S.N. 2001, 'Rediscovering Existential Psychotherapy: The Contribution of Ludwig Binswanger', *American Journal of Psychotherapy*, vol. 55, no. 1, pp. 51-64.

Giddens, A. 1984, *The constitution of society: Outline of the theory of structuration*, University of California Press, Berkeley.

Giorgi, A. 2009, *The descriptive phenomenological method in psychology: A modified Husserlian approach*, Duquesne University, Pittsburg.

Giorgi, A.P. & Giorgi, B. 2010, 'Phenomenological Psychology', in C. Willig & W. Stainton-Rogers (eds), *The SAGE Handbook of Qualitative Research in Psychology*, SAGE Publications Ltd, London, pp. 165-78.

Glover, W.J., Liu, W.-H., Farris, J.A. & Van Aken, E.M. 2013, 'Characteristics of established kaizen event programs: an empirical study', *International Journal of Operations & Production Management*, vol. 33, no. 9, pp. 1166-201.

Goffnett, S.P., Lepisto, L. & Hayes, R. 2016, 'Using the socio-economic approach to management to augment Lean Six Sigma', *International Journal of Productivity and Performance Management*, vol. 65, no. 1, pp. 80-97.

Goodman, D., Ogrinc, G., Davies, L., Baker, G., Barnsteiner, J., Foster, T., Gali, K., Hilden, J., Horwitz, L., Kaplan, H., Leis, J., Matulis, J., Michie, S., Miltner, R., Neily, J., Nelson, W., Niedner, M., Oliver, B., Rutman, L. & Thor, J. 2016, 'Explanation and elaboration of the SQUIRE (Standards for Quality Improvement Reporting Excellence) Guidelines, V.2.0: Examples of SQUIRE elements in the healthcare improvement literature', *BMJ quality & safety*, vol. 25, no. 7, pp. 1-24.

Grant, A.M. 2007, 'Relational Job Design and the Motivation to make a Prosocial Difference', *Academy of Management Review*, vol. 32, no. 2, pp. 393–417.

Greatrex-White, S. 2008, 'Thinking about the nature of research findings: A hermeneutic phenomenological perspective', *International Journal of Nursing Studies* vol. 45, pp. 1842–9.

Gremyr, I. & Fouquet, J.-B. 2012, 'Design for Six Sigma and lean product development', *International Journal of Lean Six Sigma*, vol. 3, no. 1, pp. 45-8.

Groenewald, T. 2004, 'A phenomenological research design illustrated', *International Journal of Qualitative Methods*, vol. 3, no. 1.

Guba, E.G. & Lincoln, Y.s. 1994, 'Competing paradigms in qualitative research', in N.K. Denzin & Y.S. Lincoln (eds), *Handbook of Qualitative Research*, vol. 2, Sage Publications, Inc., Thousand Oaks, California, U.S, pp. 163–94.

Gupta, S., Modgil, S. & Gunasekaran, A. 2020, 'Big data in lean six sigma: a review and further research directions', *International Journal of Production Research*, vol. 58, no. 3, pp. 947-69.

Hammond, M., Howarth, J. & Keat, R. 1991, *Understanding Phenomenology*, Basil Blackwell, Oxford.

Harvey, G. & Lynch, E. 2017, 'Enabling continuous quality improvement in practice: the role and contribution of facilitation', *Frontiers in public health*, vol. 5, p. 27.

Henrique, D.B. & Filho, M.G. 2020, 'A systematic literature review of empirical research in Lean and Six Sigma in healthcare', *Total Quality Management & Business Excellence*, vol. 31, no. 3-4, pp. 429-49.

Hillmer, S. & Karney, D. 1997, 'Towards Understanding the Foundations of Deming's Theory of Management', *Journal of Quality Management*, vol. 2, no. 2, pp. 171-89.

Hillmer, S. & Karney, D. 2001, 'In support of the assumptions at the foundation of Deming's management theory', *Journal of Quality Management* vol. 6, pp. 371-400.

Hines, P., Holweg, M. & Rich, N. 2004, 'Learning to evolve A review of contemporary lean thinking', *International Journal of Operations & Production Management*, vol. 24, no. 10, pp. 994-1011.

Honda, A.C., Bernardo, V.Z., Gerolamo, M.C.ı. & Davis, M.M. 2018, 'How Lean Six Sigma Principles Improve Hospital Performance', *Quality Management Journal* vol. 25, no. 2, pp. 70–82.

Hopwood, C.J., Pincus, A.L. & Wright, A.G.C. 2021, 'Six Assumptions of Contemporary Integrative Interpersonal Theory of Personality and Psychopathology', *Current Opinion in Psychology*, vol. 41, no. October, pp. 65-70.

Hoss, M. & Schwengber ten Caten, C. 2013, 'Lean schools of thought', *International Journal of Production Research*, vol. 51, no. 11, pp. 3270–82.

Ihde, D. 2012, *Experimental phenomenology: Multistabilities*, 2 edn, State University of New York Press, Albany, New York.

Isa, M.F.M. & Usmen, M. 2015, 'Improving university facilities services using Lean Six Sigma: a case study', *Journal of Facilities Management*, vol. 13, no. 1, pp. 70-84.

Islam, A.S.M.T. 2020, 'Lean Fails a Lot, Even Today – Are Organizations Taking Care of All Success Factors to Implement Lean?', *The IUP Journal of Operations Management*, vol. 19, no. 2, pp. 29-50.

Jeyaraman, K. & Teo, L.K. 2010, 'A conceptual framework for critical success factors of lean Six Sigma', *International Journal of Lean Six Sigma*, vol. 1, no. 3, pp. 191-215.

Johnson, D.G. & Verdicchio, M. 2019, 'AI, agency and responsibility: the VW fraud case and beyond', *AI & SOCIETY*, vol. 34, pp. 639–47.

Joshi, R.G. 2015, 'The Essence of Lived Experiences of Grassroots Innovators A Phenomenological Study', The University of Technology Sydney, Sydney.

Juran, J.M. 1993, 'Made in U.S.A. A Renaissance in Quality ', *Harvard Business Review*, vol. 71, no. 4, pp. 42-7,50.

Juran, J.M. 1999, 'How to think about Quality', in J.M.J.a.A.B.G.E.i.C.R.E.H.a.E.G.S.A. Editors (ed.), *Juran's Quality Handbook*, 5 edn, McGraw Hill, New York.

Kafle, N.P. 2011, 'Hermeneutic phenomenological research method simplified', *Bodhi: An Interdisciplinary Journal*, vol. 5, pp. 181-99.

Kaplan, R.S. & Norton, D.P. 1996, *The Balanced Scorecard : translating strategy into action*, Harvard Business School Press, Boston.

Kiechel III, W. 2012, 'The Management Century', *Harvard Business Review*, vol. 90, no. 11, pp. 62-75.

Kim, J. 2020, 'The problem of nonhuman agency and bodily intentionality in the Anthropocene', *Neohelicon*, vol. 47, pp. 9-16.

Kluse, C. 2017, 'Failure Modes and Effects Analysis (FMEA): Factors Affecting Execution and Implementation of the FMEA and an Alternate Method for Process Risk Assessment', *The Journal of Management and Engineering Integration*, vol. 10, no. 1, pp. 106-16.

Knapp, S.J. 2015, 'The Ethical Phenomenology of Emmanuel Levinas: Drawing on Phenomenology to Explore the Central Features of Family Life', *Journal of Family Theory & Review*, vol. 7, no. September, pp. 225–41.

Knights, D. & McCabe, D. 1999, ''Are There No Limits to Authority?':TQM and Organizational Power', *Organization Studies*, vol. 20, no. 2, pp. 197-224.

Knights, D. & McCabe, D. 2000, ''Ain't Misbehavin'? Opportunities for Resistance under New Forms of 'Quality' Management', *Sociology*, vol. 34, no. 3, pp. 421-36.

Kögler, H.-H. 2010, 'Recognition and the Resurgence of Intentional Agency', *Inquiry*, vol. 53, no. 5, pp. 450-69.

Kota, S.R. & Chetan, R. 2013, *Achieving X% Savings and Y% Growth Using Lean Six Sigma*, White Paper, Lean and Six Sigma International Board and Latitude 12, viewed 28 July 2016 2016, <https://leansixsigma.lassibsociety.org/downloads/free-downloads/free-preview-reports/industry-research-report-preview/industry-research-achieving-x-savings-y-growth-preview/>.

Kovach, J.V. & Fredendall, L.D. 2013, 'The Influence of Continuous Improvement Practices on Learning: An Empirical Study', *The Quality Management Journal*, vol. 20, no. 4, pp. 6-20.

Kuhn, T. & Burk, N.R. 2014, 'Spatial Design as Sociomaterial Practice A (Dis)Organizing Perspective on Communicative Constitution', in F.o. Cooren, E. Vaara, A. Langley & H. Tsoukas (eds), *Language and Communication at Work Discourse, Narrativity and Organizing*, Oxford University Press, Oxford.

Kumar, M., Antony, J., Madu, C.N., Montgomery, D.C. & Park, S.H. 2008, 'Common myths of Six Sigma demystified', *International Journal of Quality & Reliability Management*, vol. 25, no. 8, pp. 878-95.

Kupiainen, E., Mäntylä, M.V. & Itkonen, J. 2015, 'Using metrics in Agile and Lean Software Development – A systematic literature review of industrial studies', *Information and Software Technology*, vol. 62, pp. 143–63.

Langdridge, D. 2008, 'Phenomenology and Critical Social Psychology: Directions and Debates in Theory and Research', *Social and Personality Psychology Compass* vol. 2, no. 3, pp. 1126–42,.

Langley, A. & Denis, J.-L. 2011, 'Beyond evidence: the micropolitics of improvement', *BMJ Quality and Safety*, vol. 20, no. Suppl 1, pp. i43-i6.

Langley, G.J., Moen, R., Nolan, K.M., Nolan, T.W., Norman, C.L. & Provost, L.P. 2009, *The improvement guide: a practical approach to enhancing organizational performance*, 2 edn, Jossey-Bass, San Francisco.

Lanzoni, S. 2003, 'An Epistemology of the Clinic: Ludwig Binswanger's Phenomenology of the Other', *Critical Inquiry*, vol. 30, no. 1, pp. 160-86.

Larkin, M., Watts, S. & Clifton, E. 2006, 'Giving voice and making sense in interpretative phenomenological analysis', *Qualitative Research in Psychology* vol. 3, pp. 102-20.

Laureani, A. & Antony, J. 2018, 'Leadership – a critical success factor for the effective implementation of Lean Six Sigma', *Total Quality Management & Business Excellence*, vol. 29, no. 5, pp. 502-23.

Laureani, A. & Antony, J. 2019, 'Leadership and Lean Six Sigma: a systematic literature review', *Total Quality Management*, vol. 30, no. 1, pp. 53–81.

Lawrence, T.B. & Maitlis, S. 2012, 'Care And Possibility: Enacting An Ethic Of Care Through Narrative Practice', *The Academy of Management Review*, vol. 37, no. 4, pp. 641-63.

Leon, H.C.M., Perez, M.d.C.T., Farris, J.A. & Beruvides, M.G. 2012, 'Integrating Six Sigma tools using team-learning processes', *International Journal of Lean Six Sigma*, vol. 3, no. 2, pp. 133-56.

Levinas, E. 1969, *Totality and Infinity*, trans. A. Lingis, Duquesne University Press, Pittsburgh.

Litchfield, C. 2016, 'The Phenomenology of Masters Alpine Ski Racers: Experiencing Ski Racing in Old Age', University of Western Ontario, London, Ontario.

Liu, D. & Campbell, K., W. 2017, 'The Big Five personality traits, Big Two metatraits and social media: A meta-analysis', *Journal of Research in Personality*, vol. 70, pp. 229–40.

Lloréns-Montes, F.J. & Molina, L.M. 2006, 'Six Sigma and management theory: Processes, content and effectiveness', *Total Quality Management and Business Excellence*, vol. 17, no. 4, pp. 193-203.

Lorino, P. 2015, 'Pragmatism: a key source for the renewal of organization and management studies', paper presented to the *European Pragmatism Conference II*, Paris (France), 9-11 Sep 2015 <https://epc2.sciencesconf.org/59268>.

Lovitt, M.R. 1997, 'The new pragmatism: Going beyond Shewhart and Deming', *Quality Progress*, vol. 30, no. 4, pp. 99-105.

MacInnes, R. 2009, *The Lean Enterprise Memory Jogger for Services*, GOAL / QPC, Salem, NH.

MacInnis, D.J. 2011, 'A Framework for Conceptual Contributions in Marketing', *Journal of Marketing*, vol. 75, no. July, pp. 136 –54.

Macpherson, W.G. 2013, 'An Examination of Kaizen Drift In Japanese Genba: Implications for Business in the Anglosphere', Massey University, Manawatu, New Zealand.

Madhani, P.M. 2017, 'Six Sigma Deployment in Sales and Marketing: Enhancing Competitive Advantages', *The IUP Journal of Business Strategy*, vol. XIV, no. 2, pp. 40-63.

Magee, B. & Barret, W. 1977, 'Heidegger and Existentialism with Bryan Magee (1977)', audio podcast, Manufacturing Intellect, September 17, 2017, viewed 12/05/2018, <https://www.youtube.com/watch?v=27bo4FMP3vo&t=472s>.

Marton, F. 1981, 'Phenomenography - Describing Conceptions of the World Around Us', *Instructional Science*, vol. 10, pp. 177-200.

Mason, S.E., Nicolay, C.R. & Darzi, A. 2015, 'The use of Lean and Six Sigma methodologies in surgery: A systematic review', *The Surgeon*, vol. 13, pp. 91-100.

Mauléon, C. & Bergman, B. 2009, 'Exploring the epistemological origins of Shewhart's and Deming's theory of quality Influences from C.I. Lewis' conceptualistic pragmatism', *International Journal of Quality and Service Sciences*, vol. 1, no. 2, pp. 160-71.

Maurel, M. 2009, 'The explicitation interview: Examples and applications', *Journal of Consciousness Studies*, vol. 16, no. 10-12, pp. 58-89.

McAdam, R., Antony, J., Kumar, M. & Hazlett, S.A. 2014, 'Absorbing new knowledge in small and medium-sized enterprises: A multiple case analysis of Six Sigma', *International Small Business Journal*, vol. 32, no. 1, pp. 81-109.

McAdam, R. & Hazlett, S.-A. 2010, 'An absorptive capacity interpretation of Six Sigma', *Journal of Manufacturing Technology Management*, vol. 21, no. 5, pp. 624-45.

McAdam, R., Hazlett, S.-A. & Henderson, J. 2005, 'A Critical Review of Six Sigma: Exploring the Dichotomies', *International Journal of Organizational Analysis*, vol. 13, no. 2, pp. 151-74.

McAdam, R., Leonard, D., Henderson, J. & Hazlett, S.-A. 2008, 'A grounded theory research approach to building and testing TQM theory in operations management.', *Omega*, vol. 36, pp. 825 – 37.

McCarty, T., Daniels, L., Bremer, M. & Gupta, P. 2005, *The Six Sigma Black Belt Handbook*, McGraw Hill, New York.

McMurray, R., Pullen, A. & Rhodes, C. 2010, 'Ethical subjectivity and politics in organizations: A case of health care tendering', *Organization Science*, vol. 18, no. 4, pp. 541–61.

Moen, R.D. & Norman, C.L. 2010, 'Circling Back', *Quality Progress*, vol. 43, no. 11, pp. 22-8.

Moran, D. 2000, *Introduction to Phenomenology*, Routledge, London.

Morgan, M.L. 2007, *Discovering Levinas*, Cambridge University Press, New York.

Mosely, G., Markauskaite, L. & Wrigley, C. 2021, 'Design facilitation: A critical review of conceptualisations and constructs', *Thinking Skills and Creativity*, vol. 42, pp. 1-13.

Moustakas, C. 1994, *Phenomenological Research Methods*, Sage, London, UK.

Musek, J. & Grum, D.K. 2021, 'The bright side of personality', *Heliyon*, vol. 7, no. 3, pp. 1-6.

Nash, M.A., Poling, S.R. & Ward, S. 2006, *Using Lean For Faster Six Sigma Results*, Productivity Press, New York.

Nicholsona, J.D., LaPlacab, P., Al-Abdinc, A., Breesed, R. & Khane, Z. 2018, 'What do introduction sections tell us about the intent of scholarly work: A contribution on contributions', *Industrial Marketing Management*, vol. 73, pp. 206–19.

NIST 2015a, *Baldrige Excellence Builder*, National Institute of Standards and Technology, United States Department of Commerce viewed 13/11/2016 2016, <https://www.nist.gov/sites/default/files/.../baldrige/.../Baldrige_Excellence_Builder.pdf>.

NIST 2015b, *Baldrige Excellence Framework*, National Institute of Standards and Technology, United States Department of Commerce Gaithersburg, USA.

Nonthaleerak, P. & Hendry, L.C. 2006, 'Six Sigma: literature review and key future research areas', *International Journal of Six Sigma and Competitive Advantage*, vol. 2, no. 2, pp. 105-61.

Olesen, J. 2006a, 'Boss' and Binswanger's health anthropologies and existential philosophies', *Philosophical Practice*, vol. July, <https://www.researchgate.net/publication/232832413>.

Olesen, J. 2006b, 'Boss' and Binswanger's health anthropologies and existential philosophies', *Philosophical Practice*, vol. 2, no. 2, pp. 99-109.

Olmos-Ochoa, T.T., Ganz, D.A., Barnard, J.M., Penney, L., Finley, E.P., Hamilton, A.B. & Chawla, N. 2021, 'Sustaining implementation facilitation: a model for facilitator resilience', *Implementation science communications*, vol. 2, no. 1, pp. 1-9.

Panda, B. & Leepsa, N.M. 2017, 'Agency theory: Review of Theory and Evidence on Problems and Perspectives', *Indian Journal of Corporate Governance*, vol. 10, no. 1, pp. 74–95.

Pasieczny, J. 2017, 'Organisational Pathologies Under Conditions of Economic Downswing', *Economics and Culture*, vol. 14, no. 1, pp. 21-30.

Patri, R. & Suresh, M. 2018, 'Factors influencing lean implementation in healthcare organizations: An ISM approach', *International Journal of Healthcare Management*, vol. 11, no. 1.

Pearce, A., Pons, D. & Neitzert, T. 2018, 'Implementing lean—Outcomes from SME case studies', *Operations Research Perspectives* vol. 5, pp. 94–104.

Pedler, M. 2007, 'FOREWORD SPECIAL ISSUE: Lean thinking and action learning', *Action Learning: Research and Practice*, vol. 4, no. 1, pp. 1-2.

Pentland, B.T., Feldman, M.S., Becker, M.C. & Liu, P. 2012, 'Dynamics of Organizational Routines: A Generative Model', *Journal of Management Studies*, vol. 49, no. 8, pp. 1484-508.

Pepper, M.P.J. & Spedding, T.A. 2010, 'The evolution of lean Six Sigma', *International Journal of Quality & Reliability Management*, vol. 27, no. 2.

Pereira, P.S. 2015, 'Phenomenology of Practice: Research In Nursing of Lived Experience

', *Journal of Nursing*, vol. 9, no. 10, pp. 9608-15.

Petersen, J.B. 2018, *12 Rules For Life An Antidote to Chaos*, Random House, Toronto.

Peterson, G.T. 1998, *The Influence of C I Lewis on Shewhart and Deming*, EXCELSIS Business Advisers, viewed 4/11/2016 2016, <http://www.unreasonable-learners.com/wp-content/uploads/2011/03/C-I-Lewis-Shewhart-and-Deming-by-G-T-Peterson.pdf>.

Peterson, J.B. 2017a, '2017 Personality 10: Humanism & Phenomenology: Carl Rogers', audio podcast, Patreon, Feb 13, 2017, <https://www.youtube.com/watch?v=68tFnjkIZ1Q&feature=youtu.be>.

Peterson, J.B. 2017b, '2017 Personality 12: Phenomenology: Heidegger, Binswanger, Boss', audio podcast, Patreon, Feb 20, 2017, <https://www.youtube.com/watch?v=11oBFCNeTAs&feature=youtu.be>.

Peterson, J.B., Higgins, D.M. & Pihl, R.O. 2020, *Understandmyself.com*, <https://www.understandmyself.com/personality-assessment>.

Petitmengin, C. 2006, 'Describing one's subjective experience in the second person: An interview method for the science of consciousness', *Phenomenology and the Cognitive Sciences* vol. 5, no. 3, pp. 229-69.

Petitmengin, C. 2011, 'Describing the Experience of Describing? The blindspot of introspection', *Journal of Consciousness Studies*, vol. 18, no. 1, pp. 44–62.

Pettit, P. 1969, *On the Idea of Phenomenology*, Scepter Books, Dublin.

Pickering, A. 1993, 'The Mangle of Practice: Agency and Emergence in the Sociology of Science', *American Journal of Sociology*, vol. 99, no. 3, pp. 559-89.

Pickering, A. 1995, *The Mangle of Practice: Time, Agency, and Science*, University of Chicago Press, Chicago, IL.

Pietkiewicz, I. & Smith, J.A. 2014, 'A practical guide to using Interpretative Phenomenological Analysis in qualitative research psychology', *Czasopismo Psychologiczne - Psychological Journal*, vol. 20, 1, 2014, , no. 1, pp. 7-14.

Pivcevic, E. 1970, *Husserl and Phenomenology*, Hutchinson University Library., London.

Plant, B. 2018, 'Levinas in therapy', *Theory & Psychology*, vol. 28, no. 3, pp. 279–97.

Porteous, D.J. & Machin, A. 2018, 'The lived experience of first year undergraduate student nurses: A hermeneutic phenomenological study', *Nurse Education Today*, vol. 60, pp. 56-61.

Pouryousefi, S. & Frooman, J. 2017, 'The Problem of Unilateralism in Agency Theory: Towards a Bilateral Formulation ', *Business Ethics Quarterly*, vol. 27, no. 2, pp. 163-82.

Prasanna, M. & Vinodh, S. 2013, 'Lean Six Sigma in SMEs: an exploration through literature review', *Journal of Engineering, Design and Technology*, vol. 11, no. 3, pp. 224-50.

Presthus, W. & Munkvold, B.E. 2016, 'How to frame your contribution to knowledge? A guide for junior researchers in informaton systems ', paper presented to the *NOKOBIT 2016*, Bergen.

Puyvelde, S.V., Caers, R., Du Bois, C. & Jegers, M. 2012, 'The Governance of Nonprofit Organizations: Integrating Agency Theory With Stakeholder and Stewardship Theories', *Nonprofit and Voluntary Sector Quarterly*, vol. 41, no. 3, pp. 431–51.

Pyzdek, T. 2003, *The Six Sigma Handbook Revised and Expanded*, McGraw-Hill, New York.

Quinn, J., Gephart, S. & Davis, M. 2019, 'External Facilitation as an Evidence-Based Practice Implementation Strategy During an Antibiotic Stewardship Collaborative in Neonatal Intensive Care Units', *Worldviews on Evidence-Based Nursing*, vol. 16, no. 6, pp. 454–61.

Raddon, A. 2010, *Early Stage Research Training: Epistemology & Ontology in Social Science Research*

University of Leicester, viewed 14 October 2016, <https://www2.le.ac.uk/colleges/ssah/documents/research-training-presentations/EpistFeb10.pdf>.

Raisinghani, M.S., Ette, H., Pierce, R., Cannon, G. & Daripaly, P. 2005, 'Six Sigma: concepts, tools, and applications', *Industrial Management & Data Systems*, vol. 105, no. 4, pp. 491-505.

Rath & Strong 2003, *Rath & Strong's Six Sigma Leadership Handbook*, John Wiley & Sons, New Jersey.

Rhodes, C. 2016, 'Democratic Business Ethics: Volkswagen's emissions scandal and the disruption of corporate sovereignty', *Organization Studies*, vol. 37, no. 10, pp. 1501–18.

Rhodes, C. & Carlsen, A. 2018, 'The teaching of the other: Ethical vulnerability and generous reciprocity in the research process', *Human Relations*, vol. 71, no. 10, pp. 1–24.

Ricoeur, P. 1970, *Freud and Philosophy: An Essay on Interpretation.* , trans. D. Savage, Yale University Press, New Haven, CT.

Sabry, A. 2014, 'Factors critical to the success of Six-Sigma quality program and their influence on performance indicators in some of Lebanese hospitals', *Arab Economics and Business Journal*, vol. 9, pp. 93-114.

Salm Ward, T.C. & Yasin, T. 2022, 'Hospital-based inpatient quality improvement initiatives on safe infant sleep: Systematic review and narrative synthesis', *Sleep Medicine Reviews*, vol. 63, pp. 101622-.

Salovaara, A. 2020, 'Typology of possible research findings (i.e., "contributions")', *Writing about Design Principles and tips for design-oriented research*, weblog, Aalto University, <https://blogs.aalto.fi/writingaboutdesign/2020/11/12/typology-of-possible-research-findings-i-e-contributions/>.

Samanta, A.K., Varaprasad, G. & Padhy, R. 2021, 'A systematic review of empirical studies pertaining to Lean, Six Sigma and Lean Six Sigma quality improvement methodologies in paediatrics', *International Journal of Business Excellence*, vol. 23, no. 1, pp. 18-32.

Saucier, G., Georgiades, S., Tsaousis, I. & Goldberg, L.R. 2005, 'The Factor Structure of Greek Personality Adjectives', *Journal of Personality and Social Psychology*, vol. 88, no. 5, pp. 856–75.

Savolainen, T. & Haikonen, A. 2007, 'Dynamics of organizational learning and continuous improvement in six sigma implementation', *The TQM Magazine*, vol. 19, no. 1, pp. 6-17.

Scalambrino, F. 2018, *Phenomenological Psychology*, Web, Internet Encyclopedia of Philosophy viewed 6 October 2016, <http://www.iep.utm.edu/phen-psy/>.

Schipper, F. 1999, 'Phenomenology and the reflective practitioner', *Management Learning*, vol. 30, no. 4, pp. 473-85.

Scholtes, P.R., Joiner, B.L. & Streibel, B.J. 1996, *The Team Handbook*, 2 edn, Joiner Associates Inc, Madison Wisconsin.

Schroeder, R.G., Linderman, K., Liedtke, C. & Choo, A.S. 2008, 'Six Sigma: Definition and underlying theory', *Journal of Operations Management*, vol. 26, pp. 536-54.

Schwarz, R. 2017, *The Skilled Facilitator*, 3 edn, John Wiley & Sons, Hoboken, New Jersey.

Scotland, J. 2012, 'Exploring the Philosophical Underpinnings of Research: Relating Ontology and Epistemology to the Methodology and Methods of the Scientific, Interpretive, and Critical Research Paradigms', *English Language Teaching*, vol. 5, no. 9, pp. 9-16.

Seddon, J. & Caulkin, S. 2007, 'Systems thinking, lean production and action learning ', *Action Learning: Research and Practice*, vol. 4, no. 1, pp. 9-24.

Senge, P.M. 1990, *The Fifth Discipline The Art And Practice Of The Learning Organisation*, Doubleday, New York.

Seravalli, A. & Witmer, H. 2021, '(Service) Design and Organisational Change: Balancing with Translation Objects', *International Journal of Design*, vol. 15, no. 3, pp. 73-86.

Seth, P. 2017, 'Being Opened: A Hermeneutic Phenomenological Enquiry into the Existential Psychotherapist’s Lived Experience of Wonder', Middlesex University, London.

Shaw, E.K., Looney, A., Chase, S., Navalekar, R., Stello, B., Lontok, O. & Crabtree, B. 2010, ''In the moment’: An analysis of facilitator impact during a quality improvement process ', *Group Facilitation: A Research and Applications Journal*, vol. 10, no. pp4-16.

Shaw, R. 2010, 'Embedding Reflexivity Within Experiential Qualitative Psychology', *Qualitative Research in Psychology*, vol. 7, no. 3, pp. 233-43.

Shewhart, W.A. 1931, *Economic Control of Quality of Manufactured Product*, ASQ Quality Press, Milwaukee, Wisconsin.

Shorey, S.& Ng, E.D., 2022, Examining characteristics of descriptive phenomenological nursing studies: A scoping review, *Journal of Advanced Nursing*, vol. 78, no. 7, pp. 1968–79.

Sieckmann, F., Ngoc, H.N., Helm, R. & Kohl, H. 2018, 'Implementation of lean production systems in small and medium sized pharmaceutical enterprises', *Procedia Manufacturing*, vol. 21, pp. 814-21.

Silverman, D. 2013, *Doing Qualitative Research*, Fourth edn, SAGE Publications Ltd, London.

Simpson, A.V. 2012, 'Organizational Compassion as a Complex Social Relational Process', University of Technology, Sydney, Sydney.

Şimşek, Ö.F. & Koydemir, S. 2013, 'Linking Metatraits of the Big Five to Well-Being and Ill-Being: Do Basic Psychological Needs Matter?', *Social Indicators Research*, vol. 112, no. 221–238.

Singh, A.K. & Khanduja, D. 2014, 'Defining Quality Management in Auto Sector: A Six-Sigma Perception', *Procedia Materials Science*, vol. 5, pp. 2645-53.

Singh, J. & Singh, H. 2012, 'Continuous improvement approach: state-of-art review and future implications', *International Journal of Lean Six Sigma*, vol. 3, no. 2, pp. 88-111.

Singh, K.D. 2015, 'Creating Your Own Qualitative Research Approach: Selecting, Integrating and Operationalizing Philosophy, Methodology and Methods', *Vision*, vol. 19, no. 2, pp. 132–46.

Sinha, K.K. & Van de Ven, A.H. 2005, 'Designing Work Within and Between Organizations', *Organization Science*, vol. 16, no. 4, pp. 389-408.

Skinner, A. 1998, 'The Pivotal Role of Understanding the Value the Customer Desires', in B. Whitford (ed.), *Customer Sercice Excellence How Organisations In Australia Are Exceeding Customer Expectations*, Beaumont Publishing, Subiaco, Western Australia.

Skinner, A. 2012, *Green Belt Program: Stage One Black Belt (6th Edition)*, 6th edn, Lean Six Sigma Business Excellence Institute, Sydney.

Smith, J. 2011, 'The Lasting Legacy OF THE MODERN QUALITY GIANTS', *Quality Magazine*, vol. 50, no. 10, pp. 40-7.

Smith, J., Jarman, M. & Osborn, M. 1999, 'Doing Interpretative Phenomenological Analysis', in M. Murray & K. Chamberlain (eds), *Qualitative Health Psychology*, Sage Publications, Thousand Oaks, California, pp. 218-40.

Smith, J.A., Flowers, P. & Larkin, M. 2009, *Interpretative phenomenological analysis: theory, method and research*, SAGE, Los Angeles.

Smith, J.A. & Osborn, M. 2007, 'Interpretative Phenomenological Analysis', in E. Lyons & A. Coyle (eds), *Analysing Qualitative Data in Psychology*, SAGE Publications, Ltd, London.

Smith, J.A. & Osborn, M. 2009, 'Interpretative Phenomenological Analysis', in J.A. Smith, P. Flowers & M. Larkin (eds), *Interpretative phenomenological analysis: theory, method and research*, SAGE, Los Angeles, pp. 53-80.

Snee, R.D. 2010, 'Lean Six Sigma – getting better all the time', *International Journal of Lean Six Sigma*, vol. 1, no. 1, pp. 9-29.

Soldz, S. & Vaillant, G.E. 1999, 'The Big Five Personality Traits and the Life Course: A 45-Year Longitudinal Study ', *Journal of Research in Personality* vol. 33, pp. 208–32.

Sony, M., Naik, S. & Antony, J. 2020, 'Lean Six Sigma and social performance: A review and synthesis of current evidence', *Quality Management Journal*, vol. 27, no. 1, pp. 21-36.

Sreedharan, V.R. & Raju, R. 2016, 'A systematic literature review of Lean Six Sigma in different industries', *International Journal of Lean Six Sigma*, vol. 7, no. 4, pp. 430-66.

Stańczyk-Hugiet, E., Piórkowska, K. & Stańczyk, S. 2017, 'Demystifying emergence of organizational routines', *Journal of Organizational Change Management*, vol. 30, no. 4, pp. 525-47.

Sterling, A. & Boxall, P. 2013, 'Lean production, employee learning and workplace outcomes: a case analysis through the ability-motivation-opportunity framework', *Human Resource Management Journal*, vol. 23, no. 3, pp. 227-40.

Stone, K.B. 2012, 'Four Decades of Lean : A Systematic Literature Review', *International Journal of Lean Six Sigma*, vol. 3, no. 2, pp. 112-32.

Stubbs, G.A. 2013, 'A Phenomenological Study of Collective Creative Problem Solving In Information Technology Distributed Work Teams', University of Phoenix, Phoenix.

Sua´rez-Barraza, M.F., Ramis-Pujol, J. & Kerbache, L. 2011, 'Thoughts on kaizen and its evolution Three different perspectives and guiding principles', *International Journal of Lean Six Sigma*, vol. 2, no. 4, pp. 288-308.

Sunder, V.M., Mahalingam, S. & Krishna M, S.N. 2020, 'Improving patients’ satisfaction in a mobile hospital using Lean Six Sigma–a design-thinking intervention', *Production Planning & Control*, vol. 31, no. 6, pp. 512-26.

Sunder, V.M. & Prashar, A. 2020, 'Empirical examination of critical failure factors of continuous improvement deployments: stage-wise results and a contingency theory perspective', *International Journal of Production Research*, vol. 58, no. 16, pp. 4894-915.

Sundet, J. & Carlsen, A. 2019, 'Sweet dreams (are made of this): cultivating relational agency through high-quality connections in the workplace', in R.J. Burke & A.M. Richardsen (eds), *Creating Psychologically Healthy Workplaces*, Edward Elgar Publishing Limited, Cheltenham, UK.

Suri, H. 2011, 'Purposeful sampling in qualitative research synthesis', *Qualitative Research Journal*, vol. 11, no. 2, pp. 63–75.

Symon, G., Cassell, C. & Johnson, P. 2018, 'Evaluative Practices in Qualitative Management Research: A Critical Review', *International Journal of Management Reviews*, vol. 20, pp. 134-54.

Tanaro, L.F., Pacheco, H.V., de Souza Gomes dos Santos, A.C., Ferreira, L.A.F. & Santos, G.N. 2020, 'Lean And Metrology: A Systematic Review and Bibliometric Analysis of The Scientific Literature from the Last 20 Years', *Independent Journal of Management & Production*, vol. 11, no. 5, pp. 1576-93.

Taylor, K., Mazur, L., Chera, B., Adams, R., Mosaly, P., Jackson, M. & Marks, L. 2014, 'Application of "A3 Thinking" to Operational Improvements in Radiation Oncology', eds Y. Guan & H. Liao.

Tenner, A.R. & DeToro, I.J. 1992, *Total Quality Management Three Steps to Continuous Improvement*, Addison-Wesley, Reading, Massachusetts.

Thirkell, E. & Ashman, I. 2014, 'Lean Towards Learning: connecting Lean Thinking and human resource management in UK higher education', *The International Journal of Human resource Management*, vol. 25, no. 21, pp. 2957-77.

Thompson, C.J., Locander, W.B. & Pollio, H.R. 1989, 'Putting Consumer Experience back into Consumer Research: The Philosophy and Method of Existential Phenomenology', *Journal of Consumer Research*, vol. 16, no. 2, pp. 133-46.

Tingsvik, C., Hammarskjöld, F., Mårtensson, J. & Henricson, M. 2018, 'Patients' lived experience of intensive care when being on mechanical ventilation during the weaning process: A hermeneutic phenomenological study', *Intensive & Critical Care Nursing* vol. 47, no. 46–53.

Tiwari, P., Sadeghi, J.K. & Eseonu, C. 2020, 'A sustainable lean production framework with a case implementation: Practice-based view theory', *Journal of Cleaner Production*, vol. 277, pp. 1-14.

Tjahjono, B., Ball.P, Vitanov.V.I, Scorzafave.C, Nogueira.J, Calleja.J, Minguet.M, Narasimha.L, Rivas.A, Srivastava.A, Srivastava.S & Yadav, A. 2010, 'Six Sigma: a literature review', *International Journal of Lean Six Sigma*, vol. 1, no. 3, pp. 216-33.

Topal, C. 2020, 'Coexistence of continuity and change in institutional work', *Baltic Journal of Management*, vol. 15, no. 1, pp. 1-20.

Torki, N. 1992, *The Link Statistical Techniques - Process Improvement*, Imageset Pty Ltd, Melbourne.

Tortorella, G., Viana, S. & Fettermann, D. 2015, 'Learning cycles and focus groups A complementary approach to the A3 thinking methodology', *The Learning Organization*, vol. 22, no. 4, pp. 229-40.

Towns, W.C. 1997, *Deming As Pragmatist*, Deming Electronic Network, United States, <http://deming.ces.clemson.edu/pub/den/deming_as_prag.htm >.

Tsutsui, W.M. 1996, 'W. Edwards Deming and the Origins of Quality Control in Japan', *Journal of Japanese Studies*, vol. 22, no. 2, pp. 295-325.

Välikangas, L. & Carlsen, A. 2020, 'Spitting in the Salad: Minor Rebellion as Institutional Agency', *Organization Studies*, vol. 41, no. 4, pp. 543-61.

Van Aken, E.M., Farris, J.A., Glover, W.J. & Letens, G. 2010, 'A framework for designing, managing, and improving Kaizen event programs', *International Journal of Productivity and Performance Management*, vol. 59, no. 7, pp. 641-67.

van Manen, M. 1984a, *“Doing” phenomenological research and writing*, University of Alberta Press, Alberta:.

van Manen, M. 1984b, 'Practicing Phenomenological Writing', *Phenomenology and Pedagogy*, vol. 2, no. 1, pp. 36-69.

van Manen, M. 1990, *Researching lived experience: human science for an action sensitive pedagogy*, The State University of New York, New York.

van Manen, M. 1997a, 'From Meaning to Method', *Qualitative Health Research*, vol. 7, no. 3, pp. 345-69.

van Manen, M. 1997b, *Researching lived experience: human science for an action sensitive pedagogy*, 2nd edn, The Althouse Press, London.

van Manen, M. 2007, 'Phenomenology of practice', *Phenomenology & Practice*, vol. 1, no. 1, pp. 11-30.

van Manen, M. 2016, *Phenomenology of Practice: Meaning-Giving Methods in Phenomenological Research and Writing*, Left Coast Press, Walnut Creek, CA.

van Manen, M. & van Manen, M. 2021, 'Doing phenomenological research and writing', *Qualitative Health Research,* vol. 31, pp.1069–82.

Vashishth, A., Chakraborty, A. & Antony, J. 2019, 'Lean Six Sigma in financial services industry: a systematic review and agenda for future research', *Total Quality Management*, vol. 30, no. 4, pp. 447–65.

Vermersch, P. 1994, 2018, *The explicitation interview*, trans. M. Léonard, D. van de Klomp & M. Weisen, ResearchGate, < https://www.researchgate.net/publication/324976173>.

Vince, R. 2008, 'Learning-in-action’ and ‘learning inaction’: advancing the theory and practice of critical action learning ', *Action Learning: Research and Practice*, vol. 5, no. 2, pp. 93-104.

Walley, P. & Gowland, B. 2004, 'Completing the circle: from PD to PDSA', *International Journal of Health Care Quality Assurance*, vol. 17, no. 6, pp. 349-58.

Welch, C. & Piekkarib, R. 2017, 'How should we (not) judge the ‘quality’ of qualitative research? A reassessment of current evaluative criteria in International Business', *Journal of World Business*, vol. 52, pp. 714–25.

Whiddon, A.S. 2015, 'The Shared Experiences of Prospective Agricultural Education Teachers: A Phenomenology of Supervised Agricultural Experiences in Oklahoma', Oklahoma State University, Stillwater, Oklahoma

Wilcox, M. 2002, 'Wither the Pragmatism?', paper presented to the *Proceedings of the 8th Annual Deming Scholars Seminar* Fordham University, New York, <>.

Wilcox, M. 2004, 'Prediction and pragmatism in Shewhart’s theory of statistical control', *Management Decision*, vol. 42, no. 1, pp. 152-65.

Wilkinson, A., Knights, D. & McCabe, D. 1996, 'Looking for quality: a survey of quality initiatives in the financial services sector', *Total Quality Management*, vol. 7, no. 1, pp. 67-78.

Wille, B., Beyers, W. & De Fruyt, F. 2012, 'A transactional approach to person-environment fit: Reciprocal relations between personality development and career role growth across young to middle adulthood.', *Journal of Vocational Behavior*, vol. 81, pp. 307-21.

Willoughby, K.A., Chan, B.T.B. & Strenger, M. 2010, 'Achieving wait time reduction in the emergency department', *Leadership in Health Services*, vol. 23, no. 4, pp. 304-19.

Wiseman, R.M., Cuevas-Rodríguez, G. & Gomez-Mejia, L.R. 2012, 'Towards a Social Theory of Agency', *Journal of Management Studies*, vol. 49, no. 1.

Witt, P.W. & Baker, T. 2018, 'Personality characteristics and Six Sigma: a review', *International Journal of Quality & Reliability Management*, vol. 35, no. 3, pp. 729-61.

Witt, P.W., Baker, T., Ashley, N.W. & Winniford, M. 2017, 'Is personality a key element of Six Sigma project success?', *International Journal of Services and Operations Management*, vol. 27, no. 4, pp. 472-523.

Wright, G.S. 2013, 'The Experience of Servant Leaders Who Work In The Field Of Corporate Information Technology: A Phenomenological Investigation', Capella University, Minneapolis, Minnesota.

Yorks, L. & Kasl, E. 2002, 'Toward A Theory And Practice For Whole-Person Learning: Reconceptualizing Experience And The Role Of Affect', *Adult Education Quarterly*, vol. 52, no. 3, pp. 176-92.

Zahavi, D. 2001, 'Beyond Empathy Phenomenological Approaches to Intersubjectivity', *Journal of Consciousness Studies*, vol. 8, no. 5-7, pp. 151–67.

Zairi, M. 2013, 'The TQM legacy – Gurus'contributions and theoretical impact', *The TQM Journal*, vol. 25, no. 6, pp. 659-76.

Zangwill, W.I. & Kantor, P.B. 1998, 'Toward a Theory of Continuous Improvement and the Learning Curve Perspective on the Three Forms', *MANAGEMENT SCIENCE*, vol. 44, no. 7, pp. 910-20.

Zollo, M. & Winter, S.G. 2002, 'Deliberate learning and the evolution of dynamic capabilities', *Organization Science*, vol. 13, no. 3, pp. 339–51.

Zu, X., Fredendall, L.D. & Douglas, T.J. 2008, 'The evolving theory of quality management: The role of Six Sigma', *Journal of Operations Management*, vol. 26, pp. 630–50.

Zu, X., Robbins, T.L. & Fredendall, L.D. 2010, 'Mapping the critical links between organizational culture and TQM/Six Sigma practices', *International Journal of Production Economics*, vol. 123, pp. 86-106.