



Multi-stakeholder perspectives of value in project portfolios

Karyne Cheng Siew, ANG

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School of Systems, Management and Leadership
Faculty of Engineering and Information Technology
University of Technology Sydney, Australia

Supervisory panel

Assoc. Professor Catherine Killen and Prof. Shankar Sankaran

CERTIFICATE OF ORIGINAL AUTHORSHIP

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as part of the collaborative doctoral degree and/or fully acknowledged within the text.

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Abstract

This study explores multiple stakeholders' perspectives on the value delivered by project portfolios and reveals a new way of understanding value. When organisations invest in projects, they expect to create value. From a project portfolio perspective, a key goal of project portfolio management (PPM) is to maximise this value across the project ¹portfolio for the organisation. It is easy to agree that value is an important concept, yet it is hard for scholars and practitioners to agree on what it entails. Value is an especially challenging area due to its subjective, intangible and emotional aspects. The value generated by projects has long been understood to be more than just the direct financial value. Yet, financial and tangible value appears to be the dominant way that a project portfolio value is viewed.

Research highlights the complexities of project and portfolio 'value' due to the multiple and sometimes contradictory expectations demanded by different stakeholders who participate in and influence the ways that PPM decisions incorporate value. While researchers are extending the understanding of value for project portfolio environments, PPM research into the complex and multi-faceted aspects of value is still quite limited. To better understand value, the involvement of a wide range of stakeholders is important as value is perceived in different ways by different stakeholders.

This thesis is a collection of six published papers that bring together the theoretical concepts of value, stakeholder theory and sensemaking in a research investigation about value in multi-stakeholder project portfolio environments. The research sheds light on the overarching question: *'How is value understood in practice by different stakeholders in different project portfolio contexts?'*

By studying how value is expressed, understood and used to influence decisions in multi-stakeholder PPM environments, the research reveals deeper insights into the wide range of

¹ In this thesis, the terms 'project portfolio' and 'portfolio' are used interchangeably.

value perspectives at play in project portfolios. The study includes a diverse group of organisations from the public, private (profit) and non-profit sectors in its exploration of project portfolio value. The exploratory research follows a pragmatic mindset and incorporates sensemaking concepts in the research design. It comprises two overlapping qualitative methodologies incorporating multiple case studies and a series of expert panels.

The findings demonstrate how an understanding of value is built from many micro-constructs of value emanating from a variety of stakeholders. Sensemaking concepts applied to the study reveal how stakeholder perceptions of value are based on time and space, and are dynamic and non-linear in nature. As a result of the investigations, a [typology](#) of multi-stakeholder value perspectives that aims to improve PPM decision-making is derived from the findings and presented in this thesis.

This study contributes a novel way to draw together deep concepts that are subjective, difficult to categorise and often ignored, by providing qualitative researchers with an alternative approach that is empirical and multi-method. The two-fold approach of case studies and expert panels incorporates a structured and orderly yet flexible research process that includes verification strategies.

The research provides a new theoretical contribution by broadening the way value is viewed in multi-project environments, specifically PPM. Through its investigation of value concepts in multi-stakeholder portfolio environments, this research contributes to theory by integrating stakeholder theory and sensemaking concepts and extending the relevance and application of sensemaking to PPM research methods and practice.

This thesis contributes a fresh way of thinking about value in project portfolios through the development of a typology of value perspectives and explores the implications of that typology for practice. The typology could prompt organisations to consider a wider range of stakeholder perspectives, and as a result improve the quality of decision-making by encouraging organisations to derive relevant value lenses and language at different organisational levels and in different stakeholder contexts.

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Preface

"A hundred francs! Oh, dear me! It is worth millions of francs, my child. But my dealer here tells me that in fact a picture is worth only what someone will give for it. How much money do you have?"

Julia took out her purse and counted. "Four francs and twenty sous," she said, looking up at him sadly.

"Is that all the money you have in the world?"

She nodded.

"Then four francs and twenty sous it is."

Iain Pears, English art historian, novelist and journalist, from 'The Dream of Scipio', 2002.

The purpose of this research is to explore how value is understood in practice by different stakeholders in project portfolios as a means to understanding PPM decision-making processes. It offers new insights into how value is perceived beyond the financial assumptions of value common to current PPM practices. The study reveals the ways in which multiple stakeholders perceive, make sense of and integrate value in decision-making practice. It is important to investigate this area because if project portfolio managers intend to maximise value across the portfolio with stakeholders in mind, then they need to be clear about the types of value that different stakeholders regard as important to be able in turn to integrate these values into the decision-making process.

This dissertation should be of interest to project portfolio managers, and those dealing with multi-project and multi-stakeholder environments in their organizations. It would also interest scholars, researchers and those interested in qualitative methodologies.

The thesis is made up of two main components: the exegesis (Part 1) and the published papers that form each of Papers 1 to 6 (Part 2). In Part 1, the exegesis integrates the overarching research questions, research design and methodology, findings, themes, discussions, contributions and implications for all the papers. It presents an overview of the main literature supporting this study, while in Part 2, each paper examines the relevant literature in greater depth. Specifically, Paper 1 highlights the overall research gaps through a conceptual discussion of the extant literature. Papers 2 to 5 address specific research issues, while Paper 6, the latest published contribution, integrates the overall research design,

findings and contributions.

This research is supported by an Australian Government Research Training Program Scholarship (Commonwealth Research Training Program (CRTP), formally known as Australian Postgraduate Awards (APA)) and the UTS Research Excellence Scholarship. The research in this study was designed to meet the requirements of the NHMRC National Statement on Ethical Conduct in Human Research (2007) and has been approved by UTS Ethics Committee (HREC), ref. no: 2014000114.

All papers included in this thesis were written in collaboration with my supervisors and co-authors. Although all these papers were written collaboratively, my ideas and contributions were sufficiently more in comparison to my co-authors. As an indication, my ideas and contributions make up at least 75% of the content and writing of the papers. My co-authors helped me shape and develop my theoretical assumptions and propositions, and contributed to copy-editing. The papers have been published at conferences, journals or formed part of a book chapter, and have thus been reviewed by external researchers. Permission for non-exclusive, non-commercial copyrights has been granted by all the publishers and conference organisers for the papers in this thesis.



(Karyne) Cheng Siew, ANG
School of Systems, Management and Leadership
Faculty of Engineering and Information Technology
University of Technology Sydney, Australia
5 February 2018

‘You may not appreciate the value of a key
until you encounter the door it locks or unlocks.’
Ifeanyi Enoch Onuoha - speaker, coach and author.

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All glory to God for directing my paths! First and foremost, I would like to thank my principal supervisor, Assoc. Prof. Catherine Killen. Thank you for trusting and believing in me. I could not have asked for a better advisor and mentor for my PhD thesis. I appreciate all her contributions of time, patience, ideas and countless emails, planning and celebration sessions to make my PhD journey both a stimulating adventure and a productive pursuit. I am thankful for the times that she has helped steer me back into perspective and purpose, when I felt that I was losing the plot or felt that I was drowning in the data. Catherine inspires me as a person who is both a well-balanced and successful academic and researcher.

A big thank you to Prof. Shankar Sankaran for the sharing of ideas, his great knowledge of the various theories that has helped to expand my thinking, and the wonderful connections and networks of people who have enriched my world. Shankar also helped me consider several alternative routes of research before I settled on my research design for this thesis. The timely introduction to the book about ‘deep work’ helped me dive back into my research very quickly when I felt that I had lost some momentum. Inspired by the book, I jumped into an eleven hour train ride from Sydney to Melbourne and started to write my exegesis. 48 hours later, I was back in Sydney, with a solid outline of which eventually became this thesis.

Both Cathy and Shankar have guided me consciously and unconsciously through their own exemplary work and conversations about how good exploratory research is done. I am thankful to both my supervisors for their unfailing support, responsiveness and patience. They have connected me with other professionals, scholars and PhD students with similar interests. I am thankful for the times when they were there as a sounding board, challenged my thinking and ideas and helped provide clarity.

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I would like to acknowledge the funds that helped to support my research. First, the UTS Research Excellence Scholarship that includes the Australian Government Research Training

Program Scholarship. Second, the funds provided by the university - Vice-Chancellors' Conference Travel Funds, Faculty Travel funds and the HDR (Higher Degree Research) Maintenance Funds.

Many thanks to the three reviewers for this thesis - Prof. Monique Aubry, Assoc. Prof. Jon Whitty and Assoc. Prof. Per Svejvig who, through their thoughtful consideration and expertise have provided me with encouraging feedback that has helped raise the quality of this thesis. I appreciate how the reviewers highlighted the strengths of the thesis in terms of relevance, structure, presentation and approach. I thank the reviewers for their encouragement to publish in a variety of journals beyond the project management field, such as the organisation and management fields. Their formative ideas and suggestions have helped me develop further as a researcher and will certainly help me expand the ways in which value can be further explored in my future research work.

I would also like to thank Ms. Hazel Baker, the copy-editor who helped with clarity and consistency in this thesis.

I am appreciative of the Euram 2015 - 2017 and IRNOP 2015 and 2017 conference discussants and participants for their feedback and interest in my work. I wish to thank Dr. Derek Walker, my doctoral mentor during the Doctoral Colloquium at Euram 2015 as well as the organizers and members of the doctoral colloquium group. The experience of meeting other like-minded PhD students in similar topic areas gave me encouragement and confidence that I was not alone, as I did not know of other PhD colleagues with similar interests at my Engineering school at that time.

I am grateful to Prof. Martina Huemann and Prof. Pernille Eskerod in Vienna for inviting me to share my work and discuss practice-based ideas with other scholars and practitioners in a workshop in 2016. The interactions helped me refine my thinking about the research in this thesis. I would like to especially acknowledge Prof. Pernille Eskerod who very kindly invited me to visit Webster University in Vienna as a visiting scholar in 2016. I was honored with her openness in considering my research frameworks and ideas. The visit and conversations in Vienna provided more clarity in what I was doing in my research. I was very much inspired then, as I am now, and appreciate the friendship and collegial collaboration we have formed since.

My sincere thanks to the Graduate Research School and Faculty HDR teams for their administrative support and guidance on the research and thesis. My sincere thanks also to the members of School of Systems, Management and Leadership for their administrative support. Particularly, a special thank you Madeleine Miller who, in addition to her own heavy workloads, also supported me at a very challenging time when I was due to complete my thesis and my mother passed away suddenly and hence I had to make a painful long-distance trip overseas to be with my family, all the while my work-space was being demolished and renovated, and all PhD students had to move, all at the same time. It was an overwhelming period for me. During my absence, Madeleine helped me pack up my personal belongings before everything was demolished, and ensured my belongings remained safe through the move process and checked-in on me to ensure that I was all right. Her being there for me gave me confidence and peace of mind, so that I could focus on completing my thesis.

I am sincerely grateful for the friendships formed with academics and fellow PhD students – thank you for the stimulating discussions, advice, the sharing of ideas, the inspiration, for the lunches, morning and afternoon teas, dinners and sleepovers. Thanks to those who attended my countless practice sessions and presentations, for their feedback, enthusiasm and encouragement especially during the competitive PhD events - Three-Minute Thesis (3MT) (Finalist), and FEIT Research Showcase (Winner of ‘Best Poster’ and ‘The Peoples’ Choice’ awards).

Last but not least, I would like to thank my husband Patrick for supporting me all the way spiritually, mentally and emotionally throughout the research and writing of this thesis over the last few years. Thanks for being my cheer-leader, sounding board and for being ‘the wind beneath my wings’. Thanks for keeping me grounded and on track with life, and with God.

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About the researcher

Karyne C.S. Ang, M.Ed, BBA

Karyne Ang is based at the School of Systems, Management and Leadership (SML) at the Faculty of Engineering and Information Technology (FEIT) at UTS. She is also a Project Manager and casual academic at UTS. Prior to joining academia, for over 15 years Karyne professionally directed and led multiple client-based research and marketing portfolios encompassing NPD, brand management, consumer behaviour and market segmentation research for several multi-national corporations and market-research agencies.

Karyne engages actively in teaching, facilitation, learning and educational research. Karyne's research interests are inter-disciplinary, encompassing project and portfolio management, multi-stakeholder engagement, multi-dimensional value perspectives, collaborative practices and decision-making in complex environments across the public, private and not-for-profit sectors. Her current research into how multiple perspectives of value might influence decisions could contribute future opportunities for optimising relevant value constructs and multi-stakeholder relationships in multi-project and portfolios environments in different sectors. Karyne's research has been presented in several conferences in Warsaw, London, Boston and Paris, and has already been published in several journals. She was also a visiting researcher at Webster University in Vienna, Austria in 2016 and has recently been involved in megaproject research with Prof. P. Eskerod.

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List of main publications

The main publications presented in this thesis are found in Part 2, comprising Papers 1 to 6, and are from journals, conferences and a book chapter. I acknowledge that Papers 1 to 6 have been granted non-commercial, non-exclusive permission by all the publishers and conference chairs to be reproduced in this thesis.

Paper 1: Value constructs in multi-stakeholder environments that influence project portfolio decision making

Ang, K.C.S., Killen, C. & Sankaran, S. 2015, '*Value constructs in multi-stakeholder environments that influence project portfolio decision making*', Proceedings of EURAM 2015, The 15th Annual conference of the European Academy of Management, Warsaw, Poland, June 17-20, 2015.

Paper 2: Multi-stakeholder perspectives of value in project portfolios

Ang, K.C.S. & Killen, C. 2016, '*Multi-stakeholder perspectives of value in project portfolios*', Proceedings of EURAM 2016, The 16th Annual Conference of the European Academy of Management, Paris, France, June 1-4, 2016.

Paper 3: 'Value for Whom, by Whom': Investigating value constructs in non-profit project portfolios

Ang, K.C.S., Killen, C. & Sankaran, S. 2016. '*Value for Whom, by Whom': Investigating value constructs in non-profit project portfolios*. Project Management Research & Practice, vol. 3, no. Jul-Dec 2016.

Paper 4: Multilevel value creation in projects, programs and portfolios: Results from two case studies

Ang, K., & Biesenthal, C. 2017. '*Multilevel value creation in projects, programs and portfolios: Results from two case studies*', in Sankaran, S., Müller, R. & Drouin, N. (eds.): Cambridge Handbook of Organizational Project Management, Cambridge University.

Paper 5: Unanticipated value creation: sensemaking and the value spectrum in partnership projects

Ang, K.C.S., Killen, C. & Sankaran, S. 2015, '*Unanticipated value creation: sensemaking and the value spectrum in partnership projects*', The Power of Projects, Proceedings of IRNOP 2015, International Research Network on Organizing by Projects, London, UK, June 22-24, 2015.

Paper 6: Making sense of project portfolio value in practice

Ang, K.C.S., Killen, C. & Sankaran, S. 2017, '*Making sense of project portfolio value in practice*', The Modern Project: Mindsets, Toolsets, and Theoretical Frameworks, Proceedings of IRNOP 2017, International Research Network on Organizing by Projects, Boston, USA, June 11-14, 2017.

[Other related publications](#)

Other publications that draw upon the published contributions of the abovementioned papers in Part 2 but do not form part of this thesis are as follows:

Eskerod, P., Ang, K.C.S. & Andersen, E. 2017, '*Increasing Project Benefits by Project Opportunity Exploitation – Investigating a Landmark Megaproject*', Proceedings of EURAM 2017, The 17th Annual conference of the European Academy of Management, Glasgow, Scotland, June 21-24, 2017.

Eskerod, P. & Ang, K.C.S. (forthcoming 2017), 'Stakeholder Value Constructs in Megaprojects – a Case Study with Long-term Assessment', *Special Issue on Megaprojects as Symbols, Project Management Journal (PMJ)*.

Eskerod, P., Ang, K.C.S. & Andersen, E. 2017, 'Increasing Project Benefits by Project Opportunity Exploitation – Investigating a Landmark Megaproject', *Special Issue: Managing Major and Mega Projects: Opening up for new Research Eras, International Journal of Managing Projects in Business (IJMPB)*.

UNIVERSITY OF TECHNOLOGY, SYDNEY, AUSTRALIA

Part 1: Exegesis

Multi-stakeholder perspectives of value in project portfolios

This thesis is presented as a collection of published papers integrated through an exegesis which forms Part 1. The papers (Papers 1 to 6) that form Part 2 were published in journals, in conference proceedings and as a book chapter.

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Introduction

As activities in organisations today become increasingly project-focused, how their projects, multiple projects, programs and project portfolios are managed is viewed as highly relevant to the success of those organisations. Organisations invest in projects to create value for themselves and for their stakeholders. Consequently, projects in organisations today are less likely to be analysed in isolation (Engwall 2003). Instead, projects are increasingly linked to broader business agendas and organisation strategies, and thus more likely to be managed as part of the portfolio of an organisation's projects through PPM (Artto & Dietrich 2004; Müller, Martinsuo & Blomquist 2008).

PPM becomes particularly important when decisions need to be made about multiple projects that have to be resourced in an environment where resources are scarce or limited (Engwall & Jerbrant 2003). Hence, central to PPM is the ability to identify, understand and manage strategic project value for project selection, prioritisation and termination decisions in order to create, manage and maximise value for the project portfolio and organisation (Eweje, Turner & Müller 2012; Killen, du Plessis & Young 2012; Martinsuo & Killen 2014; Thiry 2002; Winter & Szczepanek 2008).

Improving the understanding of value has become especially important as PPM is adopted across a wider range of industries, many in non-commercial areas where the 'value' generated by the project portfolio may not always fit with typical PPM frameworks that emphasise financial or commercial value. Not every project portfolio may have an immediate or tangible financial outcome in terms of revenue generation or commercial value. Furthermore, value overlaps with other associated concepts such as success, performance, effectiveness, impacts, profitability, benefits and outcomes. There is a multiplicity of meanings surrounding value and little consensus over what value creation entails (Anderson & Narus 1998; Lepak, Smith & Taylor 2007). Value and its management have been described as a balancing act between the 'satisfaction of many differing needs and the resources used in doing so.' (BSEN 2000, p. 8). Value in contemporary project management has shifted from ideas of 'value management' to ideas of 'understanding how stakeholders value different things' (Oliomogbe & Smith 2013).

Part of the difficulty in studying value-related issues stems from the subjective, complex and dynamic nature of value. Value has subjective meanings, and can mean different things to different people (Chang et al, 2013). In addition, the identification of value in itself is complex, and for many reasons. Complexity can be characterised as having many varied and interrelated parts, including multiple levels and interdependencies between organisational elements (Baccarini 1996), multiplicity of objectives, conflicting goals, multiple stakeholders and changing goals throughout the life of each project (Williams 1999). When exploring the concept of value in project portfolios, the involvement of multiple stakeholders by itself makes the identification of value in a project portfolios more complex (Beringer, Jonas & Kock 2013; Jonas 2010; Lim, Quercia & Finkelstein 2010; Unger et al. 2012; Voss 2012; Williams 1999). The types of values that decision makers and stakeholders focus on may differ depending on organisation strategies, goals and expectations (Bentzen, Christiansen & Varnes 2011; Beringer, Jonas & Kock 2013; Bourne 2009, 2011; Winter & Szczepanek 2008). Value is also seen as dynamic, as it can evolve over time (Chang et al 2013, Vargo et al 2008). Due to these aspects of complexity, some suggest that the management of value should include a '*sensemaking*' process (Brown, Stacey & Nandhakumar 2008; Thiry 2001; Winter & Szczepanek 2008).

This thesis presents a pragmatic and detailed exploration of how value is understood among multiple stakeholders as a means to understanding PPM decision-making processes. The study reveals the ways in which multiple stakeholders perceive, make sense of and integrate value in decision-making practice. Through the presentation of a novel typology of multi-stakeholder value perspectives, this research offers new insights into how value is perceived beyond the financial assumptions of value common to current PPM practices. The typology describes how stakeholders perceive value as an overarching spectrum of different types of value. In addition, the types of value perspectives documented in the typology include transactional, generative, transformational, preventative, value networks and relationships, personal rewards and retrospective- future orientated (i.e. situated in the past, present or future). It is important to investigate this area because if project portfolio managers intend to maximise value across the portfolio with stakeholders in mind, then they need to be clear about the types of value that different stakeholders regard as important to be able in turn to integrate these values into the decision-making process.

The Australian Institute of Project Management (AIPM) defines PPM as ‘the centralised management of one or more portfolios of projects, which includes identifying, prioritising, authorising, managing and controlling projects, programs and other related work, to achieve specific strategic business objectives.’ (AIPM 2011, p. 4). PPM can be viewed from many different perspectives, including portfolio methodologies (Cooper, Edgett & Kleinschmidt 1999), decision processes, tools and techniques (Archer & Ghasemzadeh 1999; Reyck et al. 2005), strategic orientation (Artto & Dietrich 2004; Meskendahl 2010), a process of internal development and change (Brown & Eisenhardt 1997; Elonen & Artto 2003), or as a dynamic capability (Killen & Hunt 2010). Additionally, PPM involves structures, processes and people (Killen, Hunt & Kleinschmidt 2008a); it encompasses an ideation process, screening, identifying, authorising, selecting, controlling, concurrent reprioritising and terminating projects where required; it also involves evaluating the associated risks, resources and priorities, and developing strategies in line with portfolio and organisational objectives (Archer & Ghasemzadeh 1999; Cooper, Edgett & Kleinschmidt 1999; Reyck et al. 2005).

A number of PPM studies tend to be oriented towards commercial or performance-based outcomes, including research and development (R&D) (Balachandra & Friar 1997; Bard, Balachandra & Kaufmann 1988; Behrens, Ernst & Shepherd 2014; Chien 2002; Engwall & Jerbrant 2003; Stewart 1991) and new product development (NPD) (Cooper, Edgett & Kleinschmidt 2004; Killen, Hunt & Kleinschmidt 2007; Oh, Yang & Lee 2012).

Organisations look to PPM for guidance as they struggle to cope with reduced funding and increased governance requirements for transparency and reporting in complex multi-actor environments (Blomquist & Müller 2006; Klakegg, Williams & Magnussen 2009; Mosavi 2014). Sensemaking is appropriate for PPM research due to the complex and uncertain environments involved (Alderman et al. 2005; Blichfeldt & Eskerod 2008; Bourne & Walker 2008; Petit 2012; Petit & Hobbs 2010), but the use of sensemaking to study portfolio value management is not as strong in PPM research. The use of sensemaking in exploring value in projects, programs or portfolios is mentioned in several research studies (Martinsuo & Killen 2014; Thiry 2001). However, despite the importance attributed to sensemaking, it is surprising that only a few studies exploring sensemaking and value were found in the literature reviewed.

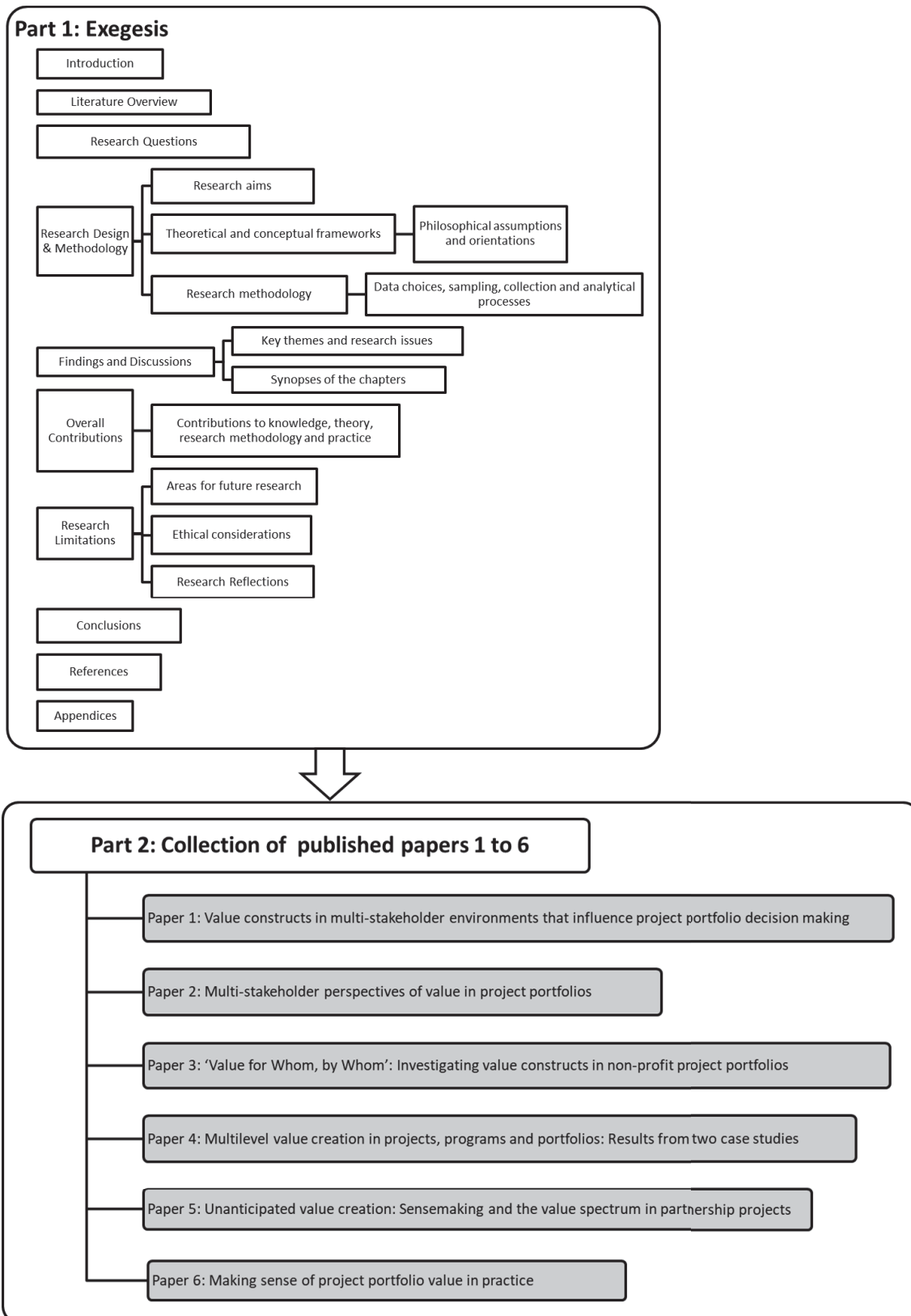
To help readers navigate this thesis, Figure 1 maps its overall structure. The thesis is made up of two main components: the exegesis (Part 1) and the published papers that form each of

Papers 1 to 6 (Part 2). In Part 1, the exegesis integrates the overarching research questions, research design and methodology, findings, themes, discussions, contributions and implications for all the papers. It presents an overview of the main literature supporting this study, while in Part 2, each paper examines the relevant literature in greater depth. Specifically, Paper 1 highlights the overall research gaps through a conceptual discussion of the extant literature. Papers 2 to 5 address specific research issues, while Paper 6, the latest published contribution, integrates the overall research design, findings and contributions.

This exegesis first presents an overview of the literature and the significance of considering value and stakeholder influences on project portfolio decisions. Next, it outlines the research questions and aims of exploring value in multi-stakeholder PPM environments. The theoretical and conceptual frameworks that comprise the research perspectives or philosophies undertaken, research design and methodology follow. This section includes the central theoretical and methodological points of this dissertation, and my motives for choosing the theory and methods applied. I also discuss the data choices, collection and analytical processes, including the rigour and trustworthiness of the research approach.

I then introduce the synopses of the articles that in full form Part 2 of the thesis, briefly discussing and synthesising their findings, contributions and inter-relationships. Following the synopses, the overall contributions to theory, research and practice are given, together with the implications of the research outcomes in practice. The research limitations are listed, followed by recommendations for future research, a brief section on ethical considerations, and my insights and learnings, in 'Research reflections'. The concluding section of this exegesis reiterates the importance, key contributions and implications of this research for PPM theory, research and practice.

Figure 1: Structure of the thesis: road map of the exegesis (Part 1) and collection of publications (Part 2)



Literature review

Concepts of benefits and value in PPM

The literature emphasises the importance of maximising value across the portfolio, as this is one of the main goals in project portfolio decision-making (Cooper, Edgett & Kleinschmidt 1999; Elonen & Arto 2003; Killen, Hunt & Kleinschmidt 2008b; Martinsuo 2013; Martinsuo & Killen 2014; Martinsuo & Lehtonen 2007; Meskendahl 2010; Pennypacker 2005).

Early theories associated value with an economic dimension, specifically value as a single entity in time and an output of labour (Smith 1776). The evolution of concepts about value has a long history. Jevons' (1871) marginal utility theory challenged the concept of absolute value by introducing the concept of subjective relative value. In more contemporary times, value is identified as the return of a fair price or exchange by recipients for the benefits received from goods, services or knowledge that are deemed desirable or useful in both tangible and intangible forms (Allee 2000b). Tangibles can be identified as financial and other capital-based resources in a firm, while intangibles include relationships and trust, employee knowledge and competencies, group effectiveness, organisational structures and efficiencies (Allee 2008).

Over the years, a large number of theoretical perspectives have been used to study value in the literature of organisation studies, project management and general business management. The concept of maximising value and the return on investments is well-associated with the term 'benefits', effectiveness, impacts, performance and business success (Allee 2000b; Irani 2002; Levine 2007; Light, Rosser & Hayward 2005; Moenkemeyer, Hoegl & Weiss 2012; Remenyi & Sherwood-Smith 1999; Reyck et al. 2005; Thiry & Dalcher 2010; Zwikael & Smyrk 2012). Within the stream of research on value creation and value management (VM) in projects, programs and portfolios, there is a branch of interest in benefits and benefits realization management (BRM) (Jenner 2009; Remenyi & Sherwood-Smith 1999; Serra & Kunc 2015; Zwikael & Smyrk 2012). The following paragraphs highlight the characteristics, assumptions, criticisms and opportunities pertaining to benefits and its management.

Thereafter, a further discussion about value and its management is also detailed. Two tables in Appendix 1 summarise the characteristics of benefits and value in terms of the definitions, management processes, and worldviews (Table 5); and the criticisms and opportunities and

future considerations (Table 6).

A benefit is defined as ‘an outcome of change which is perceived as positive by a stakeholder’ (Bradley 2016, p. xiii). Benefits are said to be based on the outcomes and outputs to achieve desired targets or objectives (Breese 2012). Subsequently, the need to understand returns on investment in the IT sector in the 1980s and 1990s resulted in the development of benefits realization management (BRM) processes (Bradley 2016). BRM is defined as a process of organising and managing, ‘so that potential benefits arising from investment in change, are actually achieved’ (Bradley 2016, p. xiv) or ‘where the benefits arising from use of outputs (e.g. IT) are actually realised’ (Ward, Taylor & Bond 1996).

BRM has since been developed as a key facet of project, program and portfolio management (Cooke-Davies 2002; Jenner 2009; Levine 2007; Thiry & Dalcher 2010; Thorp 2003). This can be attributed to BRM being closely associated with ‘value’ and with Value Management (VM), which emphasizes the justification of projects through their balance between strategic needs and wants met against resources used up (Morris 2011). In portfolio management, BRM is said to act as a further step to ensure that projects are both ‘done right’ and that the ‘right projects’ are selected in the first place (Bradley 2016). BRM is orientated towards logic, linearity, quantification, cause and effect, reductionism, split between thinking and doing, and control (Darwin, Johnson & McAuley 2002). It is also seen as a functionalist and rational model (Pellegrinelli 2011).

On one hand, BRM is positioned as a proactive way of managing organizational change (Farbey, Land & Targett 1993; Remenyi & Sherwood-Smith 1999; Ward, Taylor & Bond 1996), and as a positive predictor towards project success through the creation of strategic value for the business (Serra & Kunc 2015). On the other hand, the literature reveals a host of criticisms of BRM. For instance, certain BRM methods are viewed as difficult to apply (Farbey, Land & Targett 1993; Hares 1994), and there is little evidence that methods are widely applied in practice (Ashurst, Doherty & Peppard 2008; Farbey, Land & Targett 1993; Hares 1994). Furthermore, researchers have commented that the BRM practices adopted have been found to be inconsistent, not comprehensive and not coherent (Ashurst, Doherty & Peppard 2008). Benefit forecasts tend to be overstated (delusional optimism) while timings and costs are underestimated (Jenner 2009). Breese (2012) comments that BRM processes lack the ability to manage life-cycles and longer term deliverables, and that the degree of

control within benefits realization is low. Additionally, the cause and effect model often found in BRM may be fraught with difficulties in complex environments (Breese 2012).

Within the worldview of BRM, Breese (2012) suggests that benefits definition and measurement processes are not neutral, and that there is room for diverse approaches. The assumptions underpinning the BRM framework are slated for not holding up well in ‘the real world’ filled with tensions and conflicts, where stakeholders are likely to have varied and conflicting interests in different benefits that can often lead to tensions between different groups (Breese 2012; Williams 1999). The branch of benefits realisation management therefore suggests that projects need to be justified through the balance between strategic needs and wants met against resources used (Morris 2011). Nevertheless, benefits management is viewed an active approach to managing value (Jenner 2009). The literature demonstrates that the understanding of benefits requires a clear understanding of different value elements including user value, non-monetary, wider public value, efficiency and effectiveness (Jenner 2009). Combined with the varied interests of stakeholders, the call to understand how value might be understood from the perspectives of different stakeholders is important in order for these values to be incorporated into effective project portfolio decision making. This is supported by Breese (2012) who comments that BRM could be effective in an environment where ‘*value*’ is commonly understood and incorporated into decision making. This also implies that effective stakeholder management and communication are essential components in identifying and understanding value, in order to manage value for decision making.

Within the process of identifying and managing value, there are two main perspectives in the literature – value engineering (VE) and value management (VM). Crum (1971) describes VM as a disciplined process towards the achievement of necessary function for minimum cost without jeopardizing quality, reliability, performance or delivery. Elias (1998) adds that VE involves the management of processes for productivity. The VE worldview is based on hard systems thinking (systems engineering paradigm) and is therefore function-drive, retrospective and tends to focus on the job-plan (Green 1994).

Around the same period of the 1980s and 1990s, early concepts of VM involved the processes of increasing economic and customer value (Kelly & Male 1988). VM is further described as a management process used to deal with investment decisions by applying a

performance management system to maximize the benefits achieved and using evaluative steps to adapt the system over time. It is said to require links between the horizontal (i.e., process to outcome) and vertical (individual to functional to business) aspects of the business (Venkatraman, Henderson & Oldach 1993). VM is based on soft systems thinking (learning paradigm) and is therefore focused on establishing a common decision framework through a dialogue process whereby key stakeholders are involved in the early stages of planning (Green 1994). The dialogue itself is dynamic and tends to be unstructured. VM is assumed to embrace the capabilities to manage a shared perceived social reality where a common understanding of value for decision making is constructed (Green 1994). Kelly, Male and Graham (2014) view VM as a philosophy or set of principles applying a structured method of management to improve organisational decision-making and value-for-money; while Bradley perceives VM as a style of management 'aimed at maximizing the overall performance of an organisation' (Bradley 2016, p. xxiii). The concept of value is central to benefits realisation, value engineering, value management and a number of other approaches designed to improve the value created through project activities.

However, due to the polyvalent nature of value, it is often a challenge for managers to make sense of the various aspects of value to be managed. What is of value is said to be a matter of perspective (Elias 1998). For instance, Elias (1998) identifies seven categories of value that include tangible and intangible aspects - 'economic, moral, aesthetic, social, political, religious and judicial values'. Allee (2000b) extends the commonly addressed perspectives of value revolving around monetary assets, alliances and relational, intellectual, human and structural capital by offering alternative views of intangible assets that were previously said to be unseen and often unappreciated. These include corporate social responsibility and environmental sustainability. Allee defines value as 'a tangible or intangible good or service, knowledge, or benefit that is desirable or useful to its recipients so that they are willing to return a fair price or exchange' (Allee 2000b, p. 28). A primary contribution of Allee's work is extending the idea of value to include intangible assets and previously unnoticed social and economic contributions. Nogeste and Walker (2008) suggest that inexplicit intangible outcomes could be cross-referenced into explicit tangible outputs. While the latter study was limited to the perspectives of those delivering projects and not of its recipients, and specifically addressed outcomes, benefits and outputs, rather than '*value*' per se, it aligns with the increasingly recognised, and hence inclusion of, the intangible dimensions of value

in the literature.

The recent literature about value presents alternative concepts and dimensions of value. For example, Basole (2005) refers to 'transformational value' in the study of mobile ICT investments. Gregor et al (2006) discuss the transformational dimensions of business value, stating that change can result in new, intangible assets. Other literature on IT investments that supports intangible and non-financial benefits includes the notion that indirect project costs need to be considered in evaluating infrastructure investments in information technology (IT) and information systems (IS) (Hochstrasser 1990; Irani 2002). The value created and managed could also be viewed as a strategic planning process in order to gain competitive advantage (Meskendahl 2010; Winter & Szczepanek 2008). Value can also be viewed from a systems and networks perspective (Allee 2000a; Biem & Caswell 2008), or through stakeholder theory (Donaldson & Preston 1995; Freeman & McVea 2001; Jones 1995).

In the public service sector, value is often determined by the citizens and often identified as improved services, enhanced trust or social capital, or as the reduction or eradication of social problems (Horner & Hazel 2005). For Kelly, Mulgan and Muers (2002), services, outcomes and trust, as well as the legitimacy of and confidence in government, provide the basis for guiding decision makers in considering the value they create. Although non-financial dimensions are evident in these examples, the underlying motive is to enhance commercial, financial and economic outcomes. While commercial value is characterised by financial and economic measures like market value, non-commercial value includes the ecological, social and learning dimensions of value (Martinsuo & Killen 2014). Grönroos and Voima (2012) review concepts of value that extend beyond economic exchange and use. These concepts portray holistic and experiential dimensions that are derived from customer experience rather than service offerings (Heinonen & Strandvik 2009) and are part of practice and social systems (Edvardsson, Tronvoll & Gruber 2011; Holttinen 2010). Value is not static and continues to evolve through past, present and future experiences (Grönroos & Voima 2012; Helkkula, Kelleher & Pihlström 2012; Voima, Heinonen & Strandvik 2010). The concepts of multi-dimensional value highlighted in this section imply that in managing their portfolios decision makers are likely to make better decisions when they draw upon and make sense of a wider view of stakeholder value beyond tangible and financial value.

PPM decision-making practices are criticised for being too preoccupied with financial

processes (Cooper, Edgett & Kleinschmidt 2001) and economic analyses of value (Kester et al. 2011). A primary concern in PPM is the over-emphasis on short-term economic or financial value in project and portfolio evaluations, which can jeopardise the achievement of longer-term strategic value (Cooper, Edgett & Kleinschmidt 2001; March 1994; Voss & Kock 2013). Research has repeatedly shown that portfolio decisions that focus on financial criteria correlate with lower portfolio performance compared to decisions that use multiple methods, particularly scoring metrics and strategic approaches (Cooper, Edgett & Kleinschmidt 2001; Killen, Hunt & Kleinschmidt 2008b), and dominant PPM approaches are found to over-emphasise economic analyses of value (Kester et al. 2011). When decision makers take into account value beyond economic value, they need to make trade-offs between various elements of value (Thiry 2004). An over-reliance on economic and quantitative modelling methods could also be unreliable if the data is not accurate (Kester et al. 2011). An emphasis on formal and rational decision approaches can result in an unintended imbalance of short- and long-term projects (exploitative versus explorative initiatives) (Cooper, Edgett & Kleinschmidt 2001; March 1994) or a situation where potentially good projects and ideas are overlooked or prematurely terminated (Blichfeldt & Eskerod 2008; Engwall & Jerbrant 2003). Conversely, a less formal approach to decision-making may be more susceptible to potential biases that affect the planning and allocation of PPM resources (Blichfeldt & Eskerod 2008). A multi-project perspective on value is provided by a study of program management (Thiry & Dalcher 2010) that highlights the importance of business benefits and value creation for multiple stakeholders through governance and an integrated management of projects in organisations.

PPM researchers repeatedly express concern that current approaches to PPM and value may be insufficient for holistic and strategic decision-making. Current PPM tools and techniques are criticised for their inability to deal effectively with the dynamic environment in which projects are identified, launched, managed and terminated (Krebs 2008). A recent trend in multi-project and PPM research is to extend the understanding of value for multi-project and PPM environments beyond the dominant focus on financial and economic value for decision-making (Kopmann et al. 2015; Laursen & Killen 2017; Martinsuo & Killen 2014; Voss & Kock 2013).

The complex, pluralistic and paradoxical nature of project portfolio value

The management of project portfolios and concepts of value can be viewed as complex. Researchers describe complexity within project-based environments as having non-linear characteristics, emergent behaviors, ambiguity, uncertainty, interdependencies and dynamics within complex systems (Baccarini 1996; Cicmil et al. 2017; Geraldi, Maylor & Williams 2011; Manson 2001; Maylor, Turner & Murray-Webster 2013; Remington & Pollack 2007; Whitty & Maylor 2009; Williams 1999). Baccarini (1996) proposes a definition of project complexity as ‘consisting of many varied interrelated parts’. Project portfolio environments include structural aspects (Geraldi, Maylor & Williams 2011; Maylor, Turner & Murray-Webster 2013; Remington & Pollack 2007) of complexity (including interdependencies of people, resources, projects and number of stakeholders) (Söderlund 2004; Teller et al. 2012) as well as aspects of socio-political complexity (people, power and politics, stakeholders with their own agendas) (Geraldi, Maylor & Williams 2011; Maylor, Turner & Murray-Webster 2013). The notion of multiplicity in the management of multiple interdependent projects over multiple time periods contribute further to a complex environment (Dickinson, Thornton & Graves 2001). In several PPM studies, complexity is discussed as a moderating variable, for instance, in the formalisation of PPM (Teller et al. 2012) and the relationship between business case control and optimising PPM performance (Kopmann et al. 2014).

There are other alternative streams of research and theories through which the multiplicity and diversity of value in project portfolios can be explored and understood, for instance the theories of pluralism and paradox. Both theories acknowledge organisations as complex entities, and provide different but complementary perspectives. The pluralistic perspective is attributed to multiple dimensions incorporating values, power and knowledge. Pluralistic organizations can be identified through their multiple objectives, diffused power and knowledge-based work processes (Denis, Langley & Rouleau 2007). These multiplicities often result in contradictions, tensions and paradoxical situations. The theory of paradox illuminates the multiple tensions found in organisations (Hargrave & Van de Ven 2017). A paradox is defined as ‘contradictory yet interrelated elements—elements that seem logical in isolation but absurd and irrational when appearing simultaneously’ (Lewis 2000, p. 760). Researchers applying a paradox perspective are likely to focus on coexistence and the ongoing management of tensions between opposite elements (Hargrave & Van de Ven 2017). A framework that aligns well with the theory of paradox is the Competing Values Framework

(Quinn & Rohrbaugh 1983). Aubry and Hobbs (2011) conducted a study on performance in the field of project management where the framework was applied. They advocate the use of the framework as it integrates financial and other conceptions of performance to form a multidimensional perspective (Aubry & Hobbs 2011). As with the sensemaking approach, the researchers advocate the use of the competing values framework for its potential to capture the dynamics found in organizations by ‘creating a dialogue between people having different, sometimes opposite, values that underlie their evaluation of organizational performance’ (Aubry & Hobbs 2011).

The theories pertaining to pluralism and paradox are discussed in this thesis to serve as a starting point towards the exploration of complex environments involving multiplicity, diversity and tensions. These theories illuminate the polyvalent and dynamic nature of complex organisational environments like project portfolios. It encourages scholars and practitioners to appreciate that stakeholders hold multiple perspectives and these perspectives are in no way static nor linear. The theories therefore inspire and complement the stream of thought in this thesis which adopts a sensemaking approach using a pragmatic worldview. Different theories and perspectives like pluralism and paradox could further enhance the investigation of complex practices of strategizing in organisations (Denis, Langley & Rouleau 2007; Söderlund 2011). Other scholars suggest that contradictions, emergence and interdependencies in an age of paradox could be addressed by engaging with stakeholders to gain shared insight through a sensemaking process to inform the governance of complex stakeholder networks (Calton & Payne 2003).

Just as complexity is characterised by multi-objectivity, conflicting goals and multiple stakeholders (Williams 1999), many authors state that the involvement of multiple stakeholders makes the identification of value in a project portfolio complex (Beringer, Jonas & Kock 2013; Jonas 2010; Lim, Quercia & Finkelstein 2010; Unger et al. 2012; Voss 2012).

[Stakeholder theory in relation to PPM](#)

PPM includes a process of negotiation and bargaining involving multiple stakeholders internal and external to the organisation (Christiansen & Varnes 2008; Martinsuo 2013). Decision-making in PPM involves different stakeholders with diverse goals and expectations (Bentzen, Christiansen & Varnes 2011; Beringer, Jonas & Kock 2013; Bourne 2009, 2011)

and stakeholder management is a never-ending task of balancing and integrating multiple relationships, conflicting demands and multiple objectives (Freeman & McVea 2001, p. 194). There are multiple stakeholder perspectives of '*value*' that influence the ways that value is managed and delivered by projects and portfolios.

In its exploration of value in project portfolio decision-making, this research draws upon stakeholder theory. Stakeholder theory is a socially-oriented perspective and considers how managers articulate the shared sense of the value they create and how core stakeholders are connected (Freeman 1984; Freeman 2004). It addresses the diversity of stakeholders and their underlying objectives and finds a way to balance the different expectations in an effective way. This includes the legitimate interests of individuals, groups and communities who are affected or impacted by the activities of the organisation (Donaldson & Preston 1995; Freeman 1994), particularly stakeholders who could have an impact on the performance of the organisation, strategic value generation and long-term success. Stakeholder theory implies that managers need to consider the types of stakeholder relationships and interdependencies required in order to deliver on their purpose (Freeman 2004). The theory argues that an organisation should be managed in the best interest of all its stakeholders, including external and internal stakeholders from micro to macro level (Blair 1996; Jones & Wicks 1999). This is supported by Cooke-Davis (2002), who implies that human dimensions are important considerations leading to value and project success. Stakeholder theory therefore attempts to address the question of which groups of stakeholders deserve or require management's attention (Freeman 2004). In essence, unless stakeholders are clearly defined and identified, it is be almost impossible for managers to deliver the value intended.

In reality, stakeholders have differing and often conflicting viewpoints of value and competing goals (Hillman & Keim 2001; Jones 1995). Some stakeholders may be instrumentally more important than others (Jones 1995), while the engagement of others could result in tensions, misaligned interests, contributions or resource commitments, especially in partnerships (Le Ber & Branzei 2010).

Mitchell et al (1997) raise questions of stakeholder identification and saliency under the principal question of 'who and what really counts'. Thiry (2001) suggests that managing value among multiple stakeholders involves sensemaking as an interpretive activity grounded in the social process of projects. Sensemaking is an interpretive process that is situated in

both the individual and in social activity (Weick 1995), whereby people make sense of and build a collective understanding of a situation to then develop a shared inter-subjective desired outcome (Thiry 2001). Thiry (2001, p. 71) states that those managing value in multi-stakeholder environments tend to ‘fall into the trap of focusing too much on tangible deliverables’ and that they are likely to be influenced by a ‘value rhetoric’ when managing value. He advocates the adoption of sensemaking processes in complex, ambiguous and multileveled situations where multiple stakeholders are involved.

The adoption of sensemaking processes are said to help managers construct new paradigms or new ways of thinking that draw upon the stakeholders’ or participants’ own rhetoric of value, as these stakeholders’ rhetoric is viewed as essential in managing value (Thiry 2001). In addition to Thiry’s research associating sensemaking with value (2001), other PPM literature has drawn on sensemaking concepts. This includes the exploration of project portfolio uncertainty in dynamic environments (Petit 2012; Petit & Hobbs 2010), the need for sensemaking by various stakeholders in a complex service project (Alderman et al. 2005), or investigations into the enactment (decisions, actions and performance) of project portfolio managers in practice (Blichfeldt & Eskerod 2008). Sensemaking processes are seen as integral to project relationship management (Bourne & Walker 2008) and multi-stakeholder collaboration in the management of value in project portfolios (Martinsuo & Killen 2014; Thiry 2001). Yet, very few PPM studies could be identified that incorporated in-depth research involving sensemaking practices of multiple stakeholders and of portfolio decision makers in determining value to inform decisions about the portfolio. Therefore, while studies about the influence of multiple stakeholders on managing value in projects, programs and portfolios are evident in the literature, these researchers are still calling for further research in these areas, particularly into intangible and non-commercial value (Bourne & Walker 2008; Martinsuo & Killen 2014; Thiry 2002; Thiry & Deguire 2007).

Another area that is mentioned but seldom explored in the PPM literature is value dependencies across different organisational levels, namely the project, program and portfolio levels. Despite their different functions, these project-to-portfolio levels have a certain degree of interdependence in an organisation (Brady & Davies 2004; Keegan & Turner 2002; Larson 2004) and are increasingly acknowledged and understood as important (Collyer & Warren 2009; Dahlgren & Söderlund 2010; Elonen & Artto 2003; Rungi 2010; Stummer & Heidenberger 2003). Types of interdependencies between projects include resource

interdependencies (where scarce resources are shared by more than one project), outcome dependencies (the outcomes from other projects are needed), market or benefit interdependencies (complementary or competitive effects), knowledge dependencies (capabilities and knowledge gained through another project need to be incorporated in subsequent project(s)) and financial dependencies (Blau et al. 2004; Eilat, Golany & Shtub 2006; Verma & Sinha 2002). The literature implies that these interdependencies are important considerations when portfolio managers identify, understand and manage strategic portfolio value more holistically.

Researchers are extending the understanding of project portfolio value to recognise longer-term aspects, such as preparing for the future, taking advantage of opportunities (Voss & Kock 2013) or uncertainties that accompany certain projects (Delerue et al. 2015). R&D projects are said to have high uncertainty, as there is no immediate payoff (Delerue et al. 2015). Projects that are in the formative or development stages making their way through the portfolio through a selection and prioritisation process need to be considered in terms of the potential value they generate during their lifecycles, even before a project commences. Accordingly, value in an R&D portfolio can come from current and developing projects in the organisational pipeline, such as potential relational networks, organisational reputation, knowledge and learnings generated from projects at various points of a project's life cycle, even incomplete or terminated projects (Delerue et al. 2015). Others support the view that a multi-level perspective further facilitates the development of a more contextual and holistic picture of organisational value creation, which in turn accounts for different agendas, objectives and practices (Sydow, Lindkvist & DeFillippi 2004; Windeler & Sydow 2001).

In sum, the review shows a trend towards more integrated and holistic ways of considering how value is identified in PPM in response to the need to extend the understanding of value in order further to enhance the management of value in multi-stakeholder portfolio environments. In recognising that there are different forms of value, researchers have called for new research to rethink and broaden how value is conceptualised and understood in project and portfolio management, including considerations for short and longer-term time horizons and emergent value (Cicmil et al. 2006; Laursen & Svejvig 2016; Martinsuo & Killen 2014; Winter et al. 2006).

Research Questions

The review above demonstrates that managers often need to deal with multiple stakeholders who have competing, conflicting and often inconsistent interests and value expectations. While studies about stakeholder management in projects and portfolios exist, they tend not to offer deep explorations of value and how it is perceived by multiple stakeholders in different contexts. Thiry and Deguire (2007) reviewed the literature on project-based organisations to conclude that a common language to foster collaborative dialogue was needed among stakeholders, while Cooke-Davis (2002) linked project success factors to improved shareholder value and bottom-line performance, adding that, ultimately, humans determine the adequacy of value and project success. The research by Winter and Szczepanek (2008), however, focused on the commercial value perceived by shareholders or customers. Recent value-based studies in the project portfolio field stress the importance of considering both commercial and non-commercial value in portfolio decision-making (Laursen & Killen 2017; Martinsuo & Killen 2014). Therefore, a deeper understanding of the multiple perspectives of stakeholders about value (extending beyond economic and financial value) is likely to offer insights and challenge current paradigms about how decision makers make of value in projects and portfolios.

To explore how value is understood and expressed by different stakeholders more deeply, I posed a core research question:

RQ1: How is value understood in practice by different stakeholders in different portfolio contexts?

As new insights unfolded throughout the study, the research questions about the stakeholders' understanding of value continued to evolve. Subsets of the core research question (RQ1) were developed to consider 'dimensions', 'perspectives' and 'constructs' of value. These subsets of the core research question and additional questions developed through the course of the research are addressed in the various publications that form Papers 1 to 6. For more details, these evolved research questions can be found in the synopses of the papers that begin on page 52 and are summarised in Table 7 in Appendix 2.

The challenges of balancing and integrating multiple relationships, conflicting demands and multiple objectives among multiple stakeholders to maximise value in project portfolios are

highlighted in a number of studies (Beringer, Jonas & Kock 2013; Bourne & Walker 2008; Martinsuo & Killen 2014; Thiry 2002; Thiry & Deguire 2007). Each stakeholder's understanding of value is 'constructed' from their experiences and perspectives in the project portfolio environment. The term 'value constructs' is used in this thesis to refer to the value that is perceived by individual actors or stakeholders. To better understand how multi-stakeholder input is considered in project portfolio value, I posed a second research question:

RQ2: 'Value for whom, value by whom': Whose value constructs need to be considered in portfolio decision making in order to maximise portfolio value?

Additionally, with the exception of Winter and Szczepanek's (2008) study on the various foci of value at the strategic, program/portfolio and project levels of a business, the literature tends to focus on one or two primary stakeholder groups or to discuss stakeholder issues in more general terms, to explore how value works across the different organisational levels (projects, programs and portfolios including the organisation) with the various stakeholders. The iterative and reflexive design of this research enabled the early findings from the case studies to influence the ongoing research. A new research question thus emerged, based on a review of the literature in conjunction with my initial findings to reveal how the multiple perspectives of stakeholders transcended multiple organisational levels, namely the project, program and portfolio levels. This third research question was developed to explore value across the various levels in an organisation's project-based environment, as follows:

RQ3: How do managers deal with value (including interdependencies) across different organisational levels and stakeholder groups?

The literature has established that project portfolios exist in complex environments where there are usually multiple stakeholders with possibly conflicting expectations, demands and perspectives of what constitutes value. This was evident from the findings of the Method 1

case studies, and I developed a ²[typology of value perspectives](#) to consolidate and illustrate the many different perspectives of value observed. While I propose that the typology has applications in practice, little is known about how practitioners make sense of and apply such multi-dimensional aspects of value in practice. Principles of sensemaking relating to value in practice have appeared briefly in the project, program and portfolio literature (Martinsuo & Killen 2014; Thiry 2001), although sensemaking perspectives and its research methods have not yet been explored in depth in the context of PPM research. The issues surrounding sensemaking concepts, value in practice and how practitioners might respond to the typology, led to two practice-based research questions that were explored in the expert panel workshops. The key question asked in the workshops was:

RQ4: In practice, how do managers make sense of what is valuable (beyond financial value) in a project portfolio?

RQ4 was further supported by a sub-question in the workshops: *What type of guidance might assist managers to harness and integrate a wider range of stakeholder values in PPM environments?*

The next section presents the theoretical and empirical research design, including the philosophical underpinnings and key theories that frame the research methodologies in this study.

Research design and methodology

The research questions in this thesis were developed with the research goals, philosophical and theoretical frameworks and methods in mind (Punch 1998; Trede & Higgs 2009). The overall goal of the research was to understand how value is understood in practice by different stakeholders in various organisational contexts, including both commercial and non-

² The typology is a major finding from the Method 1 case studies that influenced the design of the Method 2 expert panel workshops. The typology is explained in more detail in the findings section.

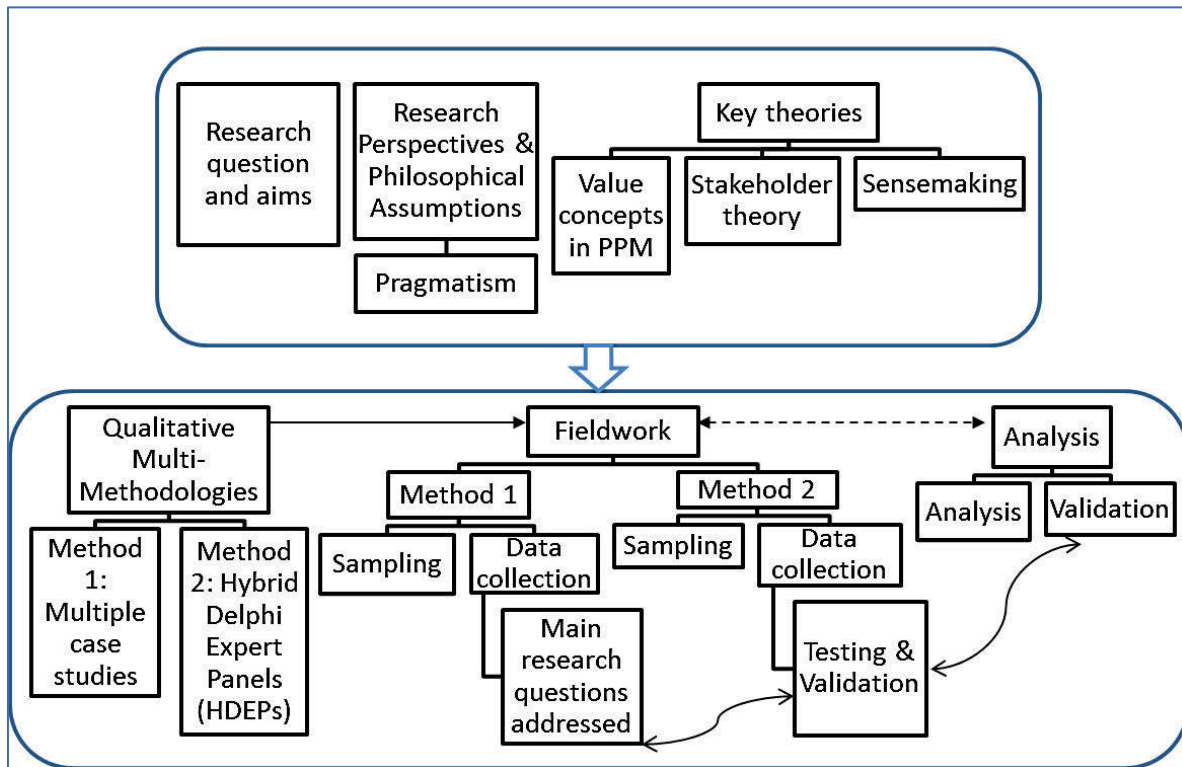
commercial project portfolios. The overarching research question are reiterated, as follows:

- *RQ1: 'How is value understood in practice by different stakeholders in different portfolio contexts?'*

To support the research question, this section describes the full research design of the study. Figure 2 maps out the structure of this section. First, the research aims are outlined briefly. The research perspectives, philosophical assumptions, key concepts and theories that frame the manner in which the research was designed are then presented. Next the research methodology is highlighted and the multi-methods approach adopted in the research methodology explained.

The study took two overlapping qualitative approaches; Method 1 comprised multiple case studies and Method 2 Hybrid Delphi Expert Panels (HDEPs). For simplicity, the two methods are elaborated upon individually. In reality, the two qualitative methods took place iteratively and were emergent and reflexive in their implementation, points that are explained further in the 'Fieldwork' and 'Analysis' sections, including the sampling and data collection approaches. The last part of this section about research design describes how the data was analysed and validated.

Figure 2: Research design: theoretical framework and research methodology



Research aims

To address the overarching research question, this research specifically aimed to:

- identify the various perspectives and dimensions of value that inform portfolio decision-making in practice, with particular attention to aspects of value that are not represented in the PPM literature
- deeply explore the sensemaking practices of the multiple stakeholders in the identification and management of value in practice in diverse environments
- compare practices for understanding value by different stakeholders in different contexts, and
- provide guidance to improve PPM practice that can be applied in practice by practitioners and tested and verified by future researchers.

Theoretical framework underpinning the research

An overall theoretical framework is said to encapsulate the problem statement, the purpose of the research, its significance and the research questions in order to provide a structure that

supports the rationale for one's study (Grant & Osanloo 2014). Eisenhart (1991, p. 205) defines a theoretical framework as 'a structure that guides research by relying on a formal theory ... constructed by using an established, coherent explanation of certain phenomena and relationships'. The research issues, overarching question and aims were outlined in the previous section. In this exploratory qualitative study, the theoretical framework was deliberately kept flexible at the start of the study to ensure that *a priori* preconceptions were not forced upon the findings too early in the research, since an early reliance on theory may create the risk that important information is left out or ignored (Becker 2008).

Philosophical assumptions

Here I present the philosophical assumptions that guide the thinking and design of the methodology. Ontological assumptions define the nature of one's beliefs about reality ('What is the nature of reality?') and epistemological assumptions frame one's beliefs about the nature of knowledge ('What is the relationship between the researcher and that being researched?') (Creswell 1998; Trede & Higgs 2009). At one end of the ontological spectrum is the positivist worldview. To positivists, knowledge arises from rigorous measurements against the criteria of objectivity, reliability and validity (Trede & Higgs 2009). Truth is viewed as singular, scientific, objective and quantitative (Tashakkori & Teddlie 1998). At the other end of the spectrum is the interpretivist or constructivist worldview, according to which knowledge is an internal construct whereby individuals assign meanings to events, ideas and experiences (Trede & Higgs 2009). The researcher's values drive the research, accept multiple realities, include social perspectives and hold interactive researcher-researched relationships (Creswell 1998; Jones 1988; Mertens 1998). Truth is qualitative, plural and subjective (Tashakkori & Teddlie 1998). There are many research perspectives and views that overlap or appear to be in conflict and in reality, many perspectives have no clear delineation in practice (Mertens 1998). Moreover, Mertens (1998) comments that it is impossible to categorise all the various perspectives into a few paradigms or perspectives. The pragmatic worldview or perspective selected for this study is situated between the two ends of the positivist-interpretivist spectrum (Creswell 2003). Pragmatism is a non-dualist philosophy, committed to no one philosophy or reality but to knowledge based on the practical outcomes of 'what works' (Biesenthal 2014; Denscombe 2003; Tashakkori & Teddlie 1998). The main criterion for knowledge is how useful it is perceived to be and how well it works in addressing practical problems in particular contexts. Knowledge is contextual

and provisional, not absolute (Biesenthal 2014; Denscombe 2003). Through its reflective and iterative characteristics (Biesenthal 2014), pragmatism accepts both emerging and predetermined approaches in research. Multiple forms of data are used to understand a real-world problem. The perspective embraces many approaches with research that uses a wide choice of methodology that best fits research needs and purposes (Biesenthal 2014; Creswell 2003; Creswell & Clark 2007; Denscombe 2003). It systematically links theories and experiences in its inquiry to come up with satisfactory solutions to research problems. The pragmatic perspective broadens the understanding of other ways of exploring, testing and verifying practice-based problems, and serves as a stronger foundation for further studies in PPM for decision-making. This thesis adopts a pragmatic perspective and applies two different qualitative approaches to explore the practice-based yet subjective area of value as constructed by multiple stakeholders. Table 1 compares the pragmatic perspective with the socio-constructivist/interpretivist and post-positivist/positivist philosophies.

Table 1: Research philosophies, methodologies and strategies of inquiry

Research philosophies			
Research approach	Pragmatist (Biesenthal 2014; Creswell 2003; Creswell & Clark 2007; Denscombe 2003)	Socio-Constructivist/ Interpretivist (Creswell 2003; Creswell 1998)	Post-positivist/Positivist (Creswell 2003; Mertens 1998)
Epistemology (relationship between researcher and the researched)	<ul style="list-style-type: none"> • Accepts both emerging and predetermined approaches • Researchers use multiple forms of data to understand the problem • Many approaches, wide choice of methodology that best fits research needs and purposes • Not committed to one philosophy or reality 	<ul style="list-style-type: none"> • Emergent • Multiple realities • Social perspectives • For exploration and understanding • Multiple participant meanings for theory generation • Interactive relationship 	<ul style="list-style-type: none"> • Predetermined • Objective • Reductionism • Cause and effect measures • Specific variables are predetermined and measured for theory verification • Researcher can influence what is observed
Ontology (nature of reality)	<ul style="list-style-type: none"> • Pluralistic • Provisional, contextual • Consequence oriented • Real-world practice-oriented • Action and problem-based • Mixed approaches used to provide the best understanding to 	<ul style="list-style-type: none"> • Multiple realities • Multiple meanings of individual experiences that are socially and historically constructed • Direct lived experience of participants 	<ul style="list-style-type: none"> • Knowable within probability • Reality exists but known imperfectly due to human limitations

	<p>research problem</p> <ul style="list-style-type: none"> • Realities occur in social, historical, political or other contexts 		
Strategy of inquiry	<ul style="list-style-type: none"> • Concurrent and/or sequential • Problem/solutions focused and not methods-focused • Reflective and iterative 	<ul style="list-style-type: none"> • Case studies (Yin 2013) • Open-ended • Exploratory 	<ul style="list-style-type: none"> • Close-ended • Predetermined instrument of inquiry
Methodology	<ul style="list-style-type: none"> • Systematic use of multiple methods of data collection that best fits the practical real-world contexts 	<ul style="list-style-type: none"> • Qualitative field observations • Open-ended interviewing • Documents analysis • Interview transcripts, recordings and notes • Audio-visual materials • Personal experience materials (such as artefacts, journal and diary information and narratives) 	<ul style="list-style-type: none"> • Quantitative close-ended measures and ratings of attitudes and perceptions of value • Demographic data • Social or relational network mapping

Incorporating a sensemaking orientation in the research

Theoretically, sensemaking in organisations is a complex process of forming and re-forming shared understandings built from the ongoing interactions, conversation and coordinated actions among people (Dervin 1998; Easterby-Smith, Crossan & Nicolini 2000; Hellgren & Löwstedt 2001; Weick, Sutcliffe & Obstfeld 2005). Theories about sensemaking in organisations imply that decisions are often determined by people's preconceptions of their surroundings (Weick 1995, 2001; Weick, Sutcliffe & Obstfeld 2005). In PPM decision-making, this could lead to portfolio managers dismissing or neglecting important factors in the decision process, such as the value dimensions by multiple stakeholders. Preconceptions could also exacerbate pre-existing 'blind spots' in the teams or the portfolio that could potentially result in portfolio failure. Hence, sensemaking is well-positioned as a pragmatic research approach to grasping and interpreting subjective and multiple meanings.

Many researchers discuss sensemaking practices as interpretative in nature (Allard-Poesi 2005; Garfinkel 1967; Heap 1976; Schutz 1962; Thiry 2001). For instance, Allard-Poesi (Allard-Poesi 2005, pp. 170-1) draws on Schutz (1962) to comment that 'sensemaking research relies extensively on interpretive grounded approaches that seek to grasp people's understandings'. Allard-Poesi (2005) adds that what is achieved through sensemaking practices in organisations is the shared collective meanings built through discussion, conversation, trial and error. These practices are also shaped by language rules, vocabulary, authority relations, work roles, norms and social structures (Weick 1995, 2001; Weick, Sutcliffe & Obstfeld 2005) or situations based on the concepts of time, space, movement, gap, constraint (Dervin 1998). In terms of time, space and movement, the concept of retrospectivity in sensemaking can be traced to Garfinkel's (1967) discussion about a retrospective-prospective sense of an occurrence in the present moment. In essence, this encompasses a sense of moving backwards and forwards in one's sensemaking practices. Pugh and Hickson present Weick's ideas to demonstrate that sensemaking comprises an ongoing and dialectic process with a 'continual weaving of sense from beliefs, implicit assumptions, tales from the past, unspoken premises for decision and action', also known also as 'rolling hindsight' (Pugh & Hickson 2007, p. 123). Furthermore, people are said to exercise selective perception, that is, to notice some things and not others and depending on where they look, what they focus on, how they look, what they want to represent and what their tools of representation are. The sense made of the same situation will often differ for

different people. Sensemaking can also be seen as ‘generative’, that is, it generates what is interpreted. In the exchange of perspectives between actors, shared meaning-making may occur through the reciprocity of perspectives, for example, through exchanges in shared forms of interaction and communication.

Sensemaking (Dervin 1999; Savolainen 1993; Weick 1995) therefore supports the dynamic, interwoven and emergent nature of reality and the nature of knowing that comes with using a sensemaking paradigm to explore value concepts.³Dervin’s (1998) Sensemaking Methodology, designed to study the phenomenon of sensemaking, includes the practice of enabling participants to define their own terms, set criteria, identify gaps and build bridges in their own experiences. The sensemaking approach employed in this research incorporates multiple stakeholder perspectives and expectations of value, and accepts that organisational value has dynamic and evolutionary characteristics.

A sensemaking approach is appropriate for this exploratory research study because project portfolios exist in complex environments with multiple stakeholders who are likely to have varying expectations, demands and perspectives of what constitutes value. These multiple constructs of meaning are often overlooked by decision-making tools and mechanistic processes that focus on logical and rational factors. The reality is that decision makers often need a way to identify and integrate the value expected by different stakeholders in their PPM practices – these decision makers are in fact simultaneously balancing stakeholder perspectives and project portfolios.

The challenge in determining value may be one for both the decision maker and the researcher. This research endeavours to explore how decision makers and stakeholders make sense of value and how these interactions and perspectives impact decision-making. Sensemaking provides a perspective from which to understand how these different

³ Dervin (1998) distinguishes her work on sensemaking from Weick by calling her approach ‘Sensemaking Methodology’ whilst Weick mainly focuses on sensemaking in organisations. In this thesis, the term ‘sensemaking’ is applied generically.

perspectives influence the decisions made for a portfolio. Therefore, the sensemaking approach forms an important component of the research investigating the multiple value perspectives of stakeholders, and discerning how these retrospective, reciprocal and ‘generative’ forms of sensemaking impact on decision makers and their practices.

Sensemaking research has also been positioned as pragmatic research that applies a participative route. In some circles, this is related to action research (Avison et al. 1999; Cohen, Manion & Morrison 2000; Hall & Zuber-Skerritt 1990; McNiff 2013), while for others, the participative nature of creating research knowledge falls under sensemaking research and termed as ‘actuality-based’ research (Cicmil et al. 2006). Both researchers and participants are reflexive in their approach. Reflexivity is identified as an iterative process that includes reflection, planning and action or adaption (Widmer, Schippers & West 2009). According to Hertz (1997), reflexivity produces research that questions its own interpretations and knowledge production and results in better and less distorted research accounts.

This research acknowledged and anticipated that new concepts or themes of value could emerge as the research progressed (Yin 2013). Weick invites researchers in sensemaking to delve into ‘disciplined reflexivity’ (Weick 1999, 2002); thus, this research has adopted a flexible and reflexive approach to capture emergent differences, dimensions and alternative knowledge that risk being lost if one were looking too early in the research process for confirmation of practices (Becker 2008).

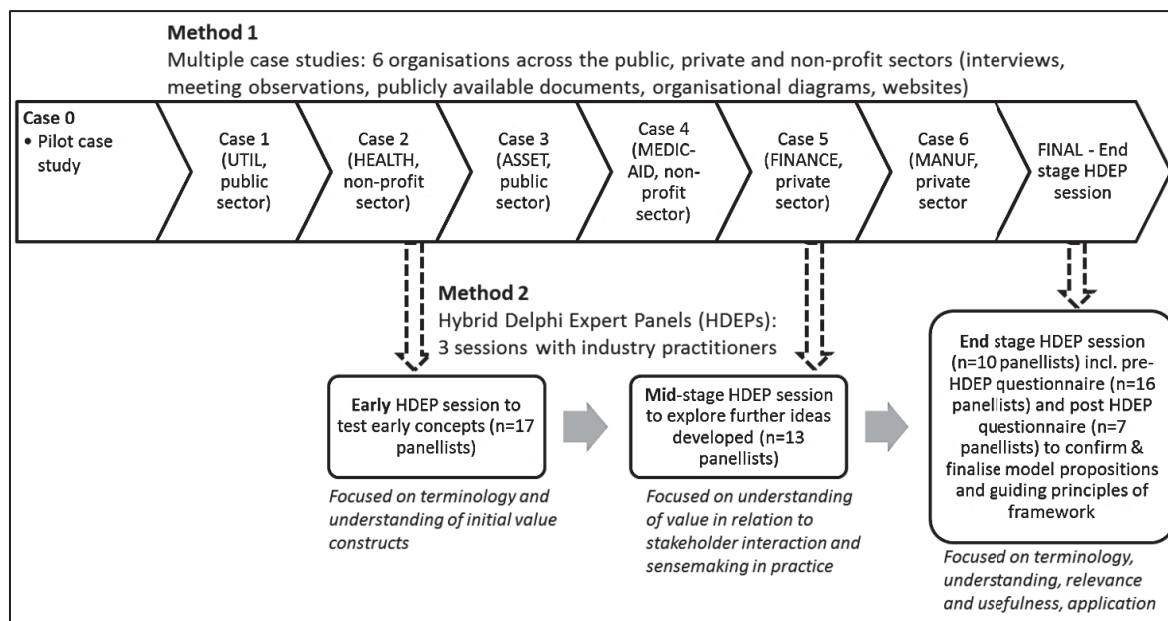
The literature review emphasised the importance of considering multiple stakeholder perspectives. Several studies were highlighted to demonstrate how sensemaking can be a useful approach to exploring value in complex environments. Within the context and focus of value in project portfolios, this research was designed to enable participants to use their own terminologies and steer the interview around issues and concepts they felt best represented their own experiences and interactions about value in their projects and portfolios (Gioia & Thomas 1996). This is important in relation to how stakeholders and decision makers identify and make sense of value. The next section elaborates on the qualitative methods applied to the research.

Research methodology

Following the pragmatic and interpretive nature of sensemaking research discussed in the previous section, the methodology I adopted for this study was designed to be exploratory and evolving as the data collection and analysis progressed (Morse et al. 2002). The research design comprised two overlapping qualitative methodologies, illustrated in Figure 3. Since the methods overlapped, for clarity, the terms ‘phase’ or ‘stage’ were avoided, as they often denote a sequential order, and were instead referred to as Method 1 and Method 2.

- Method 1: Multiple case studies (Yin 2013)
- Method 2: Hybrid Delphi Expert Panel (HDEP) sessions inspired by a Hybrid Delphi (HD) approach (Landeta, Barrutia & Lertxundi 2011)

Figure 3: Research design and qualitative methodologies



The primary thrust of this research was multiple case studies (Method 1) and focusing on value and PPM decision practices in diverse organisations. Method 1 addressed the research questions RQ1, RQ2 and RQ3. This was supported by the HDEP (Method 2) as a secondary, overlapping method to gather practitioner feedback and validate the findings. As can be seen in Figure 3, in addition to progressively testing concepts about stakeholder perspectives of value that arose from the analysis of the case studies (after Case 2 and Case 5), the HDEPs were also deployed towards the end of the research project to address RQ4. I used this final HDEP once the case studies were completed to test and verify several final concepts about

stakeholder value perspectives and their practical applications among practitioners. The multiple types of data collection complemented each other and provided opportunities for triangulation (Denzin & Lincoln 2000; Woodside 2010; Yin 2013).

In the next section, each method is detailed separately in terms of methodology and fieldwork (sampling and data collection).

Methodology 1 – Multiple case studies

In Method 1, I used a multiple case study approach to address the qualitative exploration of the ‘how’ and ‘why’ (Yin 2013) in the research questions. Guba and Lincoln (1981, p. 372) suggest that case studies could be used to describe what it is like to ‘experience’ a situation.

The case studies explored multi-stakeholder expectations of value and decision-making in project portfolios and how value was constructed and associated with the decisions made in their workplaces. The need to explore in depth the practices whereby value was identified, negotiated, measured and integrated into decision-making justified the in-depth investigations through a multiple case study approach. This component of the research investigated participants’ individual expressions, perceptions and constructs of value, their lived experience of their environments and the researchers’ observations of the meetings, presentations and project workplaces.

Publicly available documents and publications, as well as confidential documents, photographs and organisational diagrams, were also collected and reviewed to understand the multi-stakeholder environment surrounding PPM.

In this research, the units of analysis were:

1. the project portfolio
2. the projects or programs
3. the stakeholders

Sampling – case studies

This study drew on Dervin’s (1998) ideas that sensemaking is contextual in nature and situated in time and space and acknowledges that the complexity woven into sensemaking

and the resulting outcomes and conclusions may not always apply in different contexts. I selected contrasting cases to allow for differentiation and variety in the contexts as much as possible (Yin 2013). To ensure that the research obtained a diversity of responses, these cases were selected from the public/government, private/profit and non-profit/charity sectors. The organisations selected operated in multi-project or multi-program and project portfolio environments and the cases therefore represented a mix of commercial and non-commercial project portfolio environments across multiple industries (Eisenhardt 1989; Patton 2002). The diversity of responses is referred to as purposive sampling (Lincoln & Guba 1985).

According to Yin (2009), a key consideration in case study research is the ability to access data. This includes accessing the organisations and identifying the relevant project portfolios cases or units of analysis (Perry 2013; Yin 2013), identifying cases of maximum variation (Patton 2002; Yin 2013), participants to be interviewed, documents and records to be reviewed and observations to be made. The organisations and cases chosen were those that were able to illuminate and contribute to the research questions (Perry 2013; Yin 2013). Before their participation, organisations were briefed about the requirements of the research. The organisations provided consent and access to relevant staff and other portfolio stakeholders. Many of these participants were referred to by others within the project portfolio network as people who were directly relevant to the decision-making process in the portfolio. This method, known as the snowballing referral method (Atkinson & Flint 2001; Prell, Hubacek & Reed 2009; Vogt 1999), provided the study with a practical means of identifying and accessing relevant participants in the portfolio groups being studied with a link between the initial sample and others in the same target group (Berg 1988). Snowball sampling is well suited to exploratory, descriptive qualitative interviews (Atkinson & Flint 2001).

For the multiple case-studies (Method 1), I invited six organisations from the public, private and non-profit sectors to participate. The final number of cases and interviews was guided by the degree of saturation and convergence in the findings. The six cases were considered adequate to gain enough information (Eisenhardt 1989; Patton 2002). Research participants included project and portfolio members, decision makers and key stakeholders (including customers, suppliers, shareholders, senior managers, staff, government officials and beneficiaries). A total of 47 interviews were conducted, with the sample sizes for Method 1 summarised in Table 2. The identities of the organisations have been kept anonymous in this

thesis as part of the human research ethics protocols approved by the university.

Table 2: Outline of sampling structure for Method 1 - Multiple case studies

Method 1 = Multiple case studies		
Cases	Case pseudonyms	Participants, n=
1	ASSET, Public: NSW Government (public assets)	8
2	UTIL, Public: NSW Government (public utilities)	7
3	FINANCE, Private: Institutional financial services	4
4	MANUF, Profit: Building construction materials manufacturer	6
5	HEALTH, Non-profit: Independent not-for-profit health organisation providing health services to the Australian community	4
6	MEDIC-LIFE & HUMANITARIAN, Non-profit: One case involving these two interrelated organisations that provide medical aid to developing countries	18

Data collection: case studies

The semi-structured interviews ranged from 45 to 90 minutes each. Participants were de-identified to ensure confidentiality and anonymity throughout this research study. The cases explored the participants' expectations and perceptions of value and their experiences of project and portfolio decision-making in light of the value expectations in their organisations.

Case study interview questions

The semi-structured interview questions adopted a sensemaking approach incorporating micro-moment time-line questions about previous decisions (Dervin 1983). I adapted Dervin's framework to capture micro-moment decision-making by probing how and which

value dimensions were of strategic focus and who else had impact on each decision-making moment.

Dervin (1983) conceptualises four different ways to focus interview questions in a sensemaking study. These are the 5Ws (who, what, when, where, why or how), time (past, present and future), valence (good roads, bad roads or neutral roads) and entity (self, other, process, objects, situations, means of getting from the past to present, present situations, means of moving from present to future, or future situations). To address the research questions, a variety of these focus strategies were used, as presented in Table 3 while the full interview protocol is provided in Appendix 3.

Table 3: Sensemaking focus strategies to support the interview questions

Dervin’s focus questions	Interview questions adopting sensemaking strategies
<p>5W FOCUS: who, what, when, where, why, or how</p>	<p>Who are the stakeholders and decision makers involved in the project portfolio decisions? What are their roles?</p> <p>What types of strategic decisions are generally made in the portfolio and when are these made?</p> <p>How would you identify value in your portfolio? How does this impact on the overall portfolio?</p> <p>Decision makers: What is of importance to you when making a decision about the portfolio?</p>
<p>TIME and VALENCE FOCUS: past, present, or future including good roads, bad roads, or neutral roads</p>	<p>Tell me about a time a strategically problematic decision was made. What was it? What and who was involved? What made it challenging? What was the outcome? Who were the influential players in the process? How did value come into play in the situation? How has this impacted on the present and what else might happen in the future? What, if anything, would you do differently in the future to influence the decision contribution to strategic value?</p>

	<p>Tell me about a time a strategically successful decision was made. What was it? What and who was involved? Who were the influential players in the process? What made it successful? What was the outcome? How did value come into play in the situation? How has this impacted on the present strategic value and what else might happen in the future? What, if anything would you do differently in the future to influence the decision contribution to strategic value?</p>
<p>ENTITY FOCUS: self, other, process, objects, situations, means of getting from the past to present, present situations, means of moving from present to future, or future situations</p>	<p>Can the participant conceptualise and map out the decision-making process and their involvement in the portfolio?</p> <p>What sense is made from the map, with a focus on the key interactions in the decision process?</p> <p>Can the participant identify or map out the value dimensions and how value is situated in the portfolio management process?</p> <p>What sense is made from the map with a focus on the strategic value dimensions that impact on the decision process?</p> <p>Who else was involved and who is impacted by the decisions?</p>

Observations of meetings, presentations and workplaces

Team meetings, stakeholder presentations and the participants' workplaces (where permitted) were observed to understand the various project and portfolio stakeholder interactions, priorities, decisions and actions. The meetings and presentations provided opportunities to observe the interactions between the stakeholder groups and how value was discussed and communicated. Artefacts and documents used in the meetings and presentations such as photographs, videos, promotional material, minutes of meetings and diagrams were also noted and collected with permission.

Other data collected in the case studies: documents and other material

Participants voluntarily shared photographs, documents, minutes of meetings, relevant diagrams, templates, presentation slides and organisational charts pertaining to value and

decision-making in their chosen portfolio. The material was often referred to by participants during the interview process; organisation charts were used, for example, as participants discussed roles and decision flows among different stakeholders in the organisation. Business case templates were used to highlight the types of formal value that were focused on in the project portfolio. These items remain confidential and were used only by the participants to explain or emphasise particular points they wanted to make during the interviews.

Publicly available information and documents from the case study organisations' websites, for example, background or historical information about the organisation, annual reports, digital newsletters and uploaded presentation slides were used primarily to gain a solid appreciation of the context of each case. I used the information to learn about the variety of stakeholders involved in each case study organisation and, in some situations, to clarify questions addressed during the interviews. An instance of this was where 'bang for buck' was mentioned in one of the digital documents. This expression was then followed up with a participant from the case organisation who clarified what the term meant in their portfolio environment.

Methodology 2 – Hybrid Delphi (HD) expert panels

Method 2 was used to gain feedback, test and verify ideas, frameworks and further research questions that emerged from the case studies in Method 1. A framework in the form of a 'typology of value perspectives' was developed and augmented through the course of the case studies. The framework is discussed alongside the other main findings and is illustrated in Figure 5. The typology is discussed in more detail in Papers 2 and 3, while Paper 6 presents the HDEP's feedback on the typology.

Method 2 involved expert panels using an HD technique (Landeta, Barrutia & Lertxundi 2011). The original Delphi technique involves multiple rounds of remote and anonymous feedback from experts (Linstone & Turoff 1975). The Delphi technique is acknowledged as a credible method of 'harnessing the opinions of an often diverse group of experts on practice-related problems' (Powell 2003, p. 376). Expert panels are used in numerous fields and are said to be useful in generating communication and debate, judgement, evaluation and providing researchers with opportunities for revisions (Landeta 2006; Linstone & Turoff 1975; Nowack, Endrikat & Guenther 2011; Okoli & Pawlowski 2004; Powell 2003;

Rikkonen, Kaivo-oja & Aakkula 2006). Such expert panels provide different perspectives to an area of exploration and produce a higher number of high quality, highly acceptable solutions and better performance due to the wide range of expert alternative perspectives generated.

The HD technique developed by Landeta et al (2011) combines face-to-face workshops with anonymous remote feedback. For this research, feedback participants were selected to represent diverse examples in the different sectors. The design of the HDEP sessions in this study drew upon Landeta et al's (2011) technique and followed a similar approach. The three interactive expert panel workshop sessions in this research were designed to work with practitioners to understand their sensemaking processes. The expert panels were given the opportunity to discuss, deliberate, test, feedback and refine propositions about stakeholder value perspectives from their own expert viewpoints to ensure their practical relevance and contribution to the field of PPM research. The sessions served as a sounding board to provide feedback and verification of the findings. I noted unresolved questions and further knowledge gaps and used them to inform the next HDEP session.

Sampling – Hybrid Delphi Expert Panels (HDEPs)

Panel participants were selected to represent diverse perspectives in the different sectors. Qualifying participants were those with in-depth knowledge and experience of project portfolio decision-making, or a key stakeholder in the portfolio or interest groups who may have been impacted by the decisions made. The different groups and their perspectives were important, as the development of the framework and insights generated needed to be robust and flexible enough to meet the needs and demands of multiple stakeholders in different contexts.

The expert panel comprised a mix of scholars (researchers and academics interested in multi-project or project portfolio management) and industry practitioners (project portfolio managers, decision makers, project managers and members, stakeholders and PPM interest groups). I organised the ratio of scholars to practitioners in each session so that the proportion of academics did not exceed 50% of the total number of panellists. This helped to ensure that the data was not academically skewed, as the study sought to address the research issues from the practitioners' perspectives.

Table 4 provides a breakdown of the number of scholars and practitioners who participated in each HDEP session. The advantage of having several academics and researchers who were interested in the topic area was that they contributed to the group dynamics in the sessions with their questions and theoretical ideas, and stimulated discussion. Nevertheless, the expert panel members needed to be primarily practitioners who could articulate and provide multiple perspectives and expertise in their own practice-based contexts and areas of knowledge. This was important in order to gauge how practitioners make sense of, validate, deliberate and debate current ideas, to suggest implications and refine practice-based concepts. This in turn helped to inform decision-making and multi-stakeholder portfolio value concepts, processes or frameworks that arose from the study.

Participants from the Method 1 case studies were invited to participate in the Expert Panels for Method 2 (HDEP). In each HDEP session, there was at least one case study participant in attendance. This overlap was useful as it helped to provide a bridge between the case studies and the workshops. It also reinforced the context for the topic and gave confidence to the group without one individual dominating the session. Snowball sampling (Atkinson & Flint 2001; Prell, Hubacek & Reed 2009; Vogt 1999) was also applied purposefully to recruit relevant practitioners to the HDEPs, particularly members of PPM Special Interest Groups and those interested in engaging in project and portfolio management.

It is suggested that expert panels include as few as 9 and up to 50 members (Nowack, Endrikat & Guenther 2011). The expert panels in this study fit within this range, with the first, second and third HDEP sessions involving 17, 10 and 13 workshop participants respectively. In the third and final HDEP session, anonymous pre- (online) and post- (paper) session questionnaires were also administered with 16 and 7 respondents respectively. The expert panel sample for the face-to-face sessions totalled 40 participants. Details of the HDEPs are given in Table 4.

Table 4: Outline of sampling and data collection structure for the HDEPs

Methodology 2 = HDEPs		Academics/ researchers	Practitioners	Total
	HDEP 1	2	15	17
	HDEP 2	5	5	10
	HDEP 3			
	- Pre-workshop questionnaire	Not disclosed	Not disclosed	16
	- Workshop	4	9	13
	- Post-workshop questionnaire	0	7	7

Data collection: Hybrid Delphi Expert Panels (HDEPs)

To reiterate, the three HDEP sessions (Method 2) were designed iteratively in response to the data collection at that stage of research (Morse et al. 2002). The three HDEP sessions were conducted after case studies 2, 5 and 6, as shown in **Figure 3**. All HDEPs helped to clarify and test practitioner responses to a typology of value perspectives (Figure 5) that emerged during the analysis of the Method 1 findings. In Method 2, HDEP participants discussed and provided feedback on the initial developments relating to the typology of value perspectives from their own expert perspectives. I noted unresolved questions and further knowledge gaps and built them into the next stage of the Hybrid Delphi sequence. The workshops and questionnaires required practitioners to evaluate and validate what might be relevant or useful (Rikkonen, Kaivo-oja & Aakkula 2006) in the framework propositions.

In the first HDEP session, I presented initial outcomes and concepts drawn from the first two case studies and gauged the overall ease of understanding and use (or application) of an initial proposition of the typology, occasions when panellists might apply the typology, to whom such a typology might be relevant and ideas on the potential applications of such a typological framework in an organisation. A knowledge gap identified in HDEP 1 led to the question, ‘*How would practitioners therefore engage with stakeholders in order to make sense of what they value?*’, which was then discussed in the second HDEP.

The second HDEP explored this knowledge gap to seek the panellists’ ideas about how the typology might work when engaging with stakeholders to make sense of their value

expectations. In HDEP 2, panellists discussed the types of questions that could be asked of stakeholders to understand their perspectives on value, to provide examples of how they might make sense of multiple stakeholder expectations and, finally, how they would know if they had delivered value to their stakeholders.

The third and final HDEP session validated and concluded the panel involvement in the research. This HDEP consolidated the research findings and added further depth to the research contributions by asking, *‘How might having a view of multiple stakeholder perspectives of value help managers in practice?’* and *‘How do practitioners make sense of and integrate the typology of value perspectives for decision-making in practice?’*

The third HDEP also incorporated an anonymous online pre-session questionnaire. This was followed by a face-to-face discussion session and a post-session paper questionnaire. The pre-session questionnaire responses provided a catalyst for discussion during the two-hour face-to-face HDEP session. Towards the end of the face-to-face session, industry participants voluntarily provided further anonymous written feedback in a post-session questionnaire about what might be relevant or useful, with a focus on applying the typology of value perspectives in their own practices. An extract illustrating some of the open-ended questions about the typology is provided in Appendix 7, while the full pre- and post- session questionnaires are in Appendix 8 and Appendix 9.

Data analysis

The early findings from the analysis in Method 1 informed the iterative research approach in the consecutive research steps in Method 2. Findings in Method 2 provided further feedback for Method 1. I designed the iteration between Methods 1 and 2, incorporating the fieldwork and analysis as illustrated in

Figure 3 to enable understanding so that concepts and knowledge throughout the study could evolve and develop. This helped ensure that the final research outcomes were more clearly understood, useful, relevant and contributed to both theory and practice.

Several key points about the data analysis are given in this section. First, the coding and analysis of themes and patterns that formed the frameworks are explained, followed by a discussion about the rigour and trustworthiness of the methods used.

Coding

The data was coded to identify themes, relationships and patterns of how people construct a sense of value, in conjunction with the analysis of internal and external documents (Dervin 1983; Yin 2013).

The coding of the qualitative data was iterative. Through ongoing comparison, I grouped and regrouped initial themes to gradually develop themes and insights that addressed the research questions. I then coded and analysed the open-ended feedback from the expert panel workshops to determine the level of verification and support for the sensemaking propositions about value in practice and the framework (typology of value perspectives). Emergent patterns and variations in the data resulted in a compilation of field-notes and memos as a means for the researcher to keep track of categories, propositions and 'generative' questions that arose from the study. For the iterative development of coding nodes I used QSR International's NVivo, a computer-assisted qualitative data analysis software (CAQDAS).

Responses were analysed and presented as trigger-points for further discussion during the face-to-face HDEP sessions to help the participants focus on key areas about value in their own project portfolios.

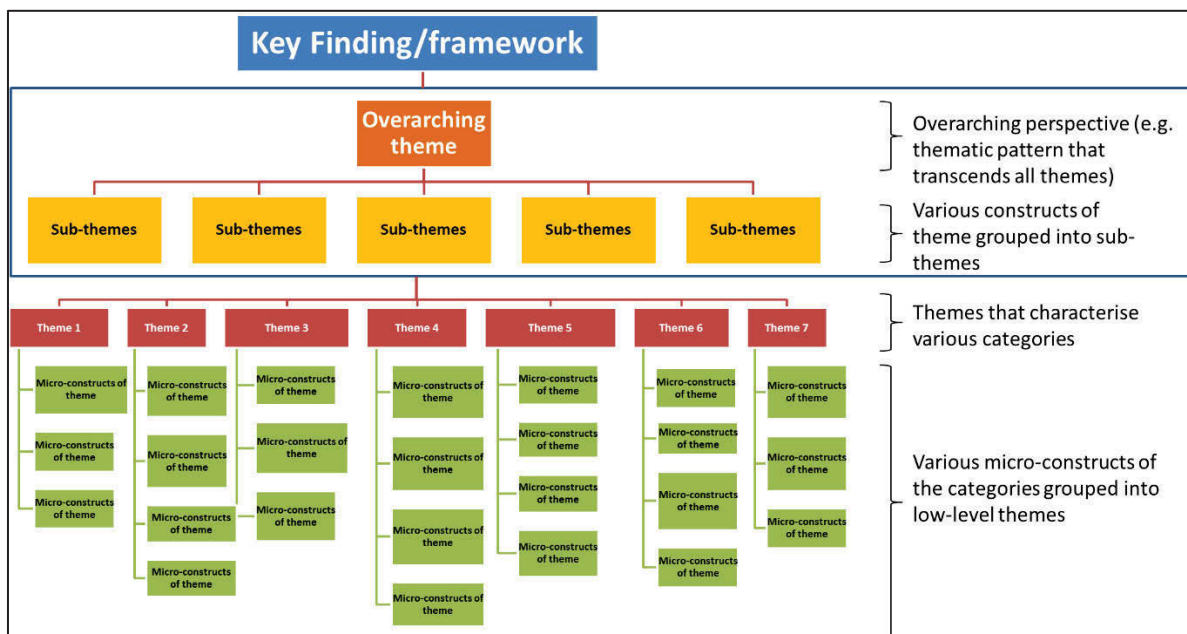
Analysis

The overall analysis and interpretation of the research data used iterative deductive, inductive (Miles, Huberman & Saldaña 2014) and abductive approaches (Ayer 1968; Fennell 2016; Peirce 1903; Scheffler 2013). I applied a deductive approach (characterised as structured and predefined) in the early stages of Method 1 (case studies), using the semi-structured interview questions as headings to build a broad thematic framework. The questioning encouraged elaboration and in-depth responses and as the data was progressively collected, transcribed and coded, the analysis became more inductive and open (characterised as unstructured and exploratory) in its approach. In other words, I used the data itself to shape the structure of analysis through a process whereby important concepts, categories, patterns and relationships were identified, tagged or coded, built up and iteratively revised, merged, split or regrouped as new and different codes emerged. The coding and analysis for Methods 1 and 2 were conducted using a combination of manual coding and NVivo (Bazeley & Jackson 2013) to

identify themes, relationships and patterns of how people construct a sense of value, in conjunction with the analysis of internal and external documents (Dervin, 1983; Yin, 2003). From the thematic data sets, I then conjectured new theories and insights, using an abductive process (Fennell 2016; Folger & Stein 2016). The non-sequential analysis and verification process drew upon Peirce’s conception of abduction of ‘devising’ and ‘tentative discovery’. Fennell (2016, p. 44), quoting Peirce (1903, p. 205), states, ‘All the ideas of science come to it by the way of abduction. Abduction consists in studying facts and devising a theory to explain them. Its only justification is that if we are ever to understand things at all, it must be in that way’. This is useful when a set of observations is still deemed incomplete, but the data has likely or plausible reasoning that ‘makes good sense’ (Miles, Huberman & Saldaña 2014) and that could be developed in a pragmatic manner.

The abductive findings in this research included the analysis of patterns of value constructs to create the initial value typology. Figure 4 illustrates the general development of the raw data from Method 1 coded into micro-constructs or low-level themes that eventually made up the categories that form the main thematic framework depicting value perspectives typology. As the themes developed, they were presented, discussed, evaluated and refined in Method 2.

Figure 4: Demonstration of data construction to derive the main themes



The typology was subsequently evaluated and discussed in the HDEPs.

Data from the HDEPs include recorded transcripts of the discussions and artefacts produced during the sessions. Context-specific artefacts included post-it notes, visual templates, ideas and group presentations made on large paper-sheets. Examples of these outputs can be found in Appendix 6 and Appendix 7. Artefacts were analysed manually in conjunction with the session transcripts. The researcher's and supervisors' own observations were noted and discussed in the context of the sessions to triangulate the findings.

Insights from the HDEPs and case studies were triangulated and compared to strengthen the quality and rigour of the overall research and to enrich its research contributions. Rigour is discussed in further detail in the next section.

Rigour and trustworthiness of the methods

Lincoln and Guba (Lincoln & Guba 1985; Lincoln & Guba 1986) state that the trustworthiness of research includes an establishment of truth value, applicability, consistency, neutrality and authenticity. Truth value and authenticity are demonstrated through the representation of a range of different realities of value perspectives being studied. Additionally, data quality can be assessed through triangulation (Miles, Huberman & Saldaña 2014). In this study, qualitative cross-validation was applied by the researcher through triangulation of the various data sources whereby information was compared to determine corroboration (Denzin & Lincoln 2000; Patton 2002). Case study conclusions were based on several different sources of information following converging lines of inquiry (Yin 2013) guided by the same set of research questions. In the case studies, multiple sources of evidence (for instance, diagrams, photographs, business templates) were referred to in order to obtain rich detail of stakeholder value perspectives. Subsequently, the HDEPs served as a pragmatic way to review the applicability and consistency of the insights and responses from different practitioner contexts. Additionally, participants at different levels (for example, project, program and portfolio managers, beneficiaries, suppliers and senior management) were used to provide a variety of perspectives in both the case studies and the HDEPs.

Multiple data collection methods are said to be a strength of research quality (Yin 2013). Bearing this in mind, this research applied such a multiple data collection method in the form of semi-structured interviews and material collected from the case studies and HDEPs (expert panel discussions and anonymous questionnaires) to enhance its quality. Different qualitative

research methods expose a range of relevant issues and are recommended to develop a fuller picture of the phenomenon under study (Leech & Onwuegbuzie 2007; Oliver-Hoyo & Allen 2006). The iterative qualitative inquiry approaches applied in this study contributed to a system of checks and balances, combining as they did the case studies with feedback from the HDEPs to ensure the rigour of the research.

Verification is a process of looking for confirmation of one's research findings. In qualitative research, verification refers to 'the mechanisms used during the process of research to incrementally contribute to ensuring reliability and validity and, thus, the rigor of a study.' (Morse et al. 2002). Accordingly, the research design adopted in this study is not linear; in other words, the research approach shifted iteratively between design and implementation. This approach ensured 'congruence among question formulation, literature, recruitment, data collection strategies, and analysis' (Morse et al. 2002, p. 17). I regularly reviewed the analysis and interpretation with supervisors, practitioners and scholarly peers, enhancing the rigour of the research with a chain of evidence available through recorded and transcribed interviews and meeting observations, and the use of the NVivo qualitative data analysis software to help code, manage and organise the data. These verification strategies were an important aspect of optimising the research contribution of this study. To recap, this study was designed to explore in depth the different kinds of value perspectives stemming from a variety of stakeholder perspectives that could influence PPM decision-making. The research methodology applied a pragmatic perspective and sensemaking approach to guide an iterative qualitative study that incorporated multiple case studies and a series of expert panel workshops.

Findings and Discussion

This section first briefly reiterates the overarching themes and research issues stemming from the literature to place the research contributions in context. It then presents the synopses of Papers 1 to 6, highlighting the specific themes and contributions for each of the publications. The final section in this discussion draws together the contributions made by this research to knowledge, theory, practice and research, before considering research limitations and proposing future research.

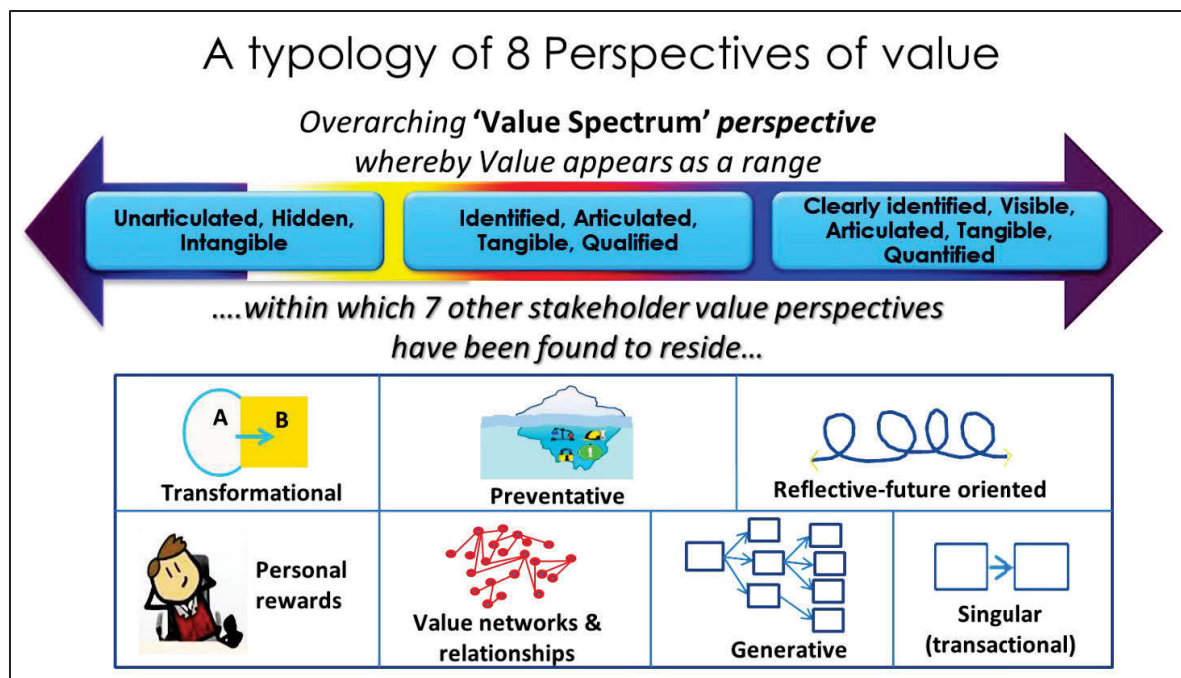
Key themes and research issues

A primary finding that threads through this thesis across the papers is how value is understood by different stakeholders in different project portfolio contexts. This research reveals an alternative way in which various stakeholders could view value. Although the initial exploration looked to extend the types of value dimensions common in the literature (such as financial, environmental, ecological, social, technological, reputation or knowledge values), new patterns emerged during the data analysis that revealed a range of perspectives on value. Instead of specific dimensions and measures of value, the perspectives revealed ways that value comes to be. This included the avenues for creating value and perspectives by which views about value transcended any particular dimension or measure of value. These new insights into the perspectives of value led to the development of a framework (the typology of value perspectives) that went beyond the typical domains, dimensions or types of value identified in the literature.

Although the PPM literature points out issues of conflict and varying expectations as a result of having multiple stakeholders in a project portfolio, there is little guidance on what value is, particularly from the perspective of multiple stakeholders and how it can be translated into practice for PPM decision-making. Non-financial value that has been more commonly addressed by the literature surround dimensions such as economic, moral, aesthetic, social, political, religious and judicial values (Elias 1998), monetary assets, alliances and relational capital, intellectual, human and structural capital (Allee 2000b). Basole (2005) and Gregor et al (2006) suggest perspectives of ‘transformational value’ in IT investments. Other intangible value dimensions discuss improved services, enhanced trust or social capital, or diminishing or eradicating social problems (Horner & Hazel 2005) or the ecological, social and learning dimensions of value (Martinsuo & Killen 2014). The alternative considerations of value beyond the common dimensions include the customer’s experiential value (Grönroos & Voima 2012) and the notion that value evolves through past, present and future experiences (Grönroos & Voima 2012; Helkkula, Kelleher & Pihlström 2012; Voima, Heinonen & Strandvik 2010). This study has responded to the need highlighted in the literature to rethink and extend PPM value considerations beyond financial and commercial value, particularly through a practice-oriented research approach. The following paragraphs present an overall view of the key findings, while each of the papers in this thesis address different aspects of that need.

My initial analysis of how stakeholders perceive value in the portfolio was guided by the literature, resulting in the categorisation of more commonly recognised value dimensions, for example, Knowledge, Technology, Capability, Innovation, Funding, Networks, Environment, Publicity and Community Engagement (more about these categories of value is discussed in Paper 5). As the research progressed, I gained alternative insights into how value is created, which demonstrated how an understanding of value can be built from many micro-constructs or expressions of value emanating from a variety of stakeholders. The analysis revealed patterns in the expressions of value and identified particular value perspectives that were not mentioned in the PPM literature. These stakeholder expressions of value were found to go beyond the usual categories or dimensions of time, cost, scope, reputation, customer satisfaction or environmental value. These new insights revealed a higher order or level of value. As a major aspect of the analysis about these constructs of value, I derived a new framework in the form of a typology of value perspectives in multi-stakeholder environments (Figure 5). I propose that this typology can help in PPM decision-making by bringing the existence of multiple types of stakeholder perspectives to the fore in order to generate awareness among managers about such perspectives. This can serve to prompt new thinking or catalyse discussions about value in multiple stakeholder environments.

Figure 5: The typology of value perspectives in multi-stakeholder environments



Instead of focusing on particular dimensions of value (for example economic, social, environmental, knowledge or reputational value), the typology developed in this thesis expands the way value is viewed by identifying the various ways it is perceived or created by different stakeholders in PPM. The development of the typology is a major contribution of this research as it extends the contemporary discussions and theories about the broader conceptualisations of value in the project management discipline (Laursen & Svejvig 2016; Winter et al. 2006).

The value perspectives are:

1. 'Value spectrum' (overarching value perspective)
2. 'Transactional'
3. 'Generative'
4. 'Transformational'
5. 'Networks and relationships'
6. 'Personal rewards'
7. 'Reflective-future oriented value'

8. 'Preventative'

As the typology is reflected in most of the papers in some manner, I present a brief explanation of the typology here. The typology of value perspectives demonstrates that there are many ways that stakeholders perceive PPM value. Although each of the identified types represents a distinct perspective of value, in practice these perspectives are not mutually exclusive.

1. The '*value spectrum*' forms an overarching perspective that exists within each of the seven other perspectives. Most common expressions of a spectrum or range in this perspective include the tangible and intangible aspects of value, for instance, the unarticulated (qualitative), intangible and unmeasurable aspects of value versus clearly articulated, defined and measured (quantitative). Spectrums can also be based on time (for example, short–long term), cognition and emotion (rational/logical-emotional), individual-collective viewpoints or function (operational-strategic).
2. The '*transactional value*' perspective describes value in terms of singular exchanges of payment for labour, goods or services. Value or deliverables derived are usually planned (deliberate), expected and articulated upfront. Examples in this realm include routine, task-oriented projects or a simple contractual project.
3. The '*generative value*' perspective refers to projects that act as enablers and generate value for the other projects and programs in the portfolio and organisation. Here, value that is generated through projects and activities is not static but flows on (ripple effect) to deliver value in other areas, in the present and future, to benefit different stakeholders. Value in this perspective could be planned or it could emerge over a long period, that is, the '*generative value*' emerges as work unfolds. Examples include aggregated project deliverables generating value for other business units or involvement in rare medical cases generating opportunities for innovation value in the medical field.
4. '*Transformational value*' tends to come from projects that contribute to change management, systems or breakthrough innovations. Value in this perspective means the ability of a project or program to change or transform the current circumstances of a business or individual, for instance, the quality of the projects, portfolio or organisation. Projects in the portfolio can add '*transformational value*' through a deep enhancement of the reputation of the teams, business or units, or through

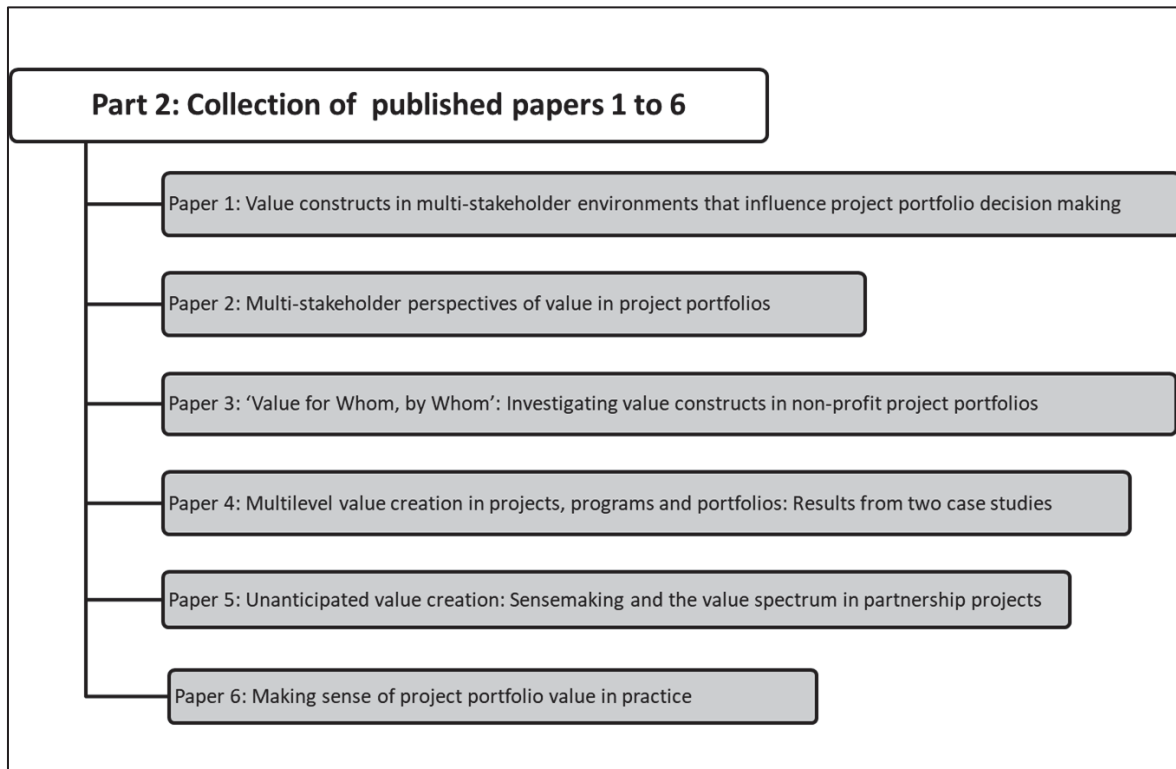
strengthening the strategic purpose of the portfolio. ‘Transformational’ perspectives of value are likely to have a longer-term time frame, since the impacts of change through the projects in a portfolio may take time to emerge. Examples include disruptive technologies or medical interventions that transform a patient’s (and their family’s) way of life. Projects that facilitate changes to stakeholder mental models in the way business is practiced, or the way project and portfolio management is practiced in the system could result in long-term value for both the portfolio and organisation.

5. The ‘*networks and relationships*’ perspective relates to the opportunity to build and use alliances and partnerships that add value to the portfolio. This includes collaborative relationships (Agarwal & Selen 2009). This perspective also describes the ability of stakeholders to engage with other stakeholders and add value through their own experiences and connections with others. The strength of the relationships can determine the magnitude of the value contribution towards the portfolio. Examples include joint ventures and partnerships that help enhance project capabilities, joint fund raisers, referrals for knowledge networks and network supports that accelerate or enable further efficiencies in a chain of events in projects and portfolios.
6. The ‘*personal rewards*’ perspective represents what stakeholders consider as ‘what's in it for me?’ Examples include stakeholders placing value on career promotions personal visibility or personal and team satisfaction from the project portfolio.
7. The ‘*reflective-future oriented*’ perspective looks at both the retrospective and future oriented elements in a project, using a back-and-forth ‘rolling hindsight’ from sensemaking (Weick 1995). An example of this is how project learnings that have contributed to the overall portfolio are recognised only upon reflection. This perspective considers value from the past, present and the future; future value is derived from anticipation of future project opportunities. Hence the perception of value in this context is not static, it shifts (Grönroos & Voima 2012) based on past experiences, present realisations and future anticipations and value realised in the past may pave the way for present and future opportunities. This perspective may assist managers with identifying the tipping points of knowing that the projects may have had little/some value at the start but that in hindsight the overall value can in fact be greater.

8. *'Preventative'* value is derived from value that has been created but is largely invisible to the general public and employees and taken for granted. Examples include asset or utility maintenance projects or health and safety projects in a portfolio that are based on preventative actions. This perspective is observed in decision-making under conditions of risk and uncertainty and where project investments are about prevention or minimising negative consequences to the portfolio or organisation. For instance, business cases built around the endpoints of risk reduction, or projects that demonstrate the downside of not investing, where possible negative outcomes could be major and sufficiently devastating as opposed to the often invisible upside (normality, maintaining the status quo of the investments). The value provided through these types of projects is important, even though certain stakeholders may neither notice nor realise the value of the relevant R&D or operational projects that are based on prevention or maintenance. While some stakeholders find value in these projects, others may not be aware of (or not appreciate) the perspective this value takes. Examples include generating information and interventions that reduce performance risk or to avoid harm, preventative projects that manage risks, such as accident prevention, avoiding 'imploding' occurrences (catastrophic events) that incur high costs for the organisation and its community and risk reduction projects or programs to prevent or manage medical disasters.

The next section provides an outline of each paper, including a brief synopsis, the research issue(s), the aims of the paper, key findings, propositions, contributions and the implications. Figure 6 illustrates the order of the papers in this thesis.

Figure 6: Papers and titles



Synopses of the papers

Paper 1 (Euram 2015, Conference Paper) - Value constructs in multi-stakeholder environments that influence project portfolio decision-making

Paper 1 launches the conceptual discussion about value constructs in multi-stakeholder environments that influence project portfolio decision-making. This paper reviews and synthesises organisation, business, stakeholder management and project management literature to conceptually frame different perspectives of value from a PPM perspective. It integrates stakeholder theory and sensemaking concepts in its investigation of value in multi-stakeholder portfolio environments. It explores value and its management from a wide range of perspectives, including a systems and networks perspective and it discusses the complexities of project and portfolio 'value' due to the multiple and sometimes contradictory expectations of different stakeholders who participate in and influence the ways in which PPM decisions incorporate value.

The review concludes that contemporary project portfolio management approaches need to look beyond the tangible and financial constructs of value in PPM and suggests areas for

future research. The exploratory research questions proposed in this paper are sub-questions of RQ1 (*How is value understood in practice by different stakeholders in different portfolio contexts?*):

- How is value constructed by different stakeholders in different contexts? and
- How do the multiple perspectives of value inform portfolio decision-making in practice?

The paper proposes a research approach that incorporates a sensemaking orientation in the research design. This involves multiple case-studies of a diverse sample of project-based organisations and the use of expert panels to triangulate the findings.

Paper 2 (Euram 2016, Conference paper) - Multi-stakeholder perspectives of value in project portfolios

and

Paper 3 (Journal Paper) - ‘Value for Whom, by Whom’: Investigating value constructs in non-profit project portfolios

Papers 2 and 3 explore how different stakeholders construct value in the public, private and non-profit sectors. They reinforce that notion that while PPM is considered to be instrumental in integrating projects and programs with organisational strategies, there are still concerns about current PPM approaches to managing and maximising value, due to the complexities surrounding value concepts themselves. The ways in which value is perceived by each stakeholder varies. Beyond the dominant perspectives of financial and commercial value found in most project portfolios, these two papers address RQ1 (page 19) and RQ2 (page 20) to shed light on the question of ‘*value for whom, value by whom?*’ through introducing a broader range of value constructs that could better support portfolio decision-making in different multi-stakeholder environments.

Paper 2 incorporates evidence of multiple stakeholder value constructs encompassing the public, profit (private) and non-profit sectors. The paper finds that PPM practices do not generally cater for the wide variety of perspectives on value, thus potentially limiting the ability to recognise and maximise portfolio value during decision-making. It is in this paper that the typology of value perspectives is presented for the first time. The paper also suggests

that viewing the stakeholders' micro-constructs of value can be viewed at a higher level, that is, from the project portfolio level, to obtain systems-level insights into the emergent and long-term nature of value realisation.

Paper 3 focuses specifically on value constructs in a non-profit project portfolio environment. It discusses some early and contemporary views of value to imply that constructing value in project portfolios needs to take into account stakeholder perspectives. The paper demonstrates how value is portrayed from the different stakeholder perspectives, for example through narratives, presentations, videos and photographs, to help stakeholders appreciate the intrinsic, intangible and 'transformational value' of the work done in projects.

The findings in both papers reveal the many ways in which value is described, understood and constructed by different stakeholders, and how an understanding of value is built from the many micro-constructs of value emanating from a variety of stakeholders. Both papers present a typology of value perspectives that aim to guide and improve practice by extending the range of values that are perceived, considered and anticipated for PPM decision-making. There are further similarities, as well as several distinctions, to be pointed out between the two papers. Both reveal how considering value in hindsight could add further value to the portfolio, although these values emerge only retrospectively, that is, through consciously reflecting on the past. For certain projects, 'transformational value' and 'generative value' may be realised, depending on how the stakeholders or organisations use the project deliverables to aggregate and capture flow-on value. The evidence of transformational IT project contributions is congruent with other studies on IT value contributions to organisational transformation (Basole 2005; Gregor et al. 2006). The papers imply that decisions made in the present and the value generated are not unique to any one project and could add long-term value to the overall portfolio, its stakeholders and their associated communities.

Two elements distinguish Papers 2 and 3 from each other. First, the perspectives that made up the typology differed slightly when different methods of analysis were used. The data in Paper 2 was analysed through a manual coding process, while the data in Paper 3 was analysed using NVivo. As a result, at the time that Paper 2 was published, the 'Personal Rewards' perspective had not yet become apparent in the manual coding process of the analysis. This perspective was not discussed as a value per se, but became apparent and

prominent in the non-profit sector when NVivo was applied as an additional analysis procedure in Paper 3 to further organise and refine the codes and themes. This advantageous analytical triangulation method was a valuable research lesson that having more than one analytical method can reveal themes that may be missed if only one analysis method is used. Second, the non-profit sector portfolio described in Paper 3 revealed no strong instances of the ‘Preventative’ value perspective. Rather, this perspective was observed more prominently in the public and private sectors discussed in Paper 2. As more insights unfolded through the reflexive research process, the typology development of value perspectives and the concept of the ‘value spectrum’ was refined in future papers.

The next paper extends the exploration of multiplicity of value by looking at the various project (micro) to portfolio (macro) levels of value held by different stakeholders in organisations.

Paper 4 (Handbook of Organizational Management, Book chapter) – Multilevel value creation in projects, programs and portfolios: results from two case studies

The previous papers demonstrate that stakeholders can perceive value differently at different points in time, which highlights the point that value is non-linear and can cover a wide spectrum of ways in which value is expressed. Deeper analysis of the data patterns reveals that portfolio elements in an organisation have particular interdependencies from both the top down and bottom up that contribute to the value of the overall portfolio. A further research question emerged during the analysis (RQ3): *‘How might managers deal with value (including interdependencies) across different organisational levels and stakeholder groups?’*

Paper 4 explores the wider aspects of value by introducing a multi-level, multi-dimensional perspective of value in organisations that accounts for the diversity of value to be created for multiple stakeholder groups. It discusses the aspects of values (i.e., short-term and long-term strategic value, tangible and intangible value) that occur at the micro, meso and macro levels of an organisation, incorporating respectively the project, program and portfolio management levels. Two of the six case studies are discussed in this paper to provide diverse contexts from the public and for-profit organisational settings and to illustrate how value is created across these distinct, yet inter-connected, organisational layers. In considering value in project portfolios, what is distinct in this paper is that value is explored from an

organisational project management (OPM) perspective. The term OPM describes an integrative approach to multi-project management and governance (including projects, programs and portfolios) throughout an organisation's hierarchy and networks (Aubry, Hobbs & Thuillier 2007; Sankaran, Müller & Drouin 2017). The paper posits that value in organisations is demonstrated as a reciprocal and interdependent process in which macro-level (portfolio) values shape and are shaped by the lower-level values at the meso (program) and micro (project) levels. The findings imply that it is important to define and understand the intended contribution of a project towards the bigger picture of an organisation. From a macro perspective, a portfolio manager is able to provide a 'big-picture' approach to projects and programs to identify and reduce redundancies while optimising valuable synergies.

This paper also contributes several themes relating to multi-level value interdependencies. These include a focus on governance and optimisation, stakeholder engagement to manage and optimise interdependencies, and the need for clarity and accurate priorities, including promised value deliverables. Additionally, prioritisation based on time horizons and value tracking are presented as important mechanisms in an interdependent multi-level environment. Power, politics and stakeholder relationships are also highlighted as important considerations in an interdependent value creation and delivery environment. Overall, a sensemaking approach is suggested as a way to engage, drive and integrate multi-level organisational value creation, particularly where the values for different stakeholders evolve during the management of projects, programs and portfolios.

Paper 5 (IRNOP 2015, Conference paper) - Unanticipated value creation: sensemaking and the 'value spectrum' in partnership projects

The article that constitutes Paper 5 (and publication of which preceded that of Papers 2 to 4) addressed RQ1 (page 19) and helped start an evolution in the way that practitioners and scholars now think about value, from discrete categories or dimensions, such as Knowledge, Technology, Capability, Innovation, Funding, Networks, Environment, Publicity, and Community Engagement, towards perceiving value as a spectrum.

Paper 5 explores the dimensions of value across a public-sector R&D partnership project, where external stakeholders were involved as collaborators or partners, rather than suppliers or customers in the overall portfolio. The paper reveals a variety of valuable outcomes from project and portfolio activities. First, it highlights how unanticipated values from a project

can add value to the overall portfolio. Second, it illuminates the complexities of defining and managing value by investigating management decisions to persist with a partnership project despite indications of possible failure, and how value was ultimately created. Third, the findings reveal value existing as a range that shifts from the intangible (qualitative) at one end of the spectrum to the tangible values (quantitative) at the other end. The paper provides a practice-based example of how intangible values are translated into tangible measures.

This paper contributes a model that illustrates the ‘value spectrum’ to guide portfolio decision makers involved in partnership projects. The data patterns reveal the multiple ways that stakeholders express and recognise value, including unanticipated and emergent value. The paper contributes to practice by suggesting that a sensemaking approach to clarifying and identifying value constructs among different stakeholders would be an important process to capture value expressions that have yet to be recognised or articulated. Some of these tacit values may stem from individual experiences of value. Sensemaking practices are shown to facilitate the identification, clarification and alignment of multi-stakeholder value dimensions and expectations for partnership project and portfolio decisions and outcomes. The paper recommends that sensemaking practices should occur early in complex projects and portfolios with multiple stakeholders.

From the findings and discussions in this paper, I present five propositions:

- **Proposition 1:** Dimensions of value could be viewed as a spectrum of values, ranging from the intangible (qualitative) to the tangible (quantitative).
- **Proposition 2:** Sensemaking practices can help facilitate the identification, clarification and alignment of multi-stakeholder value dimensions and expectations for partnership project and portfolio decisions and outcomes.
- **Proposition 3:** Sensemaking practices in PPM value constructs occur throughout the ‘value spectrum’.
- **Proposition 4:** Unanticipated or unexpected project outcomes can contribute to long-term portfolio value.
- **Proposition 5:** Relationships with stakeholders can enhance the identification and articulation of value in projects.

These propositions had some influence on the sub-questions in the research, in that they

sparked a further exploration and interrogation of the literature about sensemaking concepts beyond the field of project management. As a result, the sensemaking concepts and ‘value spectrum’ were further developed, thereby contributing to the typology of value perspectives. Additionally, propositions 1, 2, 3 and 4 were explored in further depth by the HDEP expert panel discussions, specifically in relation to the realities of tangible and intangible value in practice. The findings from these discussions are given in Paper 6. The discussions suggested that decision-making is not always based on definitive quantitative metrics and prioritisation frameworks (tangible), but is sometimes based on gut feel (intangible). Value concepts oscillate across the spectrum and decision-making is said to be based on plausible outcomes, which is a characteristic of sensemaking. Proposition 4 states that unanticipated or unexpected project outcomes could add to long-term portfolio value. HDEP panellists commented that being aware of the various perspectives could provide managers with the momentum to think about and discuss how value can be identified, captured, delivered and reviewed for both the short and long term. This could be extended and verified further in future research. The characteristics of sensemaking theory are reflected well in Propositions 1 to 4 through the discussions and contributions stated in Paper 6.

Proposition 5 about the relationships and multi-levelled interdependencies of value creation across projects, programs and portfolios in an organisation was discussed and confirmed in Paper 4.

Paper 6 (IRNOP 2017, Conference paper) – Making sense of value in practice

As described early in this exegesis, the research design of the total study comprised a two-fold overlapping qualitative multi-methods design that was open and reflexive and consisted of six case studies and three HDEP sessions. Paper 6, the final paper for this thesis, consolidates all the research of this thesis, presenting the HDEP (Method 2) findings in the context of the overall study.

The research described in this paper applied sensemaking concepts in a verification process to explore how practitioners make sense of value in practice. Themes and concepts derived from the case studies were discussed in expert panels that were interspersed throughout the multiple case-study research. The expert panel sessions were used to test the themes developed from the research, including sensemaking in practice, panellists’ response to the typology of value perspectives, the relevance and usefulness of the typology in practice and

as a result develop new knowledge in the subject area. The main research question and sub-question addressed in Paper 6 were:

RQ4: In practice, how do managers make sense of what is valuable (beyond financial value) in a project portfolio?

- *What type(s) of guidance might assist managers to harness and integrate a wider range of stakeholder values in PPM environments?*

The complexity that accompanies dealing with different perspectives of value in PPM is highlighted. The perspectives found in the typology incorporate sensemaking dimensions of time, space and distance. The paper contributes to practice by raising the awareness of managers about the various value perspectives that could provide more holistic and integrated dialogue about tangible and intangible values in project portfolios. By using sensemaking principles through the typology, this study offers managers a fresh way of identifying complex and emergent information about project portfolio value among their stakeholder groups. The typology could assist with stakeholder engagement and negotiation by encouraging collaboration and communication through applying different types of questions to make sense of various stakeholders' points of view. Feedback from expert panellists suggests it could be used as a thinking tool, likened to Edward de Bono's Six Thinking Hats (1999).

This paper contributes to the extension and application of sensemaking perspectives and their relevance to PPM research methods and practice. For research, it provides qualitative researchers with an alternative empirical multi-methods approach for their research methodology that incorporates verification strategies to explore multi-faceted topics through the use of sensemaking. In practice, the findings suggest that managers get involved in sensemaking practices through various mediums of communication and human contact. These include emails, print and digital material, social media, gatherings and meetings in order to observe, seek, clarify, discuss, negotiate and thereby, deepen their understanding about the range of value expectations for different stakeholders at different points in time. The sensemaking practices identified in the study imply that PPM managers could further engage with stakeholders to identify a clear purpose for the portfolio, understand stakeholder interests and expectations, clarify value interdependencies across the organization levels and ensure that the stakeholder values are defined and aligned through a shared language with

shared meanings. This requires the early involvement of stakeholders in project portfolios. The ability to identify and manage stakeholder power and politics whilst managing information flows that are open and multi-directional also contribute to practices that could help managers make sense of what is of value to stakeholders.

Overall contributions

This thesis draws on the sensemaking concept and extends its theoretical applications into the area of PPM along the dimensions of value and multi-stakeholder management. The research was conducted through a pragmatic two-fold qualitative methodology to address the main research question ‘*How is value understood in practice by different stakeholders in different portfolio contexts?*’ In addressing the research question, this thesis contributes to knowledge, theory, research and practice.

Overall, the key contributions of this research are as follows:

- **Contributes to knowledge** through the creation of a **novel typology of value perspectives** that applies sensemaking principles to provide a fresh and alternative way in which value is perceived and applied in PPM. Furthermore, this research contributes through a **literature synthesis** that brings together the concepts of value, stakeholder theory, sensemaking and PPM to address the research issues. Bringing these fields together is particularly important in project portfolio environments, as managers often need to consult and engage with multiple stakeholders to make decisions that balance, prioritise the project mix and maximise the value of the portfolio.
- **Contributes to theory** through the **theoretical development of sensemaking** in the PPM discipline. On one hand, the integration of sensemaking and practice-based perspectives of value and stakeholder management guides the research process in order to deeply explore how value is understood in practice by different stakeholders. On the other hand, the research extends the theory of sensemaking by applying its principles to the field of PPM.
- **Contributes to research methodology** through the development and use of a **novel sensemaking research approach** to draw together deep concepts that are difficult to categorise and often neglected. Through an alternative **empirical multi-methods approach** that is pragmatic, deliberate and organised, yet open, flexible and includes verification strategies, the research provides guidance for qualitative research into subjective and complex areas of practice-based research.
- **Contributes to practice** by providing a **lens for managers** to make informed decisions about project portfolios by incorporating a value perspective that extends

considerations beyond currently applied practices. The research indicates how practitioners can probe and understand the various ways in which stakeholders perceive value. Feedback from participants has demonstrated that the typology could be useful in practice.

Each of the above-stated contributions are elaborated upon in the following section.

Contributions to knowledge

The research contributes to the knowledge about value in PPM by presenting a novel value framework in the form of a typology of value perspectives that considers different stakeholder perspectives of value. These alternative ways of articulating value perspectives are not currently represented in the PPM literature. The value typology introduces a fresh paradigm or holistic way of thinking about value. This added perspective changes the debate and discussions about value and raises the quality of discussions in the world of value maximisation across project portfolios and organisations. The typology demonstrates an alternative worldview of value that has several points of distinction. First, it draws attention to the pluralistic, subjective and complex nature of value that requires a form of ‘value sensitivity’ or ‘intelligence’ akin to emotional intelligence as described by Goleman (2006) or inspired by the concept of multiple human intelligences as founded by Gardner (2011). The typology could also be used as a thinking tool, likened to Edward de Bono’s *Six Thinking Hats* (De Bono 1999), as stated in Paper 6. Second, the typology describes a set of higher-order abstraction of value perspectives that incorporates the complex and dynamic nature of engaging with multiple stakeholders beyond the more commonly addressed value dimensions that include economic, financial, technological, social, ecological or political values.

From a process perspective and systems frame of reference comprising the interdependent micro, meso, macro and mega systems, this research demonstrates theoretically how tracing the individual stakeholder micro-constructs of value leads to higher level and longer-term values (for example, ‘generative’ and ‘transformational’ values) that could translate across the components of a portfolio, organisation and beyond. These insights reveal outcomes that include the mega (societal) contributions made by Kaufman (2012), thus extending the theoretical focus of portfolio value to include its impact on families and communities and on national and international interests.

This research advances the knowledge of value in the PPM field by synthesising literature from and beyond the fields of project and portfolio management, to include stakeholder theory, sensemaking and value to address the research questions in depth. This study links to other recent value-based studies in the project portfolio field (Killen, du Plessis & Young 2012; Kopmann et al. 2014; Thiry 2001, 2002) by extending the knowledge of strategic value and multi-stakeholder management to a diverse sample. In addition, other theories and disciplines, including pluralism, process and paradox theories, knowledge management and the consideration of PPM practices and value concepts from the public, private and non-profit sectors, provide a broader view to inspire and address the research issues.

This thesis contributes to the overall understanding of PPM by providing insights into the multi-perspective aspects of value and the management of portfolios in complex environments involving multiple stakeholders. It reinforces the knowledge about project and portfolio value creation for stakeholders by demonstrating and confirming the extant literature about the complexity of understanding value creation, since value can be emergent and extend beyond the life cycle of projects.

Knowledge is further extended by the research through the added depth and breadth of understanding around how managers make sense of, interpret and integrate value perspectives in practice. The new definition for multi-level value interdependencies in Paper 4 adds to the knowledge of OPM. The research contributes to the advancement of knowledge in the context of OPM through demonstrating that value management in project-based organisations is a reciprocal and interdependent process in which macro-level (portfolio and organisational) values shape and are shaped by the lower-level values at the meso (program) and micro (project) levels.

Moreover, the combination of practice orientation in project management research with sensemaking theories contributes to new empirical knowledge and insights into the ways in which portfolio value is considered and constructed by multiple stakeholders by incorporating dimensions of time, space and distance.

Contributions to theory

This study contributes to theory development in the PPM discipline through integrating sensemaking and practice-based perspectives of value and stakeholder management to

support the research inquiry.

The approach taken with sensemaking is a two-way contribution. It contributes to PPM by providing another approach that inspires scholars in using sensemaking in general and it adds to sensemaking theory. This contributes to theory by demonstrating how the use of sensemaking perspectives can provide insights into a practice-based field like PPM, and as a methodological example research into subjective topics.

Sensemaking also helps to illustrate how value is dynamic in nature, can be based on time and in space, in terms of direction and non-linearity. In demonstrating that sensemaking practices facilitate the identification, clarification and alignment of multi-stakeholder value dimensions and expectations, this research contributes to sensemaking theory by integrating this perspective into the PPM field.

Contributions to research methodology

This research extends the relevance and application of sensemaking to PPM research methods and practice. To address the aspects of complexity and subjectivity that come with practice-based research areas such as value constructs involving multiple stakeholders, the research design showcased a novel sensemaking, pragmatic perspective through a qualitative methodology that was structured yet open and iterative.

This research provides qualitative researchers with an alternative empirical multi-methods design and approach that incorporates verification strategies to explore complex and multi-faceted topics. This was achieved through the use of sensemaking in the research methodology (as described above), as well as the inquiry into and observation of sensemaking practices among project portfolio stakeholders. The study demonstrates an analysis structure that linked the micro-level data (micro-constructs) to the themes or clusters and macro-level abstractions to reveal patterns of value across six case studies.

This is the first in-depth qualitative study of its kind to compare different project portfolio cases across the public, private (profit) and non-profit sectors. It drew out learning insights from cases and expert panels faced with the subjective realities of value and the solutions adopted in actuality, thereby providing fresh perspectives that are beneficial to all.

This research therefore provides an in-depth baseline upon which future researchers can draw

to (1) develop metrics based on the typology, (2) to quantify or measure the extent to which these perspectives or dimensions occur or to (3) map out value networks in project portfolios that are critical to portfolio decision-making.

Contributions to practice

The research contributes to practice by offering a typology of multi-stakeholder value perspectives that could be used as a lens through which to extend the range of values that are perceived, considered and anticipated for PPM decision-making. Managers could use the typology and ‘value spectrum’ model as sensemaking tools to encourage a wider discussion about value that in turn could help them consider various ways of sensing, probing, engaging and identifying value relevant to their portfolio decision-making.

Feedback from the expert panel sessions suggests that the typology of value perspectives could act as a prompt to help managers capture subjective nuances and provide checks and balances for a more holistic and integrated dialogue about tangible and intangible values in project portfolios.

Research limitations

This research provides a framework that is proposed to improve PPM decision-making by prompting practitioners to consider alternatives beyond the financial and economic value perspectives. Some confidence has been gained through the verification process embedded in the research design. The case studies were conducted in Australian organisations across selected sectors (public, private and non-profit) and in selected industries (medical aid, healthcare, utilities, asset management, finance and manufacturing), and these may not be generalisable to other contexts, sectors, industries or countries.

In testing the typology through the HDEPs, the panel sizes were designed to promote in-depth discussions and debates. The questionnaires were not designed to generate statistically significant findings, which limited the results to being indicative, rather than statistical.

Another limitation was that the practitioner feedback was limited to the HDEPs, and practical implementation was not included in the study’s scope. The typology had not yet been applied in a practical setting and therefore could not fully explore the ways that the perspectives might be implemented, adapted, applied and translated into practice in different contexts.

Additionally, the added complexity of these value constructs resides in the overall system in which they take place. These include the organisational system's culture, structure, strategies and goals, norms, practices and policies; communication channels; internal and external stakeholders; the context and environment of the project portfolios, and the preconceptions and assumptions of the people involved. Due to the pluralistic and paradoxical nature of complex systems such as project portfolios and organisations, it was not possible to fully explore these perspectives and systems in the scope of this research.

Bias is a risk in all research and there is a possibility that methods bias and personal interpretations by the researcher and participants might have influenced the findings. To mitigate this risk, the study was designed with triangulation and verification mechanisms in place. This included referring to information from documents and other sources when interpreting the data derived from the interviews and integrating practitioner feedback through the HDEP workshops,

Areas for future research

Although the HDEPs in Method 2 provided some feedback from practice, the research was not designed to measure the impact of the research outcomes in practice. There is scope to test the implementation and usefulness of the typology in a practical setting to explore the full range of the typology's applications and its ability to enhance discussions and expand value in the portfolio, as well as identify its limitations in the field. Managers need time to understand the purpose and use of the typology in a way that allows them to gain competence as it unfolds in portfolio practice. This will further increase confidence in the practical validity of the research produced so far.

Participatory approaches like action research could be used to further test, refine and validate this typology in the field. There is also scope for organisations to co-develop metrics so that the typology can be a lens to identify the various types of value that might have impact on a portfolio. In turn, a process or structure to measure or capture the multiple perspectives to translate these perspectives into possible monetary or economic value could be developed.

Since this research focused on Australian organisations and was limited in the scope of industries it investigated, further research using more case studies in different types of portfolios, industries and countries could be designed to incorporate contrary and parallel

cases in different contexts to advance the research (Yin 2013). Additionally, while the research has identified and explicated the various value perspectives in PPM across different sectors or industries, there are opportunities to compare, contrast and evaluate the degree to which they are represented in the various (private, public and non-profit) sectors.

Ethical considerations

This research applied a rigorous in-depth qualitative methodology with deep involvement from research participants through multiple case studies using individual as well as group interviews and workshops. Due to the degree of engagement between participants and researchers, ethical considerations were carefully considered. This research was designed to meet the requirements of the NHMRC National Statement on Ethical Conduct in Human Research (2007) and was approved by UTS Ethics Committee (HREC), ref. no: 2014000114. Participant and organisational anonymity and confidentiality has been maintained at all times as per the ethical codes of conduct. An example of participant communication to ensure and affirm informed consent is included in Appendix 4.

Research reflections

Having spent 15 years working in a customer-driven corporate research and management environment, I took a very different attitude in the academic pursuit of my research than I would have done if undertaking the research commercially for a client-paying stakeholder. The commercial world would have required me to have tight and neatly set boundaries, clear expectations of my deliverables at the end and a strategic outcome or way forward. What was different with this research was what I felt was the wonderful privilege to explore the topic with no set agendas. This did not mean that I did not know where I was going or had no vision nor purpose; rather, the research questions provided the impetus for me to both focus and venture widely.

The aim of my research topic was to explore how value was understood by different stakeholders in project portfolios. This study could be considered by some to reflect a process perspective that could provide new insights in contemporary organizing in its exploration of value in portfolios and organisations. Process studies attend to the evolving phenomena and temporal progressions found in organisations in terms of ‘how and why things emerge, develop, grow, or terminate over time’(Langley et al. 2013). When the process of

sensemaking is applied, it assists in progressively reducing equivocality in an organization (Hernes & Maitlis 2010). Furthermore as discussed in the literature, tensions, contradictions and paradox are prevalent in pluralistic and complex organizational settings. The process orientation provide a salient and contemporary view of the organisation whose performative nature is acknowledged as ‘increasingly complex, dispersed, dynamic, entangled and mobile’ (Hernes & Maitlis 2010, p. xv). Subsequently, sensemaking (Weick 1995) is acknowledged by process-oriented scholars as possibly the ‘best-known process approach’ by Hernes and Maitlis (2010, p. 8) in terms of inspiring contemporary organizational researchers. At one juncture in the research, I felt that taking into consideration the multiple views of stakeholder value across space and time was on the one hand grand and admirable but on the other hand rather impossible to resolve, and in the same box as ‘the meaning of life’. I experienced the research about value as fluid and pragmatic. According to Denzin and Lincoln (2000), the most successful researcher is one who is self-reflexive. On one hand, I was uncomfortable with the idea of research that was open and iterative, that was not a tight, concrete, research process. The iterative nature of the research was also a challenge, as I needed to know when to stop the research and analysis. I had to determine the scope and boundaries of the research and recognise saturation points in the data. I was required to deal with the subjectivities that accompanied qualitative analysis and interpretation, and had to learn to trust the data. On the other hand, I found reassurance in Denzin’s statement of self-reflexivity, as I was constantly thinking about the research tasks at hand, and the methodologies that were being applied and adapted to the research process. The research drew upon different tools and techniques as the need arose. This reflexive characteristic was further reinforced by Strauss and Corbin (1998), who stated that concepts and design need to be allowed to emerge during the research process.

The overall research process that I went through might also be viewed as a ‘theoretical tinkering’ or being a bricoleur (Turkle & Papert 1992), in that it was about piecing together different materials and literature, arranging and rearranging the concepts and themes at hand, and thinking through the research processes iteratively until some sense emerged in the findings. While there are multiple layers of data interpretation, the analysis of the findings is a conversation between me, the researcher, the data that have been gathered and the reader.

While the purpose of my research remained grounded in the aim of exploring how value is understood by different stakeholders in project portfolios, my curiosity fuelled my enjoyment

of the iterative rounds of data collection, analysis, evolving research questions and triangulation efforts, all of which culminated in the development of a typology that provides an alternative view of how value is perceived in practice by different stakeholders.

I personally find it difficult to reflect upon my own work without appearing self-indulgent or narcissistic, yet I feel confident that the research has contributed to the field of PPM.

The research in this thesis is not intended to provide a silver bullet for maximising PPM value. There is an irony in this topic whereby it is subjective, and the value of my thesis lies in its contributions to handle subjectivity and complexity in research and value management, through the assumption that pragmatism combined with a sensemaking methodology and iterative approach is novel to the PPM field of research. These assumptions and orientations have resulted in a research design that may assist other researchers in their development of qualitative studies about subjective and complex topics. Moreover, the research design and methodology is aligned with the recent call for more of this type of research by Geraldi and Söderlund (2018) for the advancement of project studies. In their paper, the research in this thesis would be identified as ‘Type 3 research’ (Geraldi & Söderlund 2018) whereby it engages in practitioners’ realities and languages to produce findings that are relevant and pragmatic yet rooted in theory within and beyond management and organizational studies.

Conclusions

In its investigation into value in project portfolios, this research brings together the theoretical concepts of value, stakeholder theory and sensemaking. Based on the complexities and multiplicities surrounding value in project portfolios, this research embarked on a pragmatic journey to address the overarching research question ‘*How is value understood in practice by different stakeholders in different portfolio contexts?*’. This study incorporated a novel way to draw together diverse and subjective value perspectives that can often be overlooked in practice. This was achieved by applying a multi-methods research design underpinned by a pragmatic perspective and sensemaking principles.

The findings revealed how an understanding of value is built from many micro-constructs of value emanating from a variety of stakeholders. Sensemaking concepts applied in the study revealed how stakeholder perceptions of value are based on time (for example past-present-future value) and space (multi-level value in organisations), and are dynamic and non-linear

(for example, value that is emergent, unanticipated or realised only upon reflection).

As a result of the investigations, a new typology of multi-stakeholder value perspectives that aims to improve PPM decision-making was presented in this study. The typology of value perspectives is a fresh means of seeking and capturing subjective, complex and emergent information about value that contributes to PPM in multi-stakeholder environments. The typology of value perspectives pushes the boundaries of portfolio value to encourage managers and academics to consider different perspectives of value including the less familiar facets of value beyond tangible and financial value. Kornberger et al (2015) explores the world of valuation beyond economic value to reveal the challenges within the often hidden work in which value is performed. They imply that the act of attributing value to various elements requires that one attends to the vocabulary and grammar that constitutes values, and considers the networks in which values travel through and are translated by. Expert panel feedback suggests that such a typology could assist organisations in making sense of and incorporating a fuller range of stakeholder values for improved PPM decision-making. Comments linking the typology to Edward de Bono's '*Six Thinking Hats*' (De Bono 1999) suggest that managers could use the typology to build sensemaking capabilities to think more holistically about stakeholder value and the use of a relevant value 'lens' and 'language' in the various contexts. Such heightened awareness of the various value perspectives in a project portfolio mix could support managers seek out, anticipate and make sense of value that emerges in the portfolio in the longer term. This implies that managers could engage with stakeholders more effectively about value expectations by asking different types of questions, based on the various perspectives presented in the typology.

The research also confirms that in order to maximise value contribution to the portfolio, project and portfolio managers involved in multi-stakeholder environments need to find a way to question, articulate and demonstrate the intangible and potentially tacit value contributions of the project in different and possibly more tangible ways to relevant stakeholders. The version of sensemaking used in this research fosters the incorporation of multiple stakeholder expectations when creating value in project portfolios and accepts the evolutionary character of organisational value. This research has demonstrated that these value perspectives can be classified in a way that enables managers to consider the breadth of value more holistically.

The practical significance of this research is its suggestion that sensemaking is a vital capability that helps to identify and integrate value in an organisation, whether at the individual, project, program, portfolio or organisational level. Value in an organisation can then be viewed, identified, negotiated, articulated and integrated more openly and holistically.

In practice, the research findings suggest that the typology of value perspectives could act as a starting point or prompt to explore, discuss, negotiate, make sense of and appreciate more widely the multiple types of value expected by different stakeholders at different levels or points in projects and portfolios. Practitioner feedback indicates that the typology could be adopted in practice to help managers view value through their different stakeholder lenses to inquire, clarify, direct thoughts and focus, and negotiate the various perspectives.

In sum, this study provides a new perspective of value that broadens the understanding about multi-stakeholder value in project portfolios. The insights from this research demonstrate how sensemaking research methods can reveal complex and subjective perspectives of value that can often be overlooked in practice. In tandem, an organisational sensemaking approach can be enabled through applying the typology to synthesise and reconcile apparent differences and contradictions about value that may arise when dealing with multiple stakeholders, as well as harness a fuller set of stakeholder values, including unanticipated, unexpected and emergent value into the overall portfolio.

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Appendix 1: Characteristics of Benefits and Value

The table below (Table 5) presents a summary of the various definitions for the terms ‘benefits’ and ‘value’. It then outlines the different management processes as well as the worldviews, assumptions and emphasis taken in order to compare and contrast benefits and values. The next table that follows, (Table 6) outlines the criticisms of each term and its processes, and presents several opportunities for consideration.

Table 5: Definition of benefits and value, their management and worldviews or assumptions

Characteristics	Benefits	Value
Definition	<p>‘an outcome of change which is perceived as positive by a stakeholder’ (Bradley 2016, p. xiii)</p> <p>Based on the outcomes and outputs to achieve desired targets or objectives (Breese 2012)</p> <p>Business value increments that include the perspectives of shareholders', customers', suppliers', society' (Serra & Kunc 2015; Zwikael & Smyrk 2012).</p>	<p>‘a tangible or intangible good or service, knowledge, or benefit that is desirable or useful to its recipients so that they are willing to return a fair price or exchange’ (Allee 2000b, p. 28) (Allee 2000b, p. 28).</p> <p>Seven categories of value that include tangible and intangible aspects - ‘economic, moral, aesthetic, social, political, religious and judicial values’ (Elias 1998).</p>
Definition of management process	<p>Benefits Realization Management (BRM):</p> <p>‘the process of organising and managing, so that potential benefits arising from investment in change, are actually achieved’ (Bradley 2016, p. xiv)</p> <p>‘a set of processes structured to close the gap between strategy planning and execution by ensuring the implementation of the most valuable initiatives’ (Serra & Kunc 2015, p. 53)</p> <p>Benefits are realized to create value by exploiting the capabilities created</p>	<p>Value engineering (VE):</p> <p>A disciplined process towards the achievement of necessary function for minimum cost without jeopardizing quality, reliability, performance or delivery (Crum 1971)</p> <p>Involves processes for productivity (Elias 1998)</p> <p>Value Management (VM):</p> <p>‘a style of management aimed at maximizing the overall performance of an organisation’ (Bradley 2016, p. xxiii)</p>

	<p>(Jenner 2009)</p> <p>'The process of organizing and managing such that potential benefits arising from use of outputs (e.g. IT) are actually realised' (Ward, Taylor & Bond 1996).</p> <p>An organizational capability that ensures that investments consistently generate value through distinct, yet complementary, competences (Ashurst, Doherty & Peppard 2008)</p>	<p>Increasing economic and customer value (Kelly & Male 1988)</p> <p>A philosophy, set of principles and structured method of management to improve organisational decision-making and value-for-money (Kelly, Male & Graham 2014).</p> <p>Deals with investment decisions, performance management system to maximize the benefits achieved and evaluation to adapt the system over time, requires horizontal (i.e., process to outcome) and vertical (individual to functional to business) links (Venkatraman, Henderson & Oldach 1993).</p> <p>Value creation as a strategic planning process in order to gain competitive advantage (Meskendahl 2010; Winter & Szczepanek 2008)</p>
<p>Worldviews, assumptions and emphasis</p>	<p>Logic, linearity, quantification, cause and effect, reductionism, split between thinking and doing, and control (Darwin, Johnson & McAuley 2002)</p> <p>Functionalist, rational model (Pellegrinelli 2011)</p> <p>Proactive management of organizational change (Farbey, Land & Targett 1993; Remenyi & Sherwood-Smith 1999; Ward, Taylor & Bond 1996)</p> <p>BRM practices as positive predictors towards project success through the creation of strategic value for the business (Serra & Kunc 2015).</p>	<p>VE focuses on the job-plan, tends to be retrospective, based on the hard systems thinking (systems engineering paradigm), function-driven (Green 1994).</p> <p>VM is based on soft systems thinking (learning paradigm), focused on establishing a common decision framework through a structured dialogue process whereby key stakeholders are involved in the early stages of planning, it is dynamic and unstructured, shared perceived social reality with a common understanding for decision making (Green 1994)</p> <p>More contemporary views of managing value</p> <p>Multi-level perspective for a more contextual and holistic picture of organisational value creation, which</p>

		<p>accounts for different agendas, objectives and practices (Sydow, Lindkvist & DeFillippi 2004; Windeler & Sydow 2001)</p> <p>Transformational dimensions of business value (Basole 2005; Gregor et al. 2006) where change can result in new, intangible assets</p> <p>Systems and networks perspective (Allee 2000a; Biem & Caswell 2008)</p> <p>Stakeholder perspective (Donaldson & Preston 1995; Freeman & McVea 2001; Jones 1995)</p> <p>Not static and continues to evolve through past, present and future experiences (Grönroos & Voima 2012; Helkkula, Kelleher & Pihlström 2012; Voima, Heinonen & Strandvik 2010).</p> <p>Market value, non-commercial value includes the ecological, social and learning dimensions of value (Martinsuo & Killen 2014)</p>
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Table 6: Criticisms and opportunities in BRM and VM

	Benefits Realisation Management (BRM)	Value Management (VM)
Criticisms	<p>Inability of BRM to manage life-cycles and longer term deliverables (Breese 2012)</p> <p>‘Defining and measuring benefits is not a ‘neutral’ process, but one where there is scope for different approaches’; and that the degree to which the organisation can control benefits realisation is low (Breese 2012)</p> <p>Cause and effect model often found in BRM may be fraught with difficulties in complex environments (Breese 2012)</p> <p>Stakeholders can have varied and conflicting interests in different benefits that can often lead to tensions between different groups (Breese 2012; Williams 1999).</p> <p>Certain BR methods viewed as difficult to apply (Farbey, Land & Targett 1993; Hares 1994)</p> <p>Little evidence that methods are widely applied in practice (Ashurst, Doherty & Peppard 2008; Farbey, Land & Targett 1993; Hares 1994)</p> <p>Practices adopted inconsistent, not comprehensive, not coherent (Ashurst, Doherty & Peppard 2008)</p> <p>Benefit forecasts tend to be overstated (delusional optimism) while timings and costs are underestimated (Jenner 2009)</p>	<p>Dominant PPM approaches are found to over-emphasise economic analyses of value (Kester et al. 2011)</p> <p>Unintended imbalance of projects (Cooper, Edgett & Kleinschmidt 2001; March 1994) or where potentially good projects and ideas are overlooked or prematurely terminated (Blichfeldt & Eskerod 2008; Engwall & Jerbrant 2003)</p> <p>Over-reliance on economic and quantitative modelling methods could be unreliable if the data is not accurate (Kester et al. 2011)</p> <p>Involvement of multiple stakeholders makes the identification of value in a project portfolio complex (Beringer, Jonas & Kock 2013; Jonas 2010; Lim, Quercia & Finkelstein 2010; Unger et al. 2012; Voss 2012)</p> <p>Tend to ‘fall into the trap of focusing too much on tangible deliverables’ (Thiry 2001, p. 71)</p>

<p>Opportunities and future requirements</p>	<p>Projects justified through the balance between strategic needs and wants met against resources used (Morris 2011).</p> <p>Understanding of benefits requires a clear understanding of various value elements including user value, non-monetary, wider public value, efficiency and effectiveness (Jenner 2009).</p> <p>Better BRM leads to incremental and longer term improvements in value delivery (Ashurst, Doherty & Peppard 2008; Remenyi & Sherwood-Smith 1999)</p>	<p>Call for research into intangible and non-commercial value (Bourne & Walker 2008; Martinsuo & Killen 2014; Thiry 2002; Thiry & Deguire 2007)</p> <p>Construct new ways of thinking about value that draw upon the stakeholders' own rhetoric of value, as these are viewed as essential in managing value (Thiry 2001)</p> <p>Multi-stakeholder collaboration in the management of value in project portfolios (Martinsuo & Killen 2014; Thiry 2001)</p>
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Table 7: Key research questions and related papers

Key research questions (RQs) and the evolved sub-questions	Papers					
	1	2	3	4	5	6
RQ1: How is value understood in practice by different stakeholders in different portfolio contexts?	✓	✓	✓	✓	✓	✓
<ul style="list-style-type: none"> What are the dimensions of value that inform portfolio decision-making in practice? 	✓				✓	
<ul style="list-style-type: none"> How do the multiple perspectives of value inform portfolio decision-making in practice? 	✓	✓	✓			
RQ2: ‘Value for whom, value by whom’: Whose value constructs need to be considered in portfolio decision-making in order to maximise portfolio value?		✓	✓			
RQ3: How do managers deal with value (including interdependencies) across different organisational levels and stakeholder groups?				✓		
RQ4: In practice, how do managers make sense of what is valuable (beyond financial value) in a project portfolio?						✓
<ul style="list-style-type: none"> What type of guidance might assist managers to harness and integrate a wider range of stakeholder values in PPM environments? 						✓

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Stage 1 Case Studies: Semi-structured Interview Schedule

1. Introductions

Thank you for agreeing to participate in this interview. The research project is called ‘Value dimensions in project portfolios: decision-making in multi-stakeholder environments’. The project is focused on value in project portfolio decision-making and how having many stakeholders in your project portfolio might influence the decisions made.

The interview will be recorded so that I can capture all of your discussions. You can ask me to turn the recorder off at any time during the interview without having to give me an explanation. The recordings will be transcribed into text.

This interview will take around 30-45minutes. The questions are about your personal experience and opinions about value and decision-making in your own work projects or portfolios. Sometimes I might ask a similar question in a different way just to ensure that we are covering the topic from different angles and to get a deeper idea of how things work in actuality.

Questions

- What is your role at the [organization]?
 - What is your typical working day like?
1. Project portfolios in general
 - What does managing a project/program/project portfolio really mean for you in your own day to day work? What does it look like/sound like/feel like?
 2. Decision-making (10 mins)
 - In exploring decision-making in PPM: Can you tell me what **types of strategic decisions** you have come across/made in this particular project/program portfolio? For example, in having to balance and prioritise projects/programs in your overall portfolio, what types of decisions do you have to make? (e.g. Which ones to start, continue, stop/terminate?).
 - Can you **describe who the stakeholders and decision makers** might be who

are involved in these project portfolio decisions? What are their roles?

- **Who makes** the decisions?
- **Who influences** the decisions made? What's valuable to them?
- Who else is involved?
- And who else influences the decisions? How so?
- What are some of the **challenges** you personally faced **in making a decision** in your project portfolio?
- What is **important** to you when making a decision about the portfolio? What are you mindful about?
- How do you make sense of what they (other stakeholders) want?
- With so many people involved in a project portfolio, can you describe how do you **manage** the decision-making process?

3. Value Dimensions (10 mins)

- How do you **determine or identify** what is **valuable** in the project portfolio?
- What do you see value as? Is it the same or different as benefit, or something else?
 - Can you describe **what value means** to you? What else?
 - How would you manage that [value]?
 - How do you know when you have delivered 'value'? (Identified? Measured? Evaluated?)
 - How do you make sense of what is of value to your organization and your portfolio? How do you make sense of what is useful to the others?
 - Can you tell me more? What would that mean for you? For the projects? For the portfolio? For the other stakeholders? So, who determines what is valuable in the portfolio? *[linked to question later on]* *How might you maximise the value in your portfolio?*
- Tell me about a time in the past when a strategically problematic decision was made in the portfolio. What was it?
 - What and who was involved?
 - What made it problematic?
 - What was the outcome?
 - Who were the influential players in the process?
 - How did value come into play in the situation? What was valuable?

- How has this impacted on the present, and what else might happen in the future?
 - What, if anything would you do differently in the future to influence the decision contribution to strategic value?
- Tell me about a time in the past a **strategically effective decision was made**. What was it? **(10 mins)**
 - What and who was involved?
 - Who were the influential players in the process?
 - What made it effective?
 - What was the outcome?
 - How did value come into play in the situation? What was valuable there?
 - How has this impacted on the present strategic value and what else might happen in the future?
 - What, if anything would you do differently in the future to influence the decision contribution to strategic value?

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PARTICIPANT CONSENT FORM – Stage 1: Case Study Interviews

**Project portfolio value dimensions in multi-stakeholder environments
Faculty of Engineering & Information Technology, UTS**

I _____ agree to participate in the research project **Project portfolio value dimensions in multi-stakeholder environments** being conducted by Karyne C.S. Ang UTS, CB11.06.217, Tel: 9514 7957). This research is part of Karyne’s PhD research with the School of Systems, Management and Leadership at the Faculty of Engineering and IT, University of Technology Sydney under the supervision of Catherine Killen (BC11.06.222, Tel 9514 1830, c.killen@uts.edu.au).

I understand that the purpose of this study is to find out my perspectives about decision making in project and portfolio management and my experiences in dealing with those involved in the PPM decision-making process.

I understand that I have been invited to participate in this research because of my experiences in project management (PM) and/or project portfolio management (PPM), and that my participation in this research will involve a 45-60 minute interview to explore my ideas and opinions around the projects and project portfolios, stakeholders, value and decision-making processes. I am aware that the interview will be recorded and that I have been given the option to review my interview transcripts.

I understand that the risks are minimal due to the design of the research, and that I am not obliged to answer or participate if I do not feel comfortable at any time.

I am aware that I can contact Karyne Ang or her supervisor or the UTS ethics secretariat if I have any concerns about the research. I also understand that I am free to withdraw my participation from this research project at any time I wish, without consequences, and without giving a reason.

I agree that the researcher Karyne Ang has answered all my questions fully and clearly.

I agree that the research data gathered from this project may be published in a form does not identify me in any way.

Signature (participant)

____/____/____

Signature (researcher or delegate)

____/____/____

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 9772 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.

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Figure 7: Example of stimulus material used in HDEP 1

Value dimensions identified in projects, programs and portfolios

Value by 'occasions' (during financial reporting period, performance evaluations, when culling projects, planning etc), based on circumstances:

- What are some occasions when you might think about (and use) this PPM value dimension?
- What types of value dimensions might be used - for which occasions?

Value by 'function or role' (Who)

- Who (by role, unit, department) in your organisation is this value dimension relevant to? [whether it is for value creation, propositions, in-use, exchange, delivery, realisation or other]
- How do they use it?

<p>Singular (transactional) dimension Occasions:</p> <p>Who (role):</p>	<p>Accumulative dimension Occasions:</p> <p>Who (role):</p>	<p>Transformational dimension Occasions:</p> <p>Who (role):</p>
<p>Rolling hindsight-retrospective-reflective-future orientation Occasions:</p> <p>Who (role):</p>	<p>Value Spectrums Occasions:</p> <p>Who (role):</p>	<p>Ideas/Actions (Group):</p>
<p>Value networks Occasions:</p> <p>Who (role):</p>	<p>Value Spectrums Occasions:</p> <p>Who (role):</p>	<p>Ideas/Actions (Group):</p>

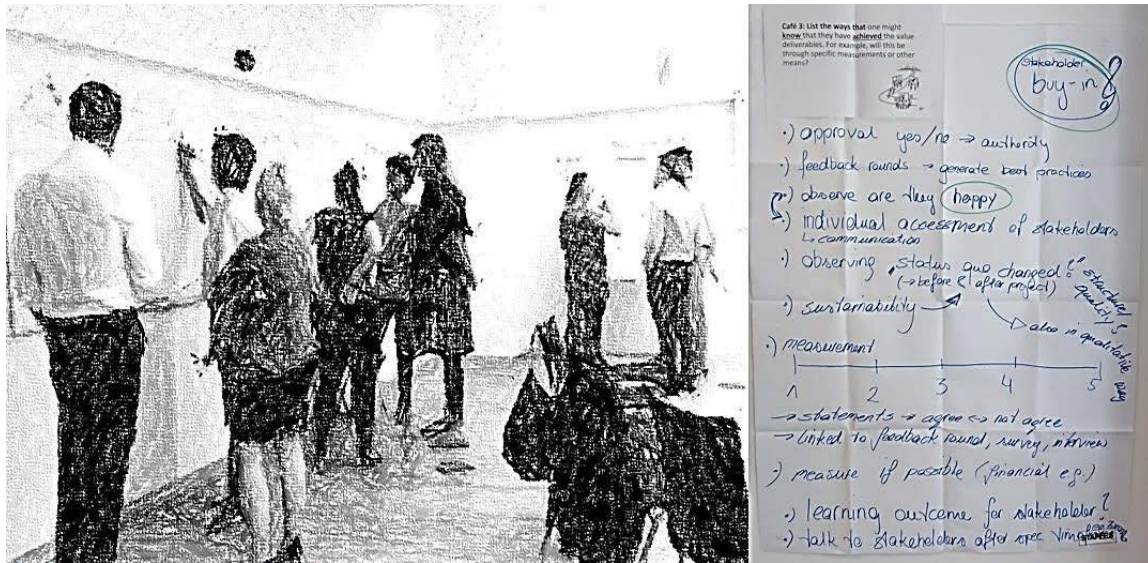
Image source: <http://galleryhip.com/blank-puzzle-pieces-printable.html>

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Appendix 6: HDEP 2 workshop participants' co-created raw outputs and related transcript

Figure 8 illustrates the HDEP 2 workshop session where participants were involved in various discussions about specific issues regarding stakeholders and value. The right-hand side of Figure 8 shows one of the raw outputs of the discussion.

Figure 8: HDEP 2 workshop and sample of outputs



In this HDEP, participants were asked to ‘List the ways that one may know that they have achieved the value deliverables. For example, will this be through specific measurements or some other means?’. Participants shared and discussed the issue and made notes on large sheets of paper. When the participants presented and explained their outputs to the other groups, these presentations were audio-recorded. An extract of the audio transcripts and participant discussions relating to Figure 8 is presented here. The participant (Speaker 11) commenced the presentation of his group’s inputs by pointing to the upper right section of the sheet of paper in Figure 8, labelled as ‘stakeholders – buy in?’

Speaker 11: The central question is ‘Did the stakeholders had the chance to buy in?’ And if yes, just observe are they happy with the project result. The process. You can use individual assessments and communication for this.

If it's for an authority approve, did you get the approval yes or no?

You can do feedback rounds in order also to generate best practices, and observe did

something change? What was the status quo before the project and after the project? This is also linked if you include some sustainability aspects. You can do some kind of measurement if it's possible. Then, include statements and the stakeholders agree or not agree on some range there. You can use feedback rounds, surveys, interviews and measure the value if it's possible.

Also discuss together with the stakeholders is there some kind of learning outcome for the stakeholders. Just for the internal values of the stakeholders.

Speaker 6 (researcher): Any final reflections?

Speaker 13: Actually, the very last thing that you just said. I think it's important what you say. To you, and I think project managers know it. You need to speak the language of your stakeholders. The project management language, because you're talking one day to a lawyer, then you're needing to put your brain as a lawyer, then the IT person. That communication there could be so important to hear, to get them to tell you what the value is. It's not only how you talk, it's really be a lawyer for that moment so that you do understand what he means with value. You need to do this with all of those roles. That is very powerful for the ones who do it. Yeah.







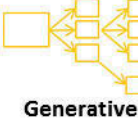

Appendix 7: Example of open-ended question used in HDEP 3

Below in Figure 9 is an extract from the post-session questionnaire used in the third HDEP that demonstrates how some of the open-ended questions seeking practitioner feedback about the typology was applied.

Figure 9: Feedback on the typology of 8 value perspectives

Feedback - The typology of 8 value perspectives

It will work because
and the barriers to this model might be

 Value spectrum	 Transformational	 Preventative	 Reflective-future oriented
 Personal rewards	 Value networks & relationships	 Generative	 Singular (transactional)

It will not work because
and what will make it work is if or when

The questions in the third HDEP were inspired by the qualitative inquiry approach of the Devil’s Advocate (Janis 1982, MacDougall & Baum 1997) and Dialectical Inquiry (Berniker and McNabb 2006). MacDougall and Baum used the Devil’s Advocate to ask questions in a different way in order to facilitate groups arriving at premature solutions based on dominant or pre-conceived views. However, in this research, the Devil’s Advocate was applied in the post-session survey, to reduce the influence of groupthink on each individual as a result of the discussions in the session. I wanted to elicit responses from those who had the benefit of being in a discussion of the topic area, but at the same time wanted to ensure that they were not biased by any emerging dominant views). Instead of selecting devil’s advocates in the sessions, the HDEP question provided a creative means for each individual to play the a devil’s advocate through their own perceptions and comments about the typology. The questions presented two scenarios about the typology: ‘*The typology will work.....*’ And ‘*the typology will not work because.....*’. In the opposing scenarios, individuals were then asked to

present potential barriers or solutions to each viewpoint. The questions were framed to draw out new angles in addition to any initial opinions an individual might have. This enables the consideration of other different perspectives to identify barriers and enablers to the typology. MacDougall & Baum (1997) suggests that the use of devil's advocate could enable members to feel free to express divergent opinions. In an anonymous survey, the freedom of expression is in itself already made possible, but I wanted to ensure that different angles were considered and reflected upon in the feedback.

Several examples of the hand-written responses are included in Figure 10:

Figure 10: Hand-written responses about the typology and value

Feedback - The typology of 8 value perspectives

It will work because.....
 The categorising of value perspective will enable a focused logical thought process.
 (a bit like the parallel thinking Edward De Bono & his '6 Hat of thinking' create momentum around the subject.
 and the barriers to this model might be....
 gaining an appreciation of the difference & getting skilled in using the frame work

It will work because.....
 Having the definitions to the different perspectives will help generate discussions and expand thinking especially in an organisation where ~~a~~ too many of the decision-makers are not used to projects ~~and~~ managing portfolios.
 and the barriers to this model might be....
 Even though this would generate discussion and thinking, it doesn't necessarily help an organisation figure out how to maximise the ~~the~~ value from one or more perspectives.

It will work because.....
 it helps people have more precision about what value means.
 and the barriers to this model might be....
 people like to think without constraints/structure.

It will not work because....

it will seem right to people to categorize their ideas about project value

and what will make it work is if or when.....

people are encouraged to use these categories as a starting point rather than rigid boxes they need to fit with

At
Gc

What surprised me about value in project portfolios:

How different people perceive value.

What surprised me about value in project portfolios:

The way that quantified values are not practically important in decision making surprised me

Areas about 'value' that I found relevant to my own work:

The breakdown of value through the value spectrum. This method would make it easier to quantify value

Areas about 'value' that I found relevant to my own work:

All eight values are relevant but the degree of relevance varies significantly in portfolios

What I found obvious about 'value' in this discussion/session:

Value spectrum is actually a continuum as there is nothing definitive about future numbers - everything is a "gut feel".

A

Appendix 8: HDEP 3 Pre-session questionnaire

Welcome to Value in Practice

Welcome to the Value Perspectives and Decision Making in PPM Research Project

This questionnaire explores the variety of value perspectives and decisions made in project portfolios in your work environments. Value maximisation is a key aim in project portfolio management, but how people (or stakeholders) recognise and decide what is valuable can be subjective -- influenced by their own personal and organisational goals, as well as other factors such as the influence of other stakeholders, as well as their own identities.

Your views about value your own project portfolio environment will contribute to research that aims to improve decision making about portfolio value.

Please complete this online questionnaire by the 20th November 2016. The results from this questionnaire will be discussed at the upcoming project portfolio workshop on 24 November 2016.

The questionnaire is divided into two parts:

- 1) General context and role**
- 2) Questions about your perspectives on value in your own project portfolio environment.**

For simplicity, please focus on a particular project/portfolio when responding to this questionnaire.

The questionnaire should take no more than 20 minutes to complete. Please complete the questionnaire only once. Your responses will be completely anonymous and confidential.

Thank you for your participation. Let's begin!

Welcome to Value in Practice

Part 1: Work context and role

The first part of this questionnaire is about your general work context and role.

1. Please indicate which sector you come from (select one):

- Private (for profit)
- Public or Government
- Non-profit / not-for-profit

Other (please specify)

2. Your industry (for example 'pharmaceutical' or 'finance'):

3. Please indicate the type(s) of portfolio(s) you typically work with (you may select more than one):

Innovation

NPD

R&D

Operations & maintenance

Asset Management

Compliance/Standards

Other (please specify)

4. Please select the option that best represents your role:

Entry level role (recent graduate, possibly up to 2 years' experience)

Middle-level role (intermediate, have some managerial responsibilities, may straddle both operational and strategic functions)

Senior management (expert level, strategic)

Other (please specify)

5. In your current role, to what extent do you make decisions that are **operational**?

	To a great extent	To a moderate extent	To a slight extent	Not at all	N/A
I have the authority to make operational decisions by myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to influence operational decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often need to consult with team members or other staff when making operational decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often need to consult with senior management when making operational decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please add further comments here about your OPERATIONAL decision making authority in your role:

6. And, to what extent do you make decisions that are **strategic**?

	To a great extent	To a moderate extent	To a slight extent	Not at all	N/A
I have the authority to make strategic decisions by myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am able to influence strategic decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often need to consult with team members or other staff when making strategic decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often need to consult with senior management when making strategic decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please add further comments here about your STRATEGIC decision making authority in your role:

Welcome to Value in Practice

Part 2: Value and decision making in your organisation

In this section, please reflect on your experience with a particular project/portfolio, preferably in your current role and organisation. Alternatively select one from your previous role or organisation. There are no right or wrong answers, and please be assured that all your responses will be anonymous and confidential.

7. In your opinion, what does 'value in a project portfolio' mean for you?

8. What are the **top 5 most influential types of 'value' that are considered in decisions about maximizing value** in your project portfolios? (*i.e. what measures of financial, commercial, environmental, or social value – or other types of value – influence such decisions?*)

First (top most influential)	<input type="text"/>
Second	<input type="text"/>
Third	<input type="text"/>
Fourth	<input type="text"/>
Fifth	<input type="text"/>
Other comments:	<input type="text"/>

9. From your own experiences, what are some effective ways in which to **recognize, communicate and measure non-financial (intangible) value**?

1)	<input type="text"/>
2)	<input type="text"/>
3)	<input type="text"/>
Other comments:	<input type="text"/>

10. Please describe how you **engage with stakeholders** in your present role (if at all) **to enable them to contribute to decisions that affect value creation** in the project portfolio?

1)

2)

3)

11. In your view, what differences (if any) are there in **value expectations in the short and long term**?

We have come to the end of this questionnaire. Thank you for taking the time to respond to the questions. The outcomes of this activity will be discussed at the upcoming PPM workshop 'Value in Practice' on the 24th November 2016. Once again, we would like to assure you that all responses are anonymous and confidential, as per the UTS Research Code of Ethics. If you have any inquiries, please feel welcome to contact Karyne Ang: karyne.ang@uts.edu.au.

Please click 'DONE' to exit this page.

Appendix 9: HDEP 3 Post-session questionnaire

Typology of value perspectives

1. Thinking about EASE OF UNDERSTANDING of each of these value perspectives, on a scale of 1 to 5, where 1 is NOT EASY TO UNDERSTAND and 5 is VERY EASY TO UNDERSTAND, please rate the following value perspectives:

	Not easy to understand at all	Not very easy to understand	Neither	Quite easy to understand	Very easy to understand
Value spectrum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transactional value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generative value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transformational value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reflective-Future orientated value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preventative value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal rewards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Value Networks and Relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

2. Thinking about the RELEVANCE of each of these value perspectives in your workplace, on a scale of 1 to 5, where 1 is NOT RELEVANT AT ALL, and 5 is VERY RELEVANT, please rate the following value perspectives:

	Not relevant at all	Not very relevant	Neither	Quite relevant	Very relevant
Value spectrum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transactional value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generative value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transformational value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reflective-Future orientated value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preventative value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal rewards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Value Networks and Relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

3. Thinking about how USEFUL the concepts for each of these value perspectives are to you in your workplace, on a scale of 1 to 5, where 1 is Not Useful At All and 5 is Very Useful, please rate the following value perspectives:

	Not useful at all	Not very useful	Neither	Quite useful	Very useful
Value spectrum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transactional value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generative value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transformational value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reflective-Future orientated value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preventative value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal rewards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Value Networks and Relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

4. Thinking about how easy it could be to apply the concepts in your workplace, on a scale of 1 to 5, where 1 is NOT EASY TO APPLY AT ALL and 5 is VERY EASY TO APPLY, please rate the following value perspectives:

	Not easy to apply at all	Not very easy to apply	Neither	Quite easy to apply	Very easy to apply
Value spectrum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transactional value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generative value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transformational value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reflective-Future orientated value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preventative value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal rewards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Value Networks and Relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

5. How LIKELY are you to use some or all of these value concepts in your workplace? Please rate your likelihood on a scale of 1 to 5, where 1 is NOT LIKELY TO USE AT ALL and 5 is VERY LIKELY TO USE:

	Not likely to use at all	Not very likely to use	Neither	Quite likely to use	Very likely to use
Value spectrum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transactional value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generative value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transformational value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reflective-Future orientated value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preventative value	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal rewards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Value Networks and Relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

6. On a scale of 1 to 5, where 1 is Totally Disagree and 5 is Totally Agree, please rate how much you agree or disagree with the following statements.

	Totally disagree	Disagree	Neither agree nor disagree	Agree	Totally agree
This session has provided me with the opportunity to share my ideas and opinions with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoyed the opportunity to network with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found the topic relevant to my work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found the topic today interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I learnt something new from this session	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The concepts from this session can be applied in my workplace	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would recommend these types of sessions to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

Appendix 10: Extracts from NVivo Pro 11 - Parent and Child Nodes

The data was analysed using the qualitative data analysis software NVivo 11. This section illustrates and summarizes the data structures and hierarchies for the parent (key topics and themes) in terms of the high-level codes or themes, and child nodes (or codes) in the data set. It then presents an expansion of several of the child nodes (sub-themes and sub-sets) for *Value* as examples to demonstrate the next node levels or branches behind each node. Similar hierarchical node structures incorporating multi-levelled parent-child nodes exist for other themes and concepts including *decision making*, *communication*, *managing a portfolio*, *organisation strategy* or *stakeholders*.

In Figure 11, the high level nodes depicting the main topic (Value and Decision making) of exploration and its key thematic categories (Communication, decision making, organisation and PPP management, Stakeholders and Value) are illustrated. This is also presented in a tabulated format in Table 8.

Figure 11: Data nodes - Main topic and its categories

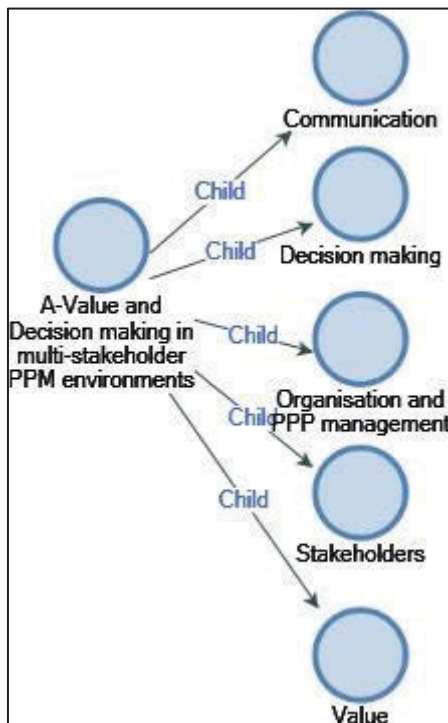


Table 8: Data nodes - High-level codes or themes

Value and Decision making in multi-stakeholder PPM environments
Communication
Decision making
Organisation and PPP management
Stakeholders
<i>Value</i>

Next, Figure 12 maps out the category for ‘Value’ in more detail by expanding its nodes to reveal various themes associated with Value. One of the node themes ‘Value Perspectives’ is then expanded upon to reveal the various branches (sub-themes or perspectives) in that node. The node maps are outputs of NVivo 11 and are limited in its aesthetic functions and readability for large node sets. For ease of reading the nodes in the structure, the themes and sub-themes are also displayed in a tabulated format following each of the node maps presented.

Figure 12: Data nodes - Themes about value and value perspectives

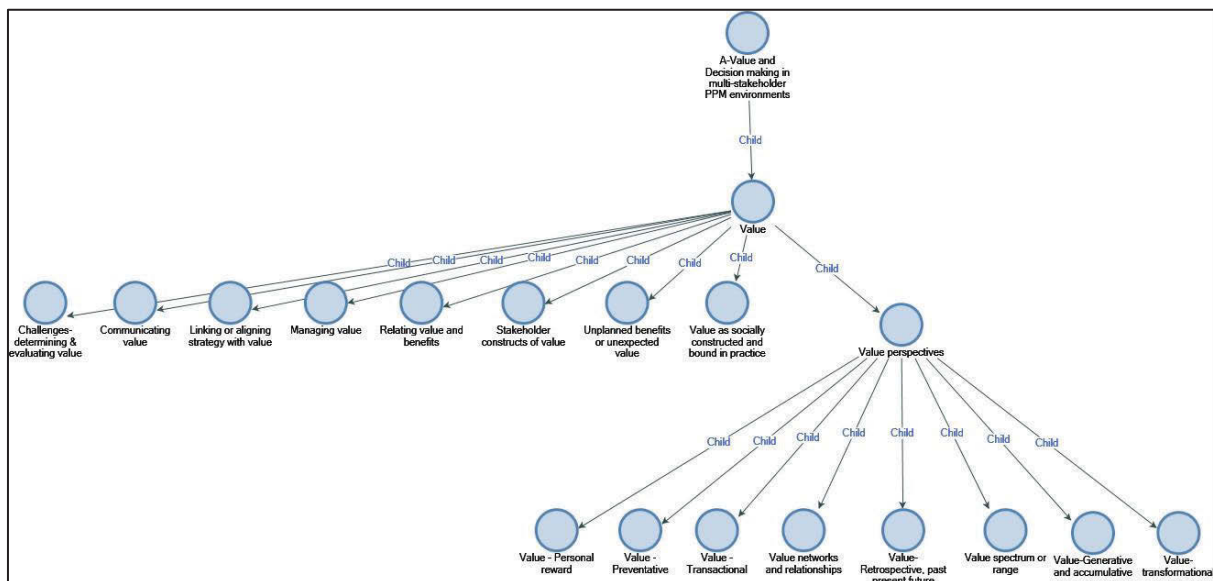


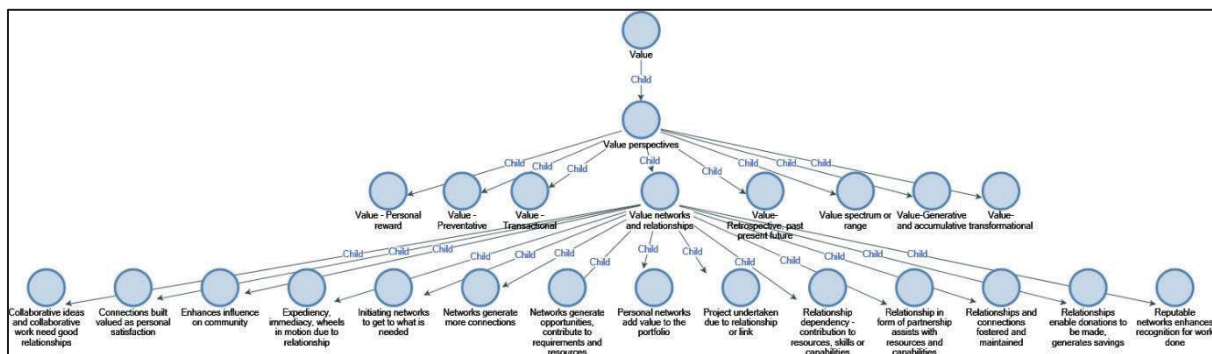
Table 9: Data nodes - Value and Value Perspectives: Second and third order themes in the hierarchy of nodes

Value
Challenges-determining & evaluating value
Communicating value
Linking or aligning strategy with value
Managing value
Relating value and benefits
Stakeholder constructs of value
Unplanned benefits or unexpected value
Value as socially constructed and bound in practice
Ways that one knows if value has been delivered
Ways to maximise the value in the portfolio
Ways value is identified in PPM
Who determines what is valuable in the portfolio
Communications and media relations
Value perspectives
Value - Personal reward
Value - Preventative
Value - Transactional
Value networks and relationships

Value- Retrospective, past present future
Value spectrum or range
Value-Generative and accumulative
Value-transformations

From the category labelled as ‘Value’ and one of its themes ‘Value Perspectives’, Figure 13 then illustrates the hierarchy of nodes and the expressions behind the node ‘Value Networks and Relationships’ as an example of the levels in the node structure.

Figure 13: Data nodes - Levels in a hierarchical node structure – Value, Value Perspectives, Value Networks and Relationships, Expressions



In the summary table (Table 10), the main themes (high-level codes and themes) in the data structure pertaining to *Value* and *Value Perspectives* are listed. Within each node, further node branches in the hierarchy are listed. Each of the nodes found in the rows highlighted in grey (*Value perspectives- Networks & relationships*) have been expanded upon as an example of the next level of codes in the hierarchy.

Table 10: Data nodes - Expanded ‘Value Networks and Relationships’ node

Value
<ul style="list-style-type: none"> • Challenges-determining & evaluating value
<ul style="list-style-type: none"> • Communicating value
<ul style="list-style-type: none"> • Managing value
<ul style="list-style-type: none"> • Relating value and benefits
<ul style="list-style-type: none"> • Stakeholder constructs of value
<ul style="list-style-type: none"> • Ways that one knows if value has been delivered
<ul style="list-style-type: none"> • Ways to maximise the value in the portfolio
<ul style="list-style-type: none"> • Ways value is identified in PPM
<ul style="list-style-type: none"> • Who determines what is valuable in the portfolio
<ul style="list-style-type: none"> • Communications and media relations
<ul style="list-style-type: none"> • Value perspectives <ul style="list-style-type: none"> ○ Value - Personal reward ○ Value - Preventative ○ Value - Transactional ○ Value networks and relationships ○ Collaborative ideas and collaborative work need good relationships ○ Connections built valued as personal satisfaction ○ Enhances influence on community

○ Expediency, immediacy, wheels in motion due to relationship
○ Initiating networks to get to what is needed
○ Networks generate more connections
○ Networks generate opportunities, contribute to requirements and resources
▪ Personal networks add value to the portfolio
▪ Project undertaken due to relationship or link
▪ Relationship dependency - contribution to resources, skills or capabilities
▪ Relationship in form of partnership assists with resources and capabilities
▪ Relationships and connections fostered and maintained
▪ Relationships enable donations to be made, generates savings
▪ Reputable networks enhances recognition for work done
○ Value- Retrospective, past present future
○ Value spectrum or range
○ Value-Generative and accumulative
○ Value-transformations

One of the child nodes from ‘Value Networks and Relationships’ labelled as ‘Networks generate opportunities...’ (highlighted in grey in Table 10) at the lowest node level in that particular hierarchy is presented as an example of the interview verbatims behind the node. The formats for the data extracts have been adjusted to fit the document structure of this thesis and are presented in the following section.

Examples of interview verbatim extracts coded for the node ‘Networks generate opportunities, contribute to requirements and resources’⁴<Internals\\MEDIC-LIFE\\Mediclif Interviews\\HUMANITARIAN D1> - § 2 references coded [1.23% Coverage]

1. One of the really fantastic things is that if you can harness that power, you know, in terms of money, clocked all around the world supporting a project it becomes absolutely classic. Like trying to eradicate Polio, and they brought millions and millions of dollars that Rotary poured into it and now, of course, Bill Gates says, "Every dollar you put in, I'll put two dollars in."
2. Because with the connections, we've seen ... we've been involved with some of the kids that have come in. Whenever Rob does a presentation and he shows a slideshow of some of the injuries that some of these children have.

<Internals\\MEDIC-LIFE\\Mediclif Interviews\\HUMANITARIAN PI2> - § 4 references coded

1. Okay. Well, she had that. She went to a doctor and they said, "There is nothing you can do about it. At least you've got one eye. You can use that." She spoke to her bosses at Rotarian who contacted me. I contacted a surgeon, an ophthalmic surgeon. He said to me, "We have to do it quickly." I said, "Well, look it's all voluntary." I said, "Can you keep the cost as low as possible and so he said, "leave it with me. "He came back to me and said, "Look, I will do it for free. My father is the anesthetist. He'll do it for free. I've spoken to the hospital and they won't charge." I said, "That's fantastic." I said, "Well, she could stay with us in Sydney." I sent an email back saying, "Look, we've got a free hospital. We've got free doctors. No accommodation charges but she has to be down here within a week." The company said, "Well, we'll send her down."
2. HUMAN_Karyne_PI2: Are you a one man show with those things, or-
HUMAN_PI2: Oh no. You can't be [operating individually]. You need people to host them. That boy from Nepal, I found the president of the Nepalese association in Australia. I said, "I need someone to look after him." He said, "Oh, I'll look after him." He's looked after them. They've been here twice.
3. HUMAN_PI2: It all ties together. You know that girl I brought down with the retina? She works in Lae. I went to see her. I asked her who were the people to talk to. She helped me. She, in fact, got her company to transport all the material up to the site if we needed it. As it was, we didn't need it, but her company would have transported it.
4. PI2: I've never been knocked back on people wanting to help. Yesterday I was down in Sydney. I was given a whole lot more computers from a company. I've taken them to TAFE and the students are rebuilding them. I went along to Jaycar. You know the company Jaycar? I needed a whole lot of inverters to convert from 12 volt to 40 volt for small things. They know what I'm doing. They give me 40% discount. They want to help. I go to company called JW Computers and buy keyboards and a mouse, a new keyboard and mouse. They're listed at 35

⁴ The heading '<Internals\\MEDIC-LIFE\\Mediclif Interviews\\HUMANITARIAN D1> - § 2 references coded' describes the pathway for the data. This includes the source of the data (Internals), the deidentified organisation (Medic-Life), the method of data collection (Medic-Life interviews), the sub-category of the organisation or unit (Humanitarian) and the interview participant (D1). Next, it states the number of references coded under this node for D1.

dollars. They give them to me at 18 dollars. Everybody wants to help. As I said, I've never been knocked back. I'm now buying the computer. We're looking into an Australian source of it. I'm normally buying them from China and getting means that can't get GST claims because I'm out by a thousand dollars. I found a company in Australian now who'll do it, and they've agreed not to charge me GST because they're being exported, as long as I can document it. Everybody wants to help.

[<Internals\\MEDIC-LIFE\\Medicliffe Interviews\\MEDIC B3>](#) - § 1 reference coded

1. We had pretty strict conditions to meet, but we built up a very strong and wonderful relationship with them; and, you know, plastic surgeons. But on that night, by that time, we were 68 surgeons that had volunteered their time;

[<Internals\\MEDIC-LIFE\\Medicliffe Interviews\\MEDIC P4>](#) - § 1 reference coded

1. It's always who you know

[<Internals\\MEDIC-LIFE\\Medicliffe Interviews\\MEDIC R5>](#) - § 2 references coded

1. We look at where the doctors are, we look at where the hospitals are and we juggle.
2. Like with the hospital in Canberra, they have a cap of \$5000, which is great. We pay 5 and the hospital meets the rest. We have a number of varying arrangements around the country, and we're trying to get a few more hospitals in Sydney where we might do that same arrangement and where intensive care is not required.

[<Internals\\MEDIC-LIFE\\Medicliffe Interviews\\MEDIC S6>](#) - § 2 references coded

1. I can get very involved in the embassies here because through RAWCS and Rotary ROMAC really because they help us with the interpreters when we need them.
2. I sold it to them. I said, "Here we have every state, and we should support every medicating program and every government should do that. We have all the embassies in Canberra and what a wonderful, great relationship we can build up because we're supporting these little countries who need our support. It's not fair these kids were born where they were, and we've got so much. We have the expertise; we have the doctors and the doctors learn a lot from these children. It's a morale boost for the staff at the hospital. You can have as much good publicity as you like." It was an easy sell. It went to the chief ministers Katy Gallagher and she authorized up to 4 children free care a year.

Part 2: Papers

Part 2 comprises the published papers that form the main part of this thesis. These papers were published in journals, conferences and a book chapter and are listed as follows:

Paper 1: Value constructs in multi-stakeholder environments that influence project portfolio decision making

Paper 2: Multi-stakeholder perspectives of value in project portfolios

Paper 3: 'Value for Whom, by Whom': Investigating value constructs in non-profit project portfolios

Paper 4: Multilevel value creation in projects, programs and portfolios: Results from two case studies

Paper 5: Unanticipated value creation: sensemaking and the value spectrum in partnership projects

Paper 6: Making sense of project portfolio value in practice

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Paper 1: Value constructs in multi-stakeholder environments that influence project portfolio decision making

Ang, K.C.S., Killen, C. & Sankaran, S. 2015, *'Value constructs in multi-stakeholder environments that influence project portfolio decision making'*, Proceedings of EURAM 2015, The 15th Annual conference of the European Academy of Management, Warsaw Poland, June 17-20, 2015.

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VALUE CONSTRUCTS IN MULTI-STAKEHOLDER ENVIRONMENTS THAT INFLUENCE PROJECT PORTFOLIO DECISION MAKING

**Karyne Ang - karyne.ang@uts.edu.au
UNIVERSITY OF TECHNOLOGY SYDNEY
Catherine Killen - catherine.killen@uts.edu.au
UNIVERSITY OF TECHNOLOGY SYDNEY
Shankar Sankaran - shankar.sankaran@uts.edu.au
UNIVERSITY OF TECHNOLOGY SYDNEY**

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Value constructs in multi-stakeholder environments that influence project portfolio decision making

ABSTRACT

A key goal for project portfolio management (PPM) is to maximize strategic value across the portfolio. In certain industries, particularly in the context of non-commercial sectors, the 'value' generated by the portfolio may not always fit with typical PPM frameworks that emphasize financial value. Furthermore project and portfolio 'value' are complex phenomena due to the multiple and sometimes contradicting expectations demanded by multiple stakeholders that participate in and influence the ways that PPM decisions incorporate value. This paper draws on organization, business, stakeholder and project management literature to consider different perspectives of value, and integrates stakeholder theory and sensemaking in its investigation of value in multi-stakeholder portfolio environments. It highlights the key question 'Value for whom, value by whom' and proposes that multiple case-studies of a diverse sample of project-based organizations would be useful to address this question. A Hybrid Delphi study using expert panels is also proposed to triangulate the findings.

Keywords: portfolios, value, stakeholders, sensemaking

Value constructs in multi-stakeholder environments that influence project portfolio decision making

Karyne C.S. Ang *, Catherine P. Killen **, Shankar Sankaran ***

* University of Technology Sydney, P.O.Box 123, Broadway NSW 2007, Sydney, Australia
School of Systems, Management and Leadership, Faculty of Engineering and IT
Email: karyne.ang@uts.edu.au

** University of Technology Sydney, P.O.Box 123, Broadway NSW 2007, Sydney, Australia
School of Systems, Management and Leadership, Faculty of Engineering and IT
Email: catherine.killen@uts.edu.au

*** University of Technology Sydney, P.O.Box 123, Broadway NSW 2007, Sydney, Australia
School of the Built Environment, Faculty of Design, Architecture and Building
Email: shankar.sankaran@uts.edu.au

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Abstract: A key goal for project portfolio management (PPM) is to maximize strategic value across the portfolio. In certain industries, particularly in the context of non-commercial sectors, the ‘value’ generated by the portfolio may not always fit with typical PPM frameworks that emphasize financial value. Furthermore project and portfolio ‘value’ are complex phenomena due to the multiple and sometimes contradicting expectations demanded by multiple stakeholders that participate in and influence the ways that PPM decisions incorporate value. This paper draws on organization, business, stakeholder and project management literature to consider different perspectives of value, and integrates stakeholder theory and sensemaking in its investigation of value in multi-stakeholder portfolio environments. It highlights the key question ‘Value for whom, value by whom’ and proposes that multiple case-studies of a diverse sample of project-based organizations would be useful to address this question. A Hybrid Delphi study using expert panels is also proposed to triangulate the findings.

Keywords: project portfolio management, value, stakeholders, sensemaking, decision making

Introduction

As activities in organizations today become increasingly project-focused, studies on the management of projects, multiple projects, programs and project portfolios are viewed as highly relevant to the success of an organization. The Australian Institute of Project Management (AIPM) defines project portfolio management (PPM) as: *“the centralized management of one or more portfolios of projects, which includes identifying, prioritizing, authorizing, managing and controlling projects, programs and other related work, to achieve specific strategic business objectives.”* (AIPM 2011). Additionally, PPM involves an ideation process, screening, identifying, authorizing, selecting, controlling, concurrent reprioritizing and terminating projects where required; whilst evaluating the associated risks, resources and priorities, and developing strategies in line with portfolio and organizational objectives (Archer and Ghasemzadeh 1999, Cooper, Edgett et al. 1999, Reyck, Grushka-Cockayne et al. 2005) and includes structures, processes and people (Killen, Hunt et al. 2008). As such, PPM helps balance projects, resources and demands in order to integrate the portfolio with organization strategies. PPM can be viewed from many different perspectives including portfolio methodologies (Cooper, Edgett et al. 1999), decision processes, tools and techniques (Archer and Ghasemzadeh 1999, Reyck, Grushka-Cockayne et al. 2005), strategic orientation (Artto and Dietrich 2004, Meskendahl 2010), a process of internal development and change (Brown and Eisenhardt 1997, Elonen and Artto 2003), a dynamic capability (Killen and Hunt 2010) and more recently as strategic value creation and management (Thiry 2002, Winter and Szczepanek 2008, Eweje, Turner et al. 2012, Killen, du Plessis et al. 2012, Martinsuo and Killen 2014).

Since a key goal for PPM is to maximize strategic value across the portfolio, references made to value are highly relevant perspectives in relation to value creation and strategic organizational management (Winter and Szczepanek 2008). This paper adopts a value perspective (Thiry 2002, Winter and Szczepanek 2008) in its orientation of PPM.

Improving the understanding of ‘value’ has become especially important as PPM is being adopted across a wider range of industries, many in non-commercial areas where the ‘value’ generated by the portfolio does not fit with typical PPM frameworks that emphasize financial value. Organizations of all types look to PPM for guidance as they struggle to cope with reduced funding and increased governance requirements for transparency and reporting in complex multi-actor environments (Blomquist and Muller 2006, Klakegg, Williams et al. 2009, Mosavi 2014). These issues give rise to questions such as how value is determined in different types of portfolios, and whose perspective(s) of value are adopted in these contexts? Research shows that decision-making involves multiple stakeholders with multiple goals and expectations (Bourne 2009, Bentzen, Christiansen et al. 2011, Bourne 2011, Beringer, Jonas et al. 2013). Project ‘value’ is a complex phenomenon due to the multiple benefits expected from projects and the multiple stakeholders that participate in and influence the ways that PPM decisions incorporate value. For example, the types of values that decision makers and stakeholders focus on may differ depending on organizational strategies and goals (Winter and Szczepanek 2008). This multiplicity of influences could lead to complex decision

choices, potential compromises and inconsistencies in reality. However, these issues have not been studied and addressed in-depth. This conceptual paper considers the various stakeholders' constructs of 'value' to explore the different dimensions of value as a means to understand PPM decision-making processes beyond the commercial assumptions of value common to PPM.

This area is important for investigation because not every project portfolio may have an immediate or tangible commercial outcome in terms of revenue generation or a commercial value. Most PPM studies tend to be orientated towards commercially economic or performance-based outcomes including research and development (R&D) (Bard, Balachandra et al. 1988, Stewart 1991, Balachandra and Friar 1997, Chien 2002, Engwall and Jerbrant 2003, Behrens, Ernst et al. 2014), a process of internal development and change (Brown and Eisenhardt 1997, Elonen and Artto 2003) and new product development (NPD) (Cooper, Edgett et al. 2004, Killen, Hunt et al. 2007, Oh, Yang et al. 2012). Drawing on Allee's (2000b) ideas of value management and value networks, no research on value to date has been found to consider and compare tangible and intangible value dimensions in the context of project portfolios. This includes commercial and non-commercial project portfolios in private, public and non-profit sectors involving corporate social responsibility, community development or public services. Furthermore, discussions around how value is constructed, measured, managed and compared in projects and portfolios within these sectors are still unclear.

This paper introduces the importance of considering several dimensions of value and the ways that multiple stakeholders could influence project portfolio decisions. It is organized as follows. It commences with a review of value perspectives including those of different stakeholders. Next, it highlights how stakeholder theory and sensemaking concepts contribute to integrating value in project portfolio decision making. This is followed by an exploration of the implications of value dimensions and multi-stakeholder management relevant to project portfolio management. Next, it suggests several pertinent questions for further research. The paper proposes possible research avenues to address the research questions. The conclusion reiterates the significance, importance and implications of research in this area.

Project portfolio management, value and decision making

Projects in organizations today are less likely to be analyzed in isolation, and are increasingly linked to broader business agendas and organization strategies, and thus managed as part of the portfolio of an organization's projects (Artto and Dietrich 2004, Müller, Martinsuo et al. 2008). Project Portfolio Management (PPM), as a simultaneous management of a collection of projects as one entity is gaining more interest and importance in both theory and practice. By adopting a portfolio-level perspective, PPM enables organizations to strategically and holistically manage the project portfolio as part of the strategic programs (Vereecke, Pandelaere et al. 2003, Lycett, Rassau et al. 2004). Early

literature on PPM appears to hold a dominant theoretical view of rational processes and mechanisms for decision-making, following on from its history of being aligned with project management theory and practices. Research on portfolio management can be traced back to a securities portfolio selection by Markowitz in 1952 in the financial sector (Markowitz 1952). Value was only considered from a singular dimension, that is, the financial investment perspective. The formation of the expectations and beliefs of value from multiple dimensions was not explored.

Therefore, central to criticisms of current PPM decision-making practices is that it is very much preoccupied with financial processes and rational models. For instance, the paper by Cooper et al (Cooper, Edgett et al. 2001) states that portfolios relying largely on financial measures are less likely to show portfolio success compared to those who use multiple methods, particularly scoring metrics and strategic approaches. Yet in practice, financial methods of evaluation tend to be the preferred approach. Dominant PPM approaches also tend to overemphasize economic analyses of value (Kester, Griffin et al. 2011). The views of current PPM processes are deemed insufficient for decision-making. On one hand, they overemphasize economic analyses of value incorporating quantitative modelling methods that could in fact be unreliable if the data is not accurate (Kester, Griffin et al. 2011). The issue with using formal and rational decision approaches over others is that it may lead to the neglect of explorative initiatives being pursued and result in an unintended imbalance of short-long term and high-low risk projects to be achieved (Cooper, Edgett et al. 2001). Moreover, potentially good projects and ideas could be overlooked or terminated (Engwall and Jerbrant 2003, Blichfeldt and Eskerod 2008). On the other hand, a less formal approach to decision-making could lead to potential biases and affects the planning and allocation of resources in PPM (Blichfeldt and Eskerod 2008).

In practice, decision-making in PPM involves a complex, inter-related and often inter-dependent group of people, with different perspectives and capabilities, and with implicit and explicit agendas. The practice of PPM is considered a dynamic, iterative decision process where projects are constantly being reviewed, updated and revised (Cooper, Edgett et al. 1997). PPM also involves a process of negotiation and bargaining involving multiple stakeholders internal and external to the organization (Christiansen and Varnes 2008, Martinsuo 2013) and there are multiple perspectives on short and long term (strategic) value that influence the ways that value is managed and delivered by projects. Recent PPM decision-making literature has started to consider practice-based issues that include human factors (Elonen and Artto 2003, Killen, Hunt et al. 2008) and informal approaches to activities (Olausson and Berggren 2010) including resource allocations (Blichfeldt and Eskerod 2008) or legitimacy challenges (Gutiérrez and Magnusson 2014). It is thus suggested that portfolio decision-making is ‘much more complex than just selection and termination decisions,’ (Kester et al 2011, p. 642). Additionally, decision-making procedures are likely to be affected by multiple stakeholders and the assessment of value (Brunsson 2007). Increasingly researchers are extending the understanding of project portfolio value to recognize aspects such as preparing for the future or taking advantage of opportunities (Voss and Kock 2013). However, there is a lack of research that explores the use of wider

dimensions of strategic value, such as social, environmental or knowledge value, in project portfolio decision-making. Thiry and Deguire (2007) state that the creation of real value for organizations is poorly understood and call for a coherent approach to aid in the management of value in project based organizations where multiple stakeholders influence the process. A question that arises, is ‘Value by whom, value for whom’?

Perspectives of value and its dimensions

The term value has several meanings and is used in many ways. What is of value is a matter of perspective (Elias 1998).

“The value of a given item may differ according to whether it is viewed from the standpoint of the seller, the buyer or the user. Even different concepts of value may exist between different users (depending on time, place, situation or availability of substitute items.)...but if a product does not fulfil a user's need, then it has no value, regardless of its price (Elias 1998).”

Over the years, a wide number of theoretical perspectives have been used to study value in organizations including value engineering and value management, stakeholder theory, value chain model theory (Porter 1980), and value as viewed from a systems and networks perspective (Allee 2000a, Biem and Caswell 2008). In this section, value will be identified and explored from different perspectives to investigate its connections with the field of PPM decision-making.

Value engineering and value management

Value and its management have been described as a balancing act between the “satisfaction of many differing needs and the resources used in doing so.” (BSEN 2000). From a value engineering perspective, Elias (1998), identifies 7 categories of values - ‘economic, moral, aesthetic, social, political, religious and judicial values’ (Elias 1998) yet, discussions about value engineering are ultimately, still largely concerned with economic value. Subsequently, ‘value engineering’ is often associated with value management concepts.

Value management concepts are well recognized and applied in the disciplines of project management (Kelly and Male 1988, Prasad 1997, Thiry 2002), marketing management (Bradley 1995, Ulaga and Chacour 2001, Prahalad and Ramaswamy 2004), portfolio and corporate inventory management (Michalski 2008, Maizlish and Handler 2010) and investment management (which is different from project portfolio management) (Irani 2002), intellectual capital (Petrash 1996) or strategic management (Moore 1995, Kaplan and Norton 2001, Stoker 2006, Male, Kelly et al. 2007) studies. These studies are often focussed on devising a systematic process for productivity through value engineering and increasing economic and customer value in order to gain competitive advantage (Kelly and Male 1988).

From project management studies about value, there are several angles of value management to highlight. For example, VM as a management style that is process-driven

(Male, Kelly et al. 2007) or value creation as a strategic planning process leading to competitive advantage (Winter and Szczepanek 2008). Male et al (2007) posit that value management can be embraced as a management style following a process-driven, structured, consultative inquiry methodology. The discussions highlight the necessity for a participatory, multi-disciplinary representative group of people working together to establish and improve value in the products, services, projects, programs, administrative processes, organizations and systems. However, the term ‘value’ is not still clearly defined, and therefore, what dimensions of ‘value’ are to be managed is less clear.

The tangible and intangible dimensions of value

Allee defines value as ‘*a tangible or intangible good or service, knowledge, or benefit that is desirable or useful to its recipients so that they are willing to return a fair price or exchange*’ (Allee 2000a). Allee (2000b) challenges the commonly addressed perspectives of value revolving around monetary assets, alliances and relational capital, intellectual, human and structural capital and offers alternative forms of value in terms of intangible assets (viewed as unseen and often unappreciated) including corporate social responsibility and environmental sustainability. For example, knowledge can be exchanged for tangible goods, services or money; or intangible value like customer loyalty (Allee 2000b).

Other writers posit that the intangible and non-financial benefits including indirect project costs need to be considered in evaluating infrastructure investments in Information Technology (IT) and Information Systems (IS). In the context of Information Technology (IT) and Information Systems (IS) portfolio investments, some writers argue that decision-makers need to consider both tangible and intangible values including the broader considerations of human and organizational impacts in evaluating a project investment (Hochstrasser 1990, Irani 2002).

Value from a systems and networks perspective

The complexity of value exchange arises when one expands one’s views of value to a systems perspective. As Allee (2000b) states, ‘*every person, every organization, every country and every society are engaged in creating, exchanging, contributing or gaining some type of value in every act that they undertake*’ (p. 29). Overall, the author identifies the value domains as: business relationships, human competence, internal structures, social citizenship, environmental health and corporate identity (Allee 2000b). Allee explores the conversion of intangible assets into negotiable forms of value by the virtue of the impact of intangibles on value networks (Allee 2000a) and subsequently map the value network including intangibles (Allee 2008) and address the collaboration, innovation and value creation at a global telecom whilst stressing importance of intangible value and the power of networks. What is important in Allee’s study of value is that she attempts to expand the idea of value to include intangible assets and previously neglected social and economic contributions. The writer states that ‘*at the macro-economic level this new thinking allows us to more fully appreciate intangible assets such as the social fabric of a country, and the real value of healthy ecosystems, as well as beginning to appreciate indigenous people and subsistence agriculture as being of genuine*

economic importance' (Allee 2008). Nogeste and Walker (2005) suggest that inexplicit intangible outcomes could be cross-referenced into explicit tangible outputs. Whilst the study was limited to the perspectives of those delivering projects and not its recipients, and specifically addressed outcomes, benefits and outputs, rather than 'value' per se, what is important is that expanded perspectives of value are increasingly recognized in the literature.

In line with the perspectives of intangible value and the power of networks, long-term value creation and knowledge sharing is argued as important from an alliance or partnership portfolio perspective. An alliance portfolio is an alternative way of viewing business relationships (Parise 2003) and implies that multiple partners work collaboratively to achieve business goals. From Parise's ideas about multiple players or partners in a portfolio driving the achievement of organizational goals, one can infer that that new rules for PPM and decision-making may be similarly required to meet the challenges of increasingly complex and dynamic portfolio settings when there are often multiple and inter-dependent stakeholders involved.

Stakeholder theory and stakeholder perspectives of value

Stakeholder theory considers how managers articulate the shared sense of the value they create, and how core stakeholders are connected (Freeman 1984, Freeman 2004). It also propels managers to consider the types of stakeholder relationships required in order to deliver on their purpose (Freeman 2004). In essence, stakeholder theory is about purpose and human relationships. Unless stakeholders are defined and identified, it would be almost impossible for managers to consider delivery on their intentions of value.

Depending on how widely or narrowly stakeholders are defined, this can have an impact on portfolio decisions. In one instance, stakeholders can be identified simply as shareholders (Freeman 2004) or any group or individual that is able to affect or be affected by the achievement of the organization's objectives (Freeman 1984). However, there is heterogeneity within stake-holding groups and roles that extend beyond customers or employees. For instance employee levels may differ (shop workers and middle managers), customers segments (online customers, over-the-counter customers, purchasers of shampoo or luxury goods consumers), owners, bondholder seniority, supplier tiers or various community groups with conflicting objectives (Jones 1995, Sundaram and Inkpen 2004). An alternate definition of stakeholders can be viewed as primary or secondary stakeholders (Clarkson 1994, Mitchell, Agle et al. 1997). Clarkson (1994) defines primary stakeholders as those who voluntarily *'bear some form of risk as a result of having invested some form of capital, human or financial, something of value, in a firm'*. Primary stakeholders are said to include capital suppliers (shareholders) employees, other resource suppliers, customers, governments, community residents, and the natural environment (Clarkson 1995, Hillman and Keim 2001). Mitchell et al (1997) position primary and secondary stakeholders as owners and non-owners of the firm; as owners of capital or owners of less tangible assets; as actors or those acted upon; as those existing in a voluntary or an involuntary relationship with the firm; as rights-holders, contractors, or moral claimants; as resource providers to or

dependents of the firm; as risk-takers or influencers; and as legal principals to whom agent-managers bear a fiduciary duty' (Mitchell, Agle et al. 1997).

Stakeholder theory states that managers need to consider the legitimate interests of individuals, groups and communities who are affected or impacted by their organization's activities (Freeman 1994, Donaldson and Preston 1995), particularly the primary stakeholders that can have an impact on an organization's performance, strategic value generation and long term success. An organization can therefore be viewed as interdependent relationships among primary stakeholders (Chakravarthy 1986, Clarkson 1995, Donaldson and Preston 1995). Alternatively, Irani (2002) classifies stakeholders as strategic (directors and senior management) and operational (those whose job functions are affected by the IT/IS investments). In Kleersnijder and Berghout's (2010) project portfolio research on non-profit organizations, the planning and prioritization model consists of eight layers that seem to involve different stakeholding groups that exist to ensure transparency and governance utilizing the different stakeholder roles in the portfolio. Thus it can be observed that different organizational and portfolio contexts seem to identify stakeholder groups quite differently.

Stakeholders have differing and often conflicting viewpoints of value and competing goals and this could differ in sectors and portfolio contexts. Hillman and Kleim (2001) state that firms often have multidimensional goals that include social goals. They highlight the conflicts that often exist between social goals and shareholder wealth creation as there is an opportunity cost and opportunities for increasing shareholder value may decrease. Jones (1995) argues that different stakeholder sub-groups might have distinct and competing interests, and implies that some stakeholders may be instrumentally more important than others. Despite the conflicting demands of different stakeholders, Freeman (2004) argues that value creating is necessary for effective stakeholder management. Accordingly, stakeholder theory attempts to address the question of which groups of stakeholders deserve or require management's attention. Additionally, stakeholder saliency is likely to differ from issue to issue and from time to time (Mitchell, Agle et al. 1997).

Stakeholder management is a never-ending task of balancing and integrating multiple relationships, conflicting demands and multiple objectives (Freeman and McVea 2001) and closely paralleled to the characteristics of project portfolio management in its multiple-stakeholder focus although its presence in the PPM literature is still scant (Winter, Smith et al. 2006, Thiry and Deguire 2007). The challenge is that, in many instances, intangible value can be difficult, if not impossible to quantify (Hochstrasser 1990, Irani 2002), and this is said to be even more challenging in non-profit organizations (Kleersnijder and Berghout 2010). Many of the 'softer' benefits of technology and capital projects may be difficult to quantify (Aggarwal, Edward et al. 1991, Farbey, Land et al. 1993, Lefley and Sarkis 1997, Irani 2002).

Furthermore, criticisms exist for research that are often conducted in a 'value-neutral' setting (Boehm 2003), where every project, mechanics and the people implementing and evaluating the processes and outcomes are treated as equally important, and that these processes are largely logical activities, and PPM mechanisms are seen as separate from the

people influencing and/or making the decisions, those implementing the solutions and the recipients of the outcomes of the decisions made (Boehm 2003). There is hence a need to consider multiple stakeholder perspectives and involve stakeholder representatives from competing value systems in managing value (Male, Kelly et al. 2007).

Articulating value for different stakeholders

In any discipline of value, it is therefore crucial to be able to articulate the value that stakeholders will receive from the goods and services. Elias (1998, p. 393) states that '*value is determined by the buyer, not the seller; by the user, not the producer.*' This is often described as the value proposition, and often considers the customer as the key stakeholder, although there are other stakeholder perspectives including the public and the non-profit stakeholders. These views are discussed in the following section.

Customer-centric value

A value proposition is a clear statement of the benefits that the end consumer gets from using the products or services the network provides (Parolini 1999). Traditionally, the value proposition is expected to capture the relationships between the suppliers' offerings and immediate customer's needs. In consumer marketing, Prahalad and Ramaswamy (2004) observed that the meaning of value and the value creation process are shifting speedily from a product- and firm-centric view to personalized consumer experiences. They posit that consumers today are more likely to "co-create" value with firms, a view similar to Winter and Szczepanek's (2008) where there is a shift from product-centric projects and portfolios to focus on customer and value centrality.

As a strategic planning process where projects are linked to business strategy, Winter and Szczepanek (2008) study the various foci of value at three different levels of a business namely, at the strategic group level (shareholder value); business unit, program or portfolio level (provision of customer service, unit sales and profits) and project levels (improving service and quality). They argue for the move away from both the 'traditional product-centric view' (for example capital assets, systems or facility) and the 'traditional project management triangle' of specifications, cost and time to a 'value-centric perspective' (for example business strategy, organizational effectiveness and stakeholder benefit realization) (Winter and Szczepanek 2008). The researchers draw on Normann's (2001) views of customer value-creation to apply the same logic from organizations to projects by positing that long term measures of project and program success are strongly linked to customers' positions in relation to their own markets. This is deemed relevant and more sustainable for projects and programs in the 21st century. They also imply a representational shift from singular to multi-disciplinary projects and emphasize the importance of considering multiple perspectives in project and program management, of which the underlying message is the same for project portfolio management.

However, the traditional view of value proposition is critiqued as it targets end consumers and not intermediate supply chain partners (Biem and Caswell 2008). Biem and

Caswell's (2008) value network analysis model involves a firm's understanding of how its offering is positioned in terms of the final customer value, and how other nodes affect that final proposition. Accordingly, value is not simply added, but can be mutually created and recreated among actors (including customers) and the nodes in the business networks (Ramirez 1999, Prahalad and Ramaswamy 2004, Biem and Caswell 2008). Yet, these studies consider the customer the main stakeholder, and are focussed only on profit organizations and commercially-driven projects and portfolios. Still unexplored within the body of PPM literature are the less tangible or intangible value dimensions in multi-stakeholder environments beyond the customer stakeholder, how these value constructs differ in commercial and non-commercial portfolios that could also be found in the public and non-profit sectors.

Concerning the development of project portfolio decision-making methodologies in non-commercial and non-profit organizations, value is argued to be more intangible and difficult to determine in such portfolio types and hence investment decisions may need to look beyond investment efficiencies and returns on investment (Kleersnijder and Berghout 2010).

Public value perspectives

In the public services sector, value is often determined by the citizens and often identified as improved services, enhanced trust or social capital, or diminishing or eradicating social problems (Horner and Hazel 2005). For Kelly, Mulgan and Muers (2002), services, outcomes, and trust, legitimacy and confidence in government provide the basis for guiding decision-makers in considering the value they create. O'Flynn (2007) highlights the multiplicity of goals and objectives, multiple accountability systems including citizens as overseers of government, customers as users and taxpayers as funders, and implies that the dominant focus of public value creation may be in managing relationships and engaging in negotiation.

Another example of how value could be said to be complex and often less well-defined is value in the health system. In Porter's view (2010) of value should "always be defined around the customer, and in a well-functioning health care system, the creation of value for patients should determine the rewards for all other actors in the system." Whilst value is defined around the customer and the patient in the example of the health system, it is also measured by the processes and encompasses all the services and activities that jointly determine success in meeting the patient's needs. The writer suggests that a proper unit for measuring value needs to include all services or activities that contribute to the success in meeting a set of patient needs and is largely results and outcomes based. Porter states that value depends on results and outcomes achieved, not inputs. Additionally, accountability for value should be shared among the providers involved, hence there are multiple actors in the value generation and realization dimensions (Porter 2010). This reinforces the importance of considering multiple stakeholders and decision makers involved in creating and realizing value.

Other stakeholder value dimensions

From the perspectives of ethical quality as a value dimension, Palomino et al (Palomino, Baron Gomis et al. 2011) state that ethical value could be appreciated by stakeholders for example through good ethical and moral reputation and incorporating values orientated around employee quality of work-life (Palomino, Baron Gomis et al. 2011).

Other less tangible value perspectives and metrics consider employee workplace quality and the ability of the organization to engage the best available human capital (Fombrun 2001, Trevino and Nelson 2010); firm competencies in accessing superior resources and financial backing compared to other companies, having lower costs than competitors (Fombrun 2001), the media and other social establishments (Fombrun 2001); commanding a greater number of sales and production contracts (Fombrun 2001, Trevino and Nelson 2010). It could be deduced nevertheless that in many of these scenarios, the underlying motive is still towards enhancing financial and economic outcomes.

The need to look beyond tangible and financial constructs of value in PPM

Following the lead of business and organizational studies where most considerations of stakeholder groups are said to have advanced beyond customers to include suppliers, partners and other business stakeholders (Clarkson 1995, Donaldson and Preston 1995, Neely, Adams et al. 2002), in project portfolio management studies, it is only recently that researchers are considering the impacts of customer integration on PPM (Voss 2012). Nevertheless, Allee (2000b) argues that these expansions of stakeholder types are still focussed on those with direct financial transactions with the organization. In practice, the focus is still on the customer. Allee (2000b) calls for an extended outlook of possible value dimensions among different stakeholders.

Early PPM research has shown that the use of multiple value criteria including strategic measures is associated with better portfolio performance than a reliance on financial value measures alone (Cooper, Edgett et al. 1999). Meanwhile, very few studies explore non-commercial and intangible value. Thiry (2002) considers value management within project and program management that integrates learning and performance concepts whilst Bardhan and Sougstad (2004) raise the importance of valuing and prioritizing a portfolio of IT investment projects using real options analysis. Other studies about value in projects and project portfolios include value in multi-project environments where value realization is positioned as an outcome of a project portfolio (Kopmann 2013); value co-creation utilizing project alliance in the transport infrastructure sector; (Heikkinen & Airola 2013) and value management and learning in portfolios (Thiry 2002). Additionally, Killen et al (2012) discuss how the value of non-commercial portfolios might be measured and very recently, Martinsuo and Killen (2014) reviewed the concepts and practices of strategic value in non-commercial project portfolios to suggest that more research needs to be conducted in non-commercial evaluation and performance criteria for PPM. Other studies imply considerations of value in their research through the exploration of portfolio decision-making processes and outcomes, although value is not their primary focus (Kester, Griffin et al. 2011).

Although there is acknowledgement of the influence of multiple stakeholders on managing portfolio value and the need for improved ways to truly improve portfolio value (Thiry 2002, Thiry and Deguire 2007), there is a lack of guidance for practitioners in their quest to strategically and holistically improve non-financial value through the project portfolio. Furthermore, projects and therefore portfolios in different industries can be perceived (Blomquist and Wilson 2007) and potentially treated quite differently to meet the value expectations of different types of stakeholders. What this implies is that a multi-faceted approach needs to be applied when investigating value dimensions in project portfolios, because portfolios cannot be neatly classified as customer, marketing, NPD (innovation), Learning, R&D, alliance, accounting or otherwise as there are often two or more of these dimensions within a portfolio, for example customer co-creation of new products and learning leading to innovative design.

From a project portfolio perspective, a portfolio can assist with resources when a project is able to communicate and demonstrate its value potential in the domains of both tangible and intangible value. This is important because socially complex and intangible resources such as reputation, corporate culture, long-term relationships with suppliers and customers, and knowledge assets are seen as resources that may lead to long term competitive advantage (Barney 1991, Teece 1998) using the criteria of : valuable, rare, inimitable and effectively deployable (Barney 1991). These types of resources are often intangible, difficult-to-replicate and are argued to be necessary to undergird the business processes for competitive advantage and stakeholder value creation.

Therefore, the ability to identify, understand and manage strategic project value is deemed essential for the project selection and termination decisions that are central to PPM. What the preceding sections demonstrate is that one should not ignore the differences among stakeholder groups in considering value in project portfolios. Nevertheless, the task of establishing organizational objectives in a manner that takes into account concerns across and within heterogeneous stakeholder groups can be said to impose an unrealistic expectation of managers (Sundaram and Inkpen 2004). A fundamental problem with the stakeholder view is that the question of *which* stakeholder should matter is left unanswered. Scholars (Mitchell, Agle et al. 1997, Sundaram and Inkpen 2004) are still on the quest of addressing stakeholder saliency through their question "The Principle of Who or What Really Counts" although Freeman (2004), in a later article critiques Sundaram and Inkpen's question as philosophical in nature. Despite the academic debates of what is possible, realistic and what is merely philosophical, in practice however, there is a clear dilemma for decision makers. Whose values should be represented in such management decision-making?

This calls for subsequent rounds of research in extending the exploration of stakeholder management in practice in different contexts. As stated by Hillman and Kleim (2001), exploring multiple stakeholder demands and how managers manage and balance the diverse demands of different stakeholder groups and prioritize are important areas of investigation. Insights in these areas can help illuminate and guide project portfolio managers in different

sectors undertaking different types of decisions involving projects, programs and portfolios with multiple stakeholders.

These PPM processes are interconnected, iterative and cyclical and many suggest that the management of value considers the complexity of managing multiple stakeholders (Jonas 2010, Lim, Quercia et al. 2010, Unger, Kock et al. 2012, Voss 2012, Beringer, Jonas et al. 2013) and incorporates a 'sensemaking' process (Thiry 2001, Brown, Stacey et al. 2008, Winter and Szczepanek 2008). Thiry (Thiry 2001) explored value management and sensemaking in program management. Whilst the literature mentions value management and sensemaking in the discipline of project management, the exploration is only at the cusp of pioneering new knowledge in this relatively unknown area. Further investigation into sensemaking processes is needed for value management among stakeholders in PPM.

Sensemaking in organizations

Sensemaking in organizations is a complex process of forming and re-forming shared understandings is built from the ongoing interactions and coordinated actions between people (Easterby-Smith, Crossan et al. 2000, Weick, Sutcliffe et al. 2005). Weick (1979, 1995, 2001) talks about organizations as sensemaking systems. What this means is that people in organizations create and recreate conceptions of themselves and those around them. According to Weick (1995), sensemaking in organizations is characterized and shaped by social occurrences, is enactive of sensible environments, retrospective, on-going, influenced by cues and driven by plausibility. It can also be impacted by how the 'actor' or person observed and interviewed is attending to other people at a given moment in time-space (Dervin 1998). Dervin (1998) implies that socially, sensemaking occurs with and in relation to other people inside and outside the organization. In being enactive of sensible environments, people create or enact a part of the very environment they face and implant their own reality. People's preconceptions of their surroundings determined consecutive decisions and ultimate actions taken (Weick (1995). People share feelings, intent and perceptions among themselves and gradually define and create meanings (Weick 1995, Allard-Poesi 2005). These shared sentiments then enable people to agree on decisions and actions to thence be able to coordinate their actions. In fact, what is achieved is the shared equivalent inter-subjective meanings that are built through discussion, conversation and trial and error. Sensemaking is therefore also positioned as retrospective since it is seen as a never-ending reconstruction of experience, and hence linked to its characteristic of being ongoing and continuous – sensemaking is always in process (Weick 1995, Pugh and Hickson 2007). Additionally, sensemaking is said to be driven by plausibility rather than accuracy (Weick 1995, Pugh and Hickson 2007). This is where accuracy takes second place to acceptability. It is argued that people are likely to take a route that is 'good enough' to guide action for the time being (Weick 1995, Pugh and Hickson 2007).

Sensemaking and meaning-making grows from familiar points of reference and can be extracted from cues (Weick 1995). Weick (1995) adds that identifying and controlling these cues can become a source of power since controlling what others respond to frames the view they will take and what they will do. Some scholars have found that stakeholders may

exercise underlying forms of power to determine value, and that could ultimately influence decision-making (Weick 1995, Mitchell, Agle et al. 1997). Unfortunately, research relating sensemaking practices to stakeholder and value management in project portfolios is almost non-existent and only two such studies were found (Thiry 2001, Sense and Badham 2008).

Sensemaking and multiple stakeholders in project portfolio management

Through sensemaking perspectives, decision-makers construct meanings of what constitutes value in a portfolio of projects in order to prioritize their decisions, to help them clarify which projects matter, and this in turn will help them define, negotiate and integrate value dimensions with multiple stakeholders that can help determine future decisions and actions. However, since decisions made are often determined by people's preconceptions of their surroundings (Weick 1979, 1995, 2001), this could lead to portfolio managers dismissing or neglecting other important factors in the decision process, exacerbate pre-existing blind spots within the teams or portfolio and may lead to portfolio disaster as an outcome.

If multiple stakeholders are considered to individually make sense of what is valuable in a portfolio, how do portfolio managers then interpret, integrate and incorporate these multiple value constructs and dimensions in their decision-making processes? This point creates a tension and gulf between what Weick (1979, 1995, 2001) states about sensemaking practices for the different actors as a subjective, constructivist and interpretive practice as opposed to traditional project portfolio processes and decision support tools offered as 'best practices' in determining what is of value in a portfolio. While decision-making features involving rational theories of choice and logic are acknowledged, these theories will not be a key area of focus in this paper. Rather, this paper and the proposed research study instrumentally links sensemaking practices with value interpretations and encourages the reader to consider in actuality, how project portfolio managers construct, interpret and integrate stakeholder value dimensions for decision-making.

Discussion and analysis of literature

In the literature, value is discussed from two over-arching positions – the tangible or financial values; and the non-financial, non-commercial and often intangible values. Furthermore most of the focus of value in the project portfolio literature emphasizes economic financial and customer value measurements. There is a lack of research or guidance on the integration of less tangible dimensions of value in the different contexts of project portfolio management and decision-making. What is also still missing is the consideration of value dimensions by stakeholders in non-commercial portfolios or in non-profit sectors. These are equally if not more complex, inter-dependent and operate in dynamic multi-stakeholder environments where decisions are critical and yet there are few, if not no frameworks to consider non-financial value in decision-making.

Research that addresses the ways that multiple stakeholders and multiple value dimensions influence PPM decisions could provide insights and findings to improve PPM

practice. Such findings could help project portfolio practitioners avoid an over-reliance on decisions surrounding risk aversion, legitimacy, financial, profit-driven characteristics of the portfolios in terms of short-term gains. Further investigation into these areas could provide guidance for practitioners to include long term strategic value and incorporate a well-diversified and balanced portfolio. The downside of ignoring this critical area could lead to an avoidance of high-growth, long term and more sustainable portfolio opportunities for example, in new product development, partnerships, new technologies or organizational development.

The literature also suggests that project portfolio managers can often be on a metaphorical ‘decision see-saw’ as illustrated in Figure 1, as they strive to make sense of, prioritize and balance the multiple demands of different stakeholders in order to identify and deliver value relevant to these stakeholders.

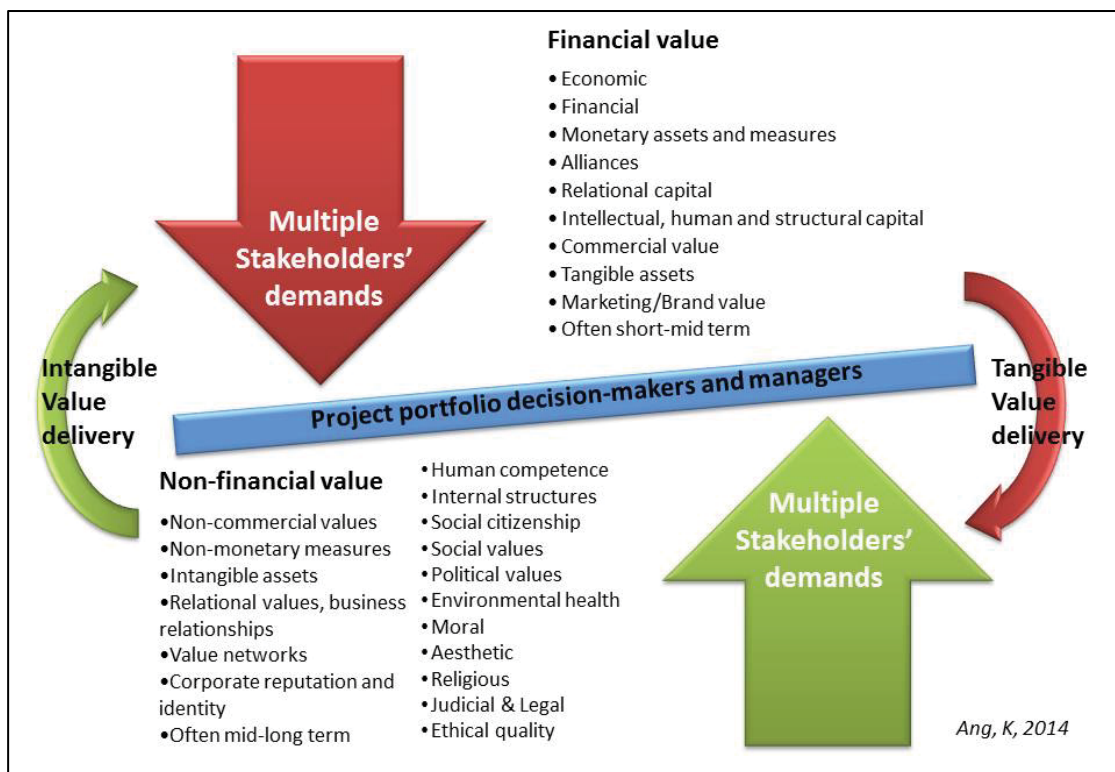


Figure 1: The PPM decision ‘see-saw’

Understanding how stakeholders and decision makers make sense of value in order to make decisions can contribute to the knowledge gap between seemingly objective rational models of portfolio decision-making, and what actually occurs in practice. Irani (2002) suggests an interpretivist approach that could also be applied in addressing these research gaps. This ‘softer more persuasive approach’ (Irani 2002, p. 13) can be particularly useful when dealing with multiple stakeholders on the justification of medium- and long-term project investment concepts and plans

Mitchell et al (1997) raise questions of stakeholder identification and saliency under the principle question of ‘who and what really counts’. Inspired by the question ‘knowledge for what and for whom’ raised by Mesny and Mailhot (2012) as to who are the true beneficiaries in the production of knowledge, this study supports the scholarly pursuit of addressing the research gap by extending research surrounding the principle question of ‘value for whom, and by whom?’ in project portfolio decision making practices.

Addressing the gaps identified in the literature, the following research questions have been formulated:

1. How do the different constructs of value in various multi-stakeholder environments influence project portfolio decisions?
 - a. How is value understood in practice by different stakeholders in different portfolio contexts?
 - b. What are the dimensions of value that inform portfolio decision-making in practice?

Incorporating a sensemaking orientation in the research design

Sensemaking research could play a role in exploring the multiple value dimensions in project portfolios. Dervin (1998) includes the practice of enabling participants to define their own terms, criteria sets, gaps and bridges in their own experiences. Sensemaking practices are said to be activated by and situated in the they are created and situated in the overall situation (Dervin 1998) or in micro-practices of interactions, conversations and coordinated actions between people (Dervin 1998), Easterby-Smith et al 2000, Hellgren and Lowstedt 2001). These practices are also shaped by language rules, vocabulary, authority relations, work roles, norms and social structures (Weick 1993) or situations based on the concepts of time, space, movement, gap, constraint (Dervin 1998).

Project portfolios exist in complex environments where there are usually multiple actors and hence, multiple stakeholders who are likely to have multiple expectations, demands and perspectives of what constitutes value. Therefore, a sensemaking approach is deemed appropriate for investigating these inexplicit and often subtle perspectives. Multiple constructs of meaning or outliers are often overlooked by decision-making tools and mechanistic processes that focus on logical and rational value factors. The outliers that are ignored may be important as these may become problematic at some stage of the project portfolio. The reality is that decision makers often need a way to identify and integrate the value dimensions within their project portfolio management practices – they are in fact, balancing stakeholder constructs of value, as well as the actual project portfolios. The proposed exploratory research seeks to adopt a reflexive and iterative strategy to capture emergent differences and dimensions of value that may be lost if a researcher is looking for a confirmation of practices too early in the research process. Linked to reflexivity and the retrospective-prospective nature of sensemaking is the notion that sensemaking comprises an on-going and tensional process with a ‘continual weaving of sense from beliefs, implicit assumptions, tales from the past, unspoken premises for decision and action’ (Weick, Pugh

2007, p. 123) known also as ‘rolling hindsight’. Furthermore, people are said to exercise selective perception, that is, people are likely to notice some things and not others, and depending on where they look, what they focus on, how they look, what they want to represent, and what their tools of representation are, the sense made of the same situation will often differ for different people. This is important in addressing the gap in the research on how stakeholders and decision makers make sense of, view, identify and determine value. Thiry (2001) emphasizes the role of multiple stakeholders in sensemaking for value management and highlights it as an interpretive activity anchored in the social processes of projects.

In supporting the key research question ‘*How do the different constructs of value in various multi-stakeholder environments influence project portfolio decisions?*’, this research implies an epistemology and ontology that has a strong pragmatist focus to deal with the practice-based challenge of complexity whereby there is the acceptance of multiple realities, social perspectives and the involvement of the researcher and participants in the research and validation process (Jones 1988, Creswell 1998, Mertens 1998, Cicmil, Williams et al. 2006).

Proposed research design and methodology

Addressing the questions surrounding multi-stakeholder expectations of value and project portfolio decision-making, and how the knowledge is constructed and associated requires a blending of the participants’ multiple perceptions of value, their environment and researchers’ observations. Allard-Poesi 2005, p. 170-171 draws on Schutz (1962) to comment that ‘*sensemaking research relies extensively on interpretive grounded approaches that seek to grasp people’s understandings*’. From this angle, a socio-constructivist or interpretivist assumption is recognized through the acceptance of multiple realities, and the involvement of the researcher in the epistemological process (Mertens 1998, Creswell 2003).

A qualitative methodology is proposed that adopts multiple qualitative methods (Hesse-Biber 2010). The primary thrust of this research will be conducted through multiple case studies (Yin 2009) focusing on value and PPM decision practices in diverse organizations, followed by a secondary phase using Hybrid Delphi expert panels (Landeta, Barrutia et al. 2011) to review and validate the insights and propositions. The combination of qualitative methods through multiple case studies and expert panels is expected to enable the various PPM contexts, inexplicit nuances and layers of value to be studied in depth. In light of the exploratory nature of the research questions, the method is open to new information and is less confirmatory (Hesse-Biber 2010). Using case study research enables the exploration of the ‘how’ and ‘why’ (Yin 2009). Guba and Lincoln (1981) suggest that case studies could be used to describe what it is like to ‘experience’ a situation, a function identified as ‘rendering’. The cases will explore the relational nature of the elements involved in multi-stakeholder expectations of value and project portfolio decision-making, and how they are constructed and associated by blending participants’ perceptions of value, their lived experience of their environments and the researchers’ observations.

The types of sensemaking questions will encompass micro-moment time-line questions about former decisions made (Dervin 1983). Dervin's framework of questioning will be adapted to incorporate micro-moment decision-making interviews about how and which value dimensions are of strategic focus, and who else impacts on each decision-making moment. In consideration of the socio-constructivist view where the detailed, situated and concrete practices and interactions are being researched, this could include analyses of conversation sequences, storytelling, narratives (Easterby-Smith, Crossan et al. 2000), the adoption of micro/interpretivist methods through participant observations, open interviews, conversational analysis and interaction analysis. Accordingly, participants use their own terminologies and steer the interview around issues and concepts they feel best represent their own experiences and interactions (Gioia and Thomas 1996). The application of micro-logics and activities between organization members could include records and transcripts of interactions for example face-to-face conversations, emails, archival data including minutes of meetings, publicly available documents, annual reports, websites, memorandums or newsletters.

The cases are proposed to represent a mix of commercial and non-commercial project portfolio environments across multiple industries (Eisenhardt 1989, Patton 2002). The case samples will be varied with respect to sector type, industry, size of organization. Specifically, these cases will be selected from the public/government, private/profit and non-profit/charities sectors. This is to ensure that one achieves a good diversity of responses, a term referred to as purposive sampling (Lincoln and Guba 1985).

Organizations selected will be those that operate in multi-project or multi-program and project portfolio environments. They will need to provide the researchers with consent and access to communicate with relevant portfolio stakeholders. Research participants will include project and portfolio members, decision makers and key stakeholders (based on the literature, this may include customers, suppliers, shareholders, senior managers, staff, government officials or the public). Through a snowballing referral method (Vogt 1999, Atkinson and Flint 2001, Prell, Hubacek et al. 2009), many of these participants may be referred to by others within the project portfolio network as members that are directly relevant to the decision-making process in the portfolio. This method provides a practical means of identifying and accessing relevant participants in the portfolio groups under study where a link or bond exists between the initial sample and others within the same target group in the case study (Berg 1988). It is well suited to exploratory, descriptive qualitative interviews (Atkinson and Flint 2001). In this research, the unit of analysis is the project portfolio. Other units of analyses may include the projects, programs, stakeholders or the decisions made.

Following on from the multiple case-studies, the second phase of the research will seek to validate the framework and theoretical propositions primarily through expert panels using a Hybrid Delphi technique (Landeta, Barrutia et al. 2011). The conventional Delphi technique involves multiple rounds of remote and anonymous feedback from experts (Linstone and Turoff 1975). The Delphi technique is acknowledged as a reputable method of 'harnessing

the opinions of an often diverse group of experts on practice-related problems' (Powell 2003) p. 376. Expert panels are used in numerous fields, and is cited to be used for purposes to generate communication and debate, judgement, evaluation and opportunities for revisions (Linstone and Turoff 1975, Powell 2003, Okoli and Pawlowski 2004, Landeta 2006, Rikkonen, Kaivo-oja et al. 2006, Nowack, Endrikat et al. 2011). Such expert panels provide different perspectives to an area of exploration and produce a higher proportion of high quality, highly acceptable solutions and better performance due to the wide range of expert alternative perspectives provided. The Hybrid Delphi technique by Landeta et al (2011) combines face to face workshops with anonymous remote feedback. These sessions are proposed to gather feedback and validation on the findings, further develop the themes and co-create new knowledge in the field of project portfolio management and decision-making

It is important that panelists in any form of Delphi group are balanced and representative in composition, and well-moderated by the researcher (Bloor, Sampson et al. 2013). Participants who have previously shown interest in the study are more likely to be successfully recruited. Bloor et al (2013) also suggests that more panelists than needed should be recruited to allow for 'no-shows'. The expert panel is intended to comprise of different scholars, practitioners and interest groups relevant to PPM who can articulate and provide multiple perspectives and expertise in their own contexts and areas of knowledge to make sense of, review, assess, validate, deliberate, debate to suggest implications and refine practice-based propositions and guiding principles that help to inform decision making and stakeholder value management concepts, processes or frameworks that may arise from the study.

Data Analysis

As this study is primarily exploratory, it is proposed that the case and expert panel analyses will focus on the sensemaking process and the different stakeholder meanings surrounding value. The data could be coded to identify themes, relationships and patterns of how people construct a sense of value, in conjunction with the analysis of internal and external documents (Dervin, 1983; Yin, 2003). Here, the data could be cross-examined and triangulated from the different data collection methodologies. The interviews can contribute thick description to the case studies, allow for depth of understanding and triangulation with the documents analyzed and survey conducted. The analysis of the qualitative data is recommended to be iterative, co-created, reflexive and multi-staged. Feedback from the expert panel workshops will be similarly coded and analyzed to determine the level of validation and support for the propositions and the framework.

Conclusion

Exploration of the literature on the various perspectives of value in relation to stakeholder theory and PPM highlights potential decision making challenges accompanying the construction of value in multi-stakeholder environments. The literature suggests that multiple stakeholder needs and expectations should be taken into account for effective PPM

decision-making. However, decision-making in a complex environment can often mean that multiple stakeholders compete with each other due to their conflicting needs and varying perceptions of value (Thiry 2002). Where the value expected from projects is not primarily financial in nature, the influence of the varying stakeholder views is especially relevant for PPM decision making.

We highlight a gap in the research; extant studies do not deeply explore or fully address the ways that value propositions are determined in different types of portfolios, and whose perspective(s) of value are adopted in different contexts. Adding to the complexity is that the relevant stakeholders may vary by portfolio type, and their needs and value expectations, particularly intangible value dimensions, could shift depending on context, from issue to issue and time to time. The multiplicity of influences and the lack of insights on incorporating the less tangible value expectations of different stakeholders may potentially lead to complex decision dilemmas, compromises and inconsistencies in project portfolio decisions.

A central goal of PPM is to maximize strategic value across the portfolio – this value maximization requires understanding of both tangible and intangible value dimensions and the ways that value influences PPM decisions. Exploration into this area is important for understanding the ways multiple stakeholders and their varying perceptions of value can influence portfolio management decisions. In-depth research will be needed to illuminate the ways in which a project portfolio decision-making framework or guiding principles may be used or translated to different contexts. The findings from such research have significant implications for the effective management of stakeholder engagement processes that occur in multi-stakeholder projects-based organizations. The outcomes of the proposed research could contribute to the effectiveness of project portfolio managers as they deal with and make sense of multiple stakeholder interests and expectations of value in projects and project portfolios.

A multiple-case study followed by a Hybrid Delphi study is proposed to explore how multiple stakeholders impact the determination of value in portfolio decision making. The research will contribute to the theoretical development in the PPM discipline through integrating practice-based perspectives of value, stakeholder management and sensemaking to inform the development of a framework and guiding principles that could be further tested and validated. No such decision-making framework currently exists in integrating value within multiple stakeholder portfolios in different portfolio and sectoral contexts. Frameworks are useful for learning and for guiding practitioners in complex multi-stakeholder decision processes (Hajkovicz 2008). The suggested qualitative research methodology utilizing multiple qualitative methods aims to explore how PPM decision makers and stakeholders make meaning of value (Hesse-Biber 2010). It provides an integrated practitioner dimension in addressing the question of ‘value for whom, value by whom’. Similarly integrated decision models can help guide project portfolio practitioners in sensing, developing, planning and achieving multi-stakeholder goals (Thabrew, Wiek et al. 2009) through project and portfolio management capabilities (PMI, 2013). This is important for improving understanding of the world of PPM and could provide insights and exemplars to inform practice. Portfolio managers may benefit from insights about the multi-dimensional

aspects of value and the ways that they might traverse and negotiate in a complex decision environment in a holistic and strategic manner.

This study links to other recent value-based studies in the project portfolio field (Thiry 2001, Thiry 2002, Killen, du Plessis et al. 2012, Kopmann 2013, Martinsuo and Killen 2014) by extending the knowledge on strategic value and multi-stakeholder management to public, private (profit) and non-profit sectors. Ultimately the proposed research aims to provide insight and guidance for all organizations, whether commercially focused or not, on working with multiple stakeholders to improve PPM decision-making to deliver strategic holistic value through the project portfolio. The research proposed in this paper benefits decision makers and stakeholders alike as it highlights some of the necessary considerations of different value dimensions by different stakeholders in order to be equipped in identifying, negotiating and integrating strategic value dimensions in order to make better informed decisions in their respective contexts.

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Paper 2: Multi-stakeholder perspectives of value in project portfolios

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MULTI-STAKEHOLDER PERSPECTIVES OF VALUE IN PROJECT PORTFOLIOS

Karyne Ang
UNIVERSITY OF TECHNOLOGY SYDNEY (UTS) - Sydney, Australia
Catherine Killen
UNIVERSITY OF TECHNOLOGY SYDNEY (UTS) - Sydney, Australia

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Multi-stakeholder perspectives of value in project portfolios

ABSTRACT

Organisations invest in projects to create value. One of the key goals of managing multiple projects from a project portfolio perspective is to maximise this value across the portfolio. The value generated by projects has long been understood to be more than just the direct financial value, and researchers are actively working on extending the understanding of value for project portfolio management (PPM) environments. However, value is a complex phenomenon – value is not a fixed entity, but rather it varies in the ways it is perceived by each stakeholder, and in how value perceptions are translated into practice. This paper explores practices for understanding value by different stakeholders in various contexts and identifies seven perspectives through which value is identified in project portfolio environments. A typology of value perspectives is presented that aims to guide and improve practice by extending the range of values that are perceived, anticipated and considered for PPM decision making.

Keywords: value, project portfolio, stakeholders

Multi-stakeholder perspectives of value in project portfolios

Karyne C.S. Ang *, Catherine P. Killen **

* University of Technology Sydney, P.O.Box 123, Broadway NSW 2007, Sydney, Australia
School of Systems, Management and Leadership, Faculty of Engineering and IT
Email: karyne.ang@uts.edu.au

** University of Technology Sydney, P.O.Box 123, Broadway NSW 2007, Sydney, Australia
School of Systems, Management and Leadership, Faculty of Engineering and IT
Email: catherine.killen@uts.edu.au

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Abstract

Organisations invest in projects to create value. One of the key goals of managing multiple projects from a project portfolio perspective is to maximise this value across the portfolio.

The value generated by projects has long been understood to be more than just the direct financial value, and researchers are actively working on extending the understanding of value for project portfolio management (PPM) environments. However, value is a complex phenomenon – value is not a fixed entity, but rather it varies in the ways it is perceived by each stakeholder, and in how value perceptions are translated into practice. This paper explores practices for understanding value by different stakeholders in various contexts and identifies seven perspectives through which value is identified in project portfolio environments. A typology of value perspectives is presented that aims to guide and improve practice by extending the range of values that are perceived, anticipated and considered for PPM decision making.

Keywords: value, project portfolio management, stakeholder management, sensemaking

Introduction

Organisations invest in projects to create value. One of the key goals of managing projects from a project portfolio perspective is to maximise this value across the portfolio. However, value is a complex phenomenon – value is not a fixed entity, but rather it varies in the ways it is perceived by each stakeholder, and in how each individual's value perceptions are translated into practice. A primary concern in project portfolio management (PPM) is the over-emphasis of short-term economic or financial value in project and portfolio evaluations, which can jeopardise the achievement of longer-term strategic value (Cooper, Edgett, & Kleinschmidt, 2001; March, 1994; Voss & Kock, 2013). The value generated by projects has long been understood to be more than just the direct financial value, and researchers are actively working on extending the understanding of value for PPM environments (Killen, du Plessis, & Young, 2012; Kopman, 2013; Kopmann, Kock, Killen, & Gemuenden, 2015; Martinsuo & Killen, 2014). Furthermore, value is interpreted differently by different stakeholders. PPM is often portrayed as a strategic, top-down approach that is directed from above and influenced by power and politics (Elonen & Artto, 2003; Markham & Holahan, 1996; Martinsuo, 2001). However, where there are multiple actors and stakeholders influencing value determination and decision processes, value may, in practice, emerge from different levels of an organization, for example from the bottom-up.

The research reported in this paper explores the ways in which value is understood, discussed, and negotiated by multiple stakeholders in the management of project portfolios. In undertaking this study, we take the view that an understanding of the perceptions of value (and influences on value discussions) from multiple stakeholders' perspectives will enhance the way PPM decisions are made, and assist with managing and maximising portfolio value. This paper is structured as follows. First, we overview PPM and its role in managing portfolio value creation. Then we introduce several perspectives of value, and traverse the

literature to find the extent to which value is discussed in the context of PPM. Next we outline the empirical case study research design developed to explore the phenomenon of value in project portfolios from the perspectives of multiple stakeholders. We then present the findings including a proposed typology of value perspectives and discuss the related relevance in PPM decision making. Finally, we discuss how the typology may assist managers and decision makers to improve portfolio outcomes by more holistically considering, identifying and negotiating value in projects and portfolios.

PPM as a way to holistically integrate projects and programs with organisational strategies

Projects in organisations today are less likely to be analysed in isolation, and are increasingly linked to broader business agendas and organisation strategies, and thus managed as part of the portfolio of an organisation's projects (Artto & Dietrich, 2004; Müller, Martinsuo, & Blomquist, 2008). Hence, studies on the management of projects, multiple projects, programs and project portfolios are viewed as highly relevant to the success of an organization.

Project Portfolio Management (PPM), the management of a collection of projects as one entity, has attracted increasing interest for both research and practice. The Australian Institute of Project Management (AIPM) defines '*project portfolio management*' as: "*the centralised management of one or more portfolios of projects, which includes identifying, prioritising, authorising, managing and controlling projects, programs and other related work, to achieve specific strategic business objectives.*" (AIPM, 2011).

PPM often implies a strategic, macro and hence high-level or top-down approach that could be influenced by power and political decisions, especially when there are multiple actors and stakeholders influencing the decision process (Elonen & Artto, 2003; Markham & Holahan, 1996; Martinsuo, 2001). By adopting a portfolio-level perspective in balancing projects, resources and demands, PPM enables organisations to strategically and holistically integrate

and manage the project portfolio as part of the strategic initiatives of the organisation (Lycett, Rassau, & Danson, 2004; Vereecke, Pandelaere, Deschoolmeester, & Stevens, 2003). PPM encompasses processes for ideation, screening, identifying, authorising, selecting, controlling, concurrent reprioritising and terminating projects where required; whilst evaluating the associated risks, resources and priorities, and developing strategies in line with portfolio and organisational objectives (Archer & Ghasemzadeh, 1999; Cooper, Edgett, & Kleinschmidt, 1999; Reyck et al., 2005). However, PPM has been shown to be more than a process; organisational structures and people play an important role (Killen, Hunt, & Kleinschmidt, 2008b).

Criticisms and concerns with recent PPM approaches

Central to criticisms of some PPM decision-making practices is that they are much preoccupied with financial processes and rational quantitative models. Dominant PPM approaches are said to overemphasize economic analyses of value (Kester, Griffin, Hultink, & Lauche, 2011) although research shows that portfolios relying largely on financial measures are less likely to show portfolio success compared to those that use multiple methods, particularly scoring metrics and strategic approaches (Cooper et al., 2001). The over-reliance on economic and quantitative modelling methods could also be unreliable if the data is not accurate (Kester et al., 2011). Emphasising formal and rational decision approaches can result in an unintended imbalance of short and long term projects (exploitative versus explorative initiatives) to be achieved (Cooper et al., 2001; March, 1994) or potentially good projects and ideas could be overlooked or terminated (Blichfeldt & Eskerod, 2008; Engwall & Jerbrant, 2003). In contrast, a less formal approach to decision-making could lead to potential biases and affect the planning and allocation of resources in PPM (Blichfeldt & Eskerod, 2008).

PPM researchers repeatedly express concerns that current PPM approaches may be insufficient for holistic and strategic decision-making. Current PPM tools and techniques used are criticized as being unable to effectively deal with the dynamic nature in which projects are identified, launched, managed and terminated (Krebs 2009). In practice, decision-making in PPM involves a complex, dynamic, inter-related and often inter-dependent group of people, with different perspectives, with implicit and explicit capabilities and agendas. The practice of PPM is considered a dynamic, iterative decision process where projects are constantly being reviewed, updated and revised (Cooper, Edgett, & Kleinschmidt, 1997). More recent PPM decision-making literature has started to consider practice-based issues. For example, Winter et al (2006) highlight the complexity of projects due to the inclusion of social and human-based factors, multiple stakeholders and power relations. Other studies support the consideration of human factors (Elonen & Artto, 2003; Killen, Hunt, & Kleinschmidt, 2008a) and informal approaches to activities (Olausson & Berggren, 2010) and include resource allocations (Blichfeldt & Eskerod, 2008) or legitimacy challenges (Gutiérrez & Magnusson, 2014). Thus it can be observed that PPM includes a process of negotiation and bargaining involving multiple stakeholders internal and external to the organization (Christiansen & Varnes, 2008; Martinsuo, 2013) and subsequently there are multiple perspectives of 'value' that influence the ways that value is managed and delivered by projects. As such, PPM shortcomings could be addressed by embracing a more inclusive understanding of value in multi-stakeholder environments.

Value and its connection with PPM

The term 'value' has several meanings and is used in many ways. Very early theories about value were placed within an economic perspective, specifically value as an output of labour (Smith 1776). Value concepts have evolved and expanded to incorporate non-economic and non-monetary realms since, for example, Elias (1998) states that what is of value is a matter

of perspectives and identifies seven categories of value that include tangible and intangible aspects - 'economic, moral, aesthetic, social, political, religious and judicial values' (Elias, 1998). Allee (2000b) further challenges the commonly addressed perspectives of value revolving around monetary assets, alliances and relational capital, intellectual, human and structural capital and offers alternative forms of value in terms of intangible assets (viewed as unseen and often unappreciated) including corporate social responsibility and environmental sustainability. For example, knowledge can be exchanged for tangible goods, services or money; or intangible value like customer loyalty (Allee, 2000b). Allee defines value as '*a tangible or intangible good or service, knowledge, or benefit that is desirable or useful to its recipients so that they are willing to return a fair price or exchange*' (Allee, 2000b).

More recent viewpoints of value include the way it is now conceptualised to portray more holistic and experiential dimensions (Grönroos & Voima, 2012) including a dynamic and multi-contextual customer experience as value (Heinonen & Strandvik 2009) or value as incorporated in practice and social systems (Edvardsson, Tronvoll & Gruber 2011; Holttinen 2010). Furthermore, value might be found in different 'spheres' (for example provider, customer or joint spheres), at different points of time and space, and are not static, that is, value continues to evolve through past, present and future experiences (Grönroos & Voima 2012; Helkkula, Kelleher & Pihlström 2012; Voima, Heinonen & Strandvik 2010). The complexity of identifying value is demonstrated in the conceptual argument that '*different value spheres [that is, spheres of providers and customers] may follow in different sequences and form different value creation patterns*' (Grönroos & Voima 2012). Other types of value include transformational value (Basole, 2005; Gregor, Martin, Fernandez, Stern, & Vitale, 2006), and value as networks (Agarwal & Selen, 2009) and value maps (Allee, 2000a, 2000b).

The multiple perspectives of value (extending beyond economic and financial value) offer insights and also challenge us to explore how decision makers make sense of complex value constructs to ensure that they are relevant to their own projects and portfolios. ‘Value management’ concepts are well-recognised and applied in the disciplines of project management (Kelly & Male, 1988; Prasad, 1997; Thiry, 2002), marketing management (Bradley, 1995; Prahalad & Ramaswamy, 2004; Ulaga & Chacour, 2001), portfolio and corporate inventory management (Maizlish & Handler, 2010; Michalski, 2008) and investment management (which is different from PPM) (Irani, 2002), intellectual capital (Petrasch, 1996) or strategic management (Kaplan & Norton, 2001; Male, Kelly, Gronqvist, & Graham, 2007; Moore, 1995; Stoker, 2006). These ‘value management’ concepts tend to focus on systemizing processes for productivity through value engineering and increasing economic and customer value (Kelly & Male, 1988), or value creation as a strategic planning process in order to gain competitive advantage (Winter & Szczepanek, 2008). A ‘value-centric perspective’ is emphasized, for example through business strategy, organizational effectiveness and stakeholder benefit realization (Winter & Szczepanek, 2008). Other writers posit that decision-makers need to consider both tangible and intangible values including the broader considerations of human and organisational impacts when evaluating a project investment, for example in the context of evaluating infrastructure investments in Information Technology (IT) and Information Systems (IS) (Hochstrasser, 1990; Irani, 2002).

The complexity of value in multi-stakeholder portfolio environments

Project ‘value’ is a complex phenomenon due to the multiple benefits expected from projects and the multiple stakeholders that participate in and influence the ways in which PPM decisions are made incorporating value considerations. Decision-making procedures are likely to be affected by multiple stakeholders and their assessment of value (Brunsson, 2007). For instance, the types of values that decision makers and stakeholders focus on may differ

depending on organisation strategies and goals (Winter & Szczepanek, 2008). According to Thiry (2004), there is a need to differentiate between direct and indirect values. “*Direct values are financial impacts directly related to the choice of the alternative. Indirect values are elements valued by stakeholders, and especially decision makers that have may have an economic outcome beyond direct economic value.*” (p. 247). However, not every project portfolio may have a direct or tangible commercial outcome in terms of revenue generation or economic value. Yet, with regards to indirect value, when decision makers take into account value beyond economic value, they need to make trade-offs between various elements of value (Thiry, 2004). Managers need to deal with multiple stakeholders who have competing, conflicting and often inconsistent interests and value expectations. Moreover, projects and programs can be inter-dependent (Archer & Ghasemzadeh, 1999; Rungi, 2010), and some projects may have a lag time in the way they generate long term contributions to the portfolio. This impacts on how portfolio managers identify, understand and manage strategic portfolio value.

Increasingly researchers are extending the understanding of project portfolio value to recognise aspects such as preparing for the future or taking advantage of opportunities (Voss & Kock, 2013). However, there is a lack of research that explores the use of wider dimensions of strategic value, such as social, environmental or knowledge value, in project portfolio decision-making. PPM research has not comprehensively taken into account the complexities of multi-project, multi-stakeholder environments in terms of how the expressions and expectations of value and interactions between the portfolio components might impact on the overall portfolio. Drawing from our literature review, we identify a need for a more integrated and holistic way of considering how value is identified in PPM. To that end, we designed this study to deeply explore the different kinds of value perspectives, from a variety of stakeholder perspectives that influence PPM.

Research design and methodology

Research questions and objectives

The findings reported in this paper form part of a larger exploratory study that aims to identify the dimensions of strategic value that inform project portfolio decision-making in complex project portfolio environments with multiple stakeholders.

The specific objectives of the study reported in this paper are to:

- explore **constructs of value by different stakeholders** in different contexts
- **identify and classify perspectives of value** that inform portfolio decision-making in practice, with particular attention to aspects of alternative value perspectives that are not currently represented in the PPM literature
- Provide a typology of value perspectives that assists managers with identifying opportunities where value constructs might otherwise be missed, in order to **enhance portfolio decision making for future outcomes and value maximisation**.

Research design

A pragmatic approach underpins the research design for this exploratory study. A qualitative interpretivist methodology was employed to make sense of multiple stakeholder perspectives of the ‘how’ and ‘why’ of value (Creswell, 2003; Creswell, 1998; Silverman, 2010). This study involves the exploration and understanding multiple participant meanings, and through the direct lived experiences of the participants (Yin 2013). This is particularly relevant for discovery, theory generation and the formation of an interactive relationship between the researcher and the researched. In this light, the research in this paper uses case studies (Yin, 2013) relying on multiple sources of evidence as the research strategy, and adopts a sensemaking research inquiry methodology (Dervin, Foreman-Wernet, & Lauterbach, 2003).

Case studies

We adopt a case study approach to enable the exploration of the ‘how’ and ‘why’ (Yin, 2013) and to understand complex relationships among the elements of value and the stakeholders operating in different organisational settings (Denscombe 2010). The study explores multi-stakeholder constructs and associations of value and project portfolio decision-making by blending participants’ perceptions of value, their lived experience of their environments and the researchers’ observations. Sensemaking perspectives inform the research approach that aims to explore the ‘actuality’ of projects (Cicmil, Williams, Thomas, & Hodgson, 2006).

The data are collected through multiple sources including observations of organisational events (meetings, seminars, workshops, presentations), open-ended in-depth interviews, interactive discussions about visuals drawn or presented by participants, and the analysis of publicly available documents as well as confidential documents, photographs and diagrams. In the interviews, sensemaking questions are used to explore past decisions made about the types of value considerations and how that impacts on present and future decision-making (Dervin, 1983).

The research is focussed on the actions and interactions of the practitioner in order to explore human agency in their construction of value and enactment of decision making in portfolios, as located in the ‘practice-turn’ (Schatzki, Knorr-Cetina, & Von Savigny, 2001), strategy-as-practice (Whittington, 1996) and micro-strategizing (Johnson, Melin, & Whittington, 2003) to consider the micro-actions of human actors that shape activity resulting in strategic outcomes. Stakeholders are instrumental in the identification and evaluation of project portfolio value-in-practice and are a primary source of information for the study.

The main subject of focus is the ‘project portfolio’ as the main unit of analysis. Information collected from a range of the portfolio’s constituent elements form the basis of the ‘embedded units’ of the larger unit (De Vaus & de Vaus, 2001; Yin, 2013). Within the PPM umbrella,

the embedded units of analysis are: decisions and value. We use occurrences of statements about decisions and value to study how value is constructed; examining what values are drawn upon, how they are drawn upon, how value is used in portfolio decisions, and the consequences of these value constructs for shaping decisions for different stakeholders in the portfolio.

Sampling

Drawing upon Dervin’s (1998) argument that sensemaking is contextual in nature and situated in time and space, and that outcomes and conclusions from any one context may not always apply to different contexts, we have used purposive sampling (Lincoln & Guba, 1985) to select diverse cases that provide contrast and allow for as much differentiation and variety in the contexts as possible (Yin, 2013). To demonstrate the diversity and contrast in the selection of our cases, the cases are outlined in Table 1. The case study data comprises five case organisations from different sectors over a 12-month period. The cases have been selected from the public/government, private/profit and non-profit/charities sectors across multiple industries (Eisenhardt, 1989; Patton, 2002). Research participants were deliberately selected to represent a wide variety of stakeholder voices across the portfolio and organization. As a result, these included project, program and portfolio members, decision makers and key stakeholders (including beneficiaries, senior managers, staff, consultants, government officials).

Table 1: Summary of selected multiple case studies

Cases (pseudo-nyms)	No. of inter-views	Other data sources	Sector	Industry	Portfolio(s) of focus
UTIL	8	Business cases (proposals), presentations, research plans, project plans, risk analysis templates, fact sheets, annual reports, organisation structure, website	Public	State-owned public utilities	R&D, Enterprise
ASSET & MAINT	6	Stakeholder presentations, briefing notes, asset management	Public	State-owned public assets and	Assets, Standards &

NANCE		model, project flow diagrams, group charter, newsletters, website		standards; private-owned service provider/ external stakeholder (explored as a nested case)	Risk Management portfolios
HEALTH	4	Organisational structure, website	Not-for-profit	State-based health and clinical care, medical research and pharmacy businesses	IT & Capital Assets
MEDIC-LIFE & HUMANITARIAN	18	Strategic plan, organisational structure, policies and procedures manual, role descriptions, annual reports, case reports, pamphlets, invitations, project decision flow chart, website, social media (Facebook), electronic images	Not-for-profit	Regional medical aid services supported by International Humanitarian organisation (explored as a nested case)	Medical program/ portfolio, social development projects/ programs
FINANCE	4	Website	Profit/Private	National financial institution	General & regulatory/ compliance portfolios

Data Analysis

This study utilises a recursive deductive-inductive analysis approach (Miles, Huberman, & Saldaña, 2014). To strengthen the face validity and credibility of the research (Patton, 2002), the participants' views and experiences are portrayed in their own words. The micro-level actions of individuals are linked to context and macro-level social structures and properties, for example, in the portfolios, organisations and their environments (Seidl, 2007; Wilson & Jarzabkowski, 2004).

We apply the term '*micro-construct*' to the statements about value expressed by the individuals during the interviews. These micro-constructs represent elements of value and form the basis for the analysis in this paper. Where relevant, the findings are illustrated with quotations from the raw data (Rice & Ezzy, 1999). The interviews contribute thick descriptions to the multiple case studies and allow for depth of understanding.

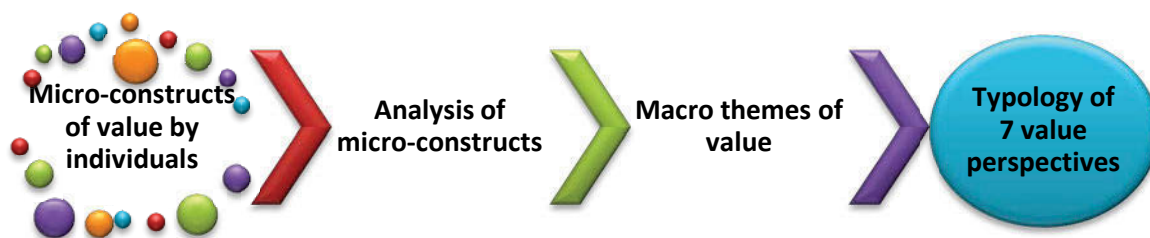
The data are coded to identify themes, relationships and patterns of how people construct a sense of value, in conjunction with the analysis of internal and external documents (Dervin,

1983; Yin, 2013). Initially, broad provisional codes were introduced deductively, and as the data collection and analysis progressed, further emergent codes and sub-codes were added (inductive coding) and the data re-analysed as coding was refined in a recursive manner (Creswell, 2003). Therefore, although findings are influenced by the research objectives outlined, the unexpected or new findings and theory emerged from the raw data analysis (Corbin & Strauss, 1990), not from *a priori* expectations or models.

Themes and groupings in this paper were treated in the following way as shown in Figure 1:

- Micro-constructs of value (the individual statements on project and portfolio value) that were collected and coded
- Themed clusters and general patterns in the data that were identified from the micro-constructs (Crabtree & Miller, 1999; Gioia & Thomas, 1996) and interpreted in conjunction with cross-disciplinary literature and extant theories (Creswell 2003)
- Themes were projected at the theoretical level to provide a higher ‘macro’ level of abstraction (Gioia & Thomas, 1996)
- Further analysis revealed seven patterns of value identification across the cases.

Figure 1: From micro-constructs, value themes are projected to provide a higher level of abstraction



Findings and Discussion

This section commences with synopses of the five case organisations by sector, including a brief introduction to their approaches to PPM. Following the synopses, we present our analysis of the multiple value constructs as described by key stakeholders in the case studies and offer an abstraction of these value constructs as a typology of seven different value

perspectives. We provide examples of each type and suggest ways that the value perspectives could enhance the strategic value of project portfolios.

Synopses of the case organisations by sector

Public sector: UTIL and ASSET/MAINTENANCE

UTIL is a statutory state-owned public utilities corporation that is wholly owned by an Australian State Government. UTIL serves the public in a large metropolitan area and also works with the local communities to enhance the liveability of the city through maintaining and restoring public utilities in the region. Although it is a public utilities corporation, UTIL adopts a business-oriented attitude and has a strong financial and revenue focus. The corporate strategy is set around the mindset of customer-centricity, business excellence and future-orientation. The portfolio explored in this study is the R&D Enterprise Portfolio from the Corporate Strategy Unit of UTIL. The R&D Enterprise portfolio incorporates a total of approximately 50 projects.

ASSET is an independent unit established within a state-owned public organisation. The unit is responsible for providing asset stewardship through developing and updating its standards, developing engineering governance and frameworks that support related industries in delivering assurance in areas of public asset design, delivery and management. The state's various public assets are currently valued at A\$104billion. The approach taken in managing the network of projects, programs and portfolios is through a 'Whole of Lifecycle Management of Assets' framework, that encapsulates systems thinking and project interdependencies, whereby projects are no longer commissioned in silos but have to be considered in relation to other projects in the pipeline. This mindset is also currently being managed and communicated with other external stakeholders (for example suppliers, engineering service organisations, designers) to ensure that each stakeholder understands that they are all accountable for the 'whole of lifecycle' in the ASSET mix of projects and

programs and not merely their own individual activities in isolation. The portfolio that was discussed with ASSET was focussed on industry & technical development, as well as safety, quality, environment & risk. To provide an external stakeholder perspective, a privately owned asset maintenance organisation (MAINTENANCE) who is a key supplier of ASSET also formed part of this case study.

Not-for-profit sector: HEALTH and MEDIC-LIFE/HUMANITARIAN

HEALTH is a not-for-profit organisation that comprises a body of hospitals, health centres, a medical research institute, pathology services and pharmacy businesses. They partner with doctors, hospitals and allied health professionals to provide health care needs for the community. All revenue is reinvested to improve healthcare for the community.

The medical research institute has strong alliances with an Australian university in their aim to find better ways to diagnose, treat and ultimately cure life-threatening diseases.

Additionally, the research institute attracts funding for ongoing developments and currently partners with another research institute that aims to advance medical research progress from laboratory discovery to application in the community. Funding is provided through a foundation that links community and philanthropic support to HEALTH and its research endeavours. Monetary support from the foundation is gained through donations, bequests and endowments, corporate partnerships or fund-raising activities. The funds are channelled towards purchasing medical equipment, improving patient care and supporting the research institution. The project portfolio of focus in this organisation is part of the 'project delivery office', which mainly focuses on large enterprise systems projects including the prioritization of IT (Information and Infrastructure) projects.

MEDIC-LIFE was established in the late 1980s in collaboration with the Australian and New Zealand societies of HUMANITARIAN, a well-established international non-profit organisation with over 1 million members worldwide. MEDIC-LIFE provides medical aid to

children from developing countries particularly those in the Asia-Pacific region. MEDIC-LIFE's aim is to treat 45 to 50 children from developing countries each year in major cities in Australia and New Zealand. So far more than 400 children from over 20 countries have benefitted from the volunteer-based program.

The organisation deals with multiple stakeholders at different levels of the organisation ranging from internal strategic and operational members to external stakeholders, including the government, media, patients, families and their communities, suppliers, sponsors and donors. While MEDIC-LIFE includes standard practices commonly found in project management such as scope, cost and risk management, the organisation also adopts aspects of medical 'case management' in its project portfolio decision making and governance processes to identify, prioritise and select the medical aid recipient (each is referred to as a project). At the time of this study, there were over 100 projects in the portfolio at different stages of progression ranging from 'referrals' to 'completed'.

Private sector: FINANCE

FINANCE is an Australian financial institution established in the 1800s. The institution provides consumer and business/commercial services in Australia, New Zealand and several Pacific Island Nations including banking and insurance products for consumer, business and institutional customers.

The portfolio of focus in FINANCE deals with regulatory change for the institution. They fund, manage and prioritise projects and programs in the organisation that deal with regulatory reforms rather than what they might consider 'business as usual' activities of the divisions. The portfolio consists of around 30 programs that could run for up to five years, with 70 to 90 projects in total. Projects usually have an operational and budgetary timeline of up to 12 months. The Regulatory Portfolio tends to be managed from a top-down basis due to its links with mandates, legislation, compliance and stringent financial regulations and

policies, although there are times when stakeholders from other divisions external to the portfolio are able to exert influential executive power on decisions made about project eligibilities, selection and priorities.

Micro-constructs of value by individuals

We collected and analysed each of the micro-constructs of value as expressed by the individual interviewees. The findings demonstrate the complexities and multiplicities of value, as described in very different terms at different points of the projects, programs and portfolios by different stakeholders. The analysis of the micro-constructs of value has been conducted in an exploratory manner to search for patterns. Some value themes were anticipated, but many more were revealed during the coding. We found extended and detailed patterns related to some general value themes already evident in the literature such as financial values, social values and environmental values. The coding also resulted in the discovery of a new category of themes related to the manner by which the value is identified or perceived; we call these newly identified themes ‘value perspectives’. We then looked to literature from other disciplines beyond PPM studies to identify further areas of research aligned with this new category of themes; this extended literature is included in the discussions. We identified seven different value perspectives as follows:

1. Singular (Transactional) value
2. Generative value
3. Transformational value
4. A Value Spectrum (Range)
5. Retrospective-Reflective-Future Orientated value
6. Value Networks and Relationships
7. Preventative value

The next sections provide examples of how the seven perspectives of value have been observed in the cases and how such values are managed from the PPM perspective. Although each of the identified types represents a distinct perspective for value identification, in practice these perspectives sometimes overlap or merge. These perspectives are not mutually exclusive. The potential benefits from identifying the different perspectives for value generation are explored in the discussion following the sections on each of the seven perspectives.

1. Singular (Transactional) value

In some project environments, value is identified, and clearly articulated and agreed upon with stakeholders, particularly when value is equated to tangible deliverables to stakeholders. For example in some cases, when asked about how value is identified, managers talked about direct deliverables, *“The contract tangibles are easy. The contract deliverables are set.”* (ASSET, Principal Division Manager). In a different context, in submitting a business case, HEALTH highlights that many of its stakeholders assess projects through the net present value return on investment. Projects in the portfolio are expected to demonstrate their direct contribution to strategy, for example *“the value question is not just about what’s a great idea but show us how they contribute some way that meets the strategy.”* (HEALTH, PMO manager). Value in this context is about how the project deliverables translate to strategy.

‘Singular’ (Transactional) value can be viewed as a direct relationship between labor (provider) and output (recipient) (Markowitz, 1952; Smith, 1776). ‘Singular or transactional value’ is often expected in the short term. Functional projects that are contracted are expected to deliver as per contractual specifications. In this perspective, project delivery equates to value. The HEALTH PMO manager shared an incident where value deliverables were immediately identified following project implementation, *“It didn’t take long to have*

the evidence to say this project was worth doing because we know that it's prevented us from operating with something that wasn't sterile...It was very immediate."

Some stakeholders equate project value to directly demonstrable and measurable project outcomes. Problems may arise when transactionally-oriented portfolio stakeholders expect value outcomes but are unable to clearly define and communicate the actual deliverables through the projects. Another issue that occurs is where multiple stakeholders have different transactional value expectations of what the outcomes should be. An example combining the two issues is described by MAINTENANCE, an external stakeholder of ASSET, *"One of the biggest [problems] is defining the requirements and that is where all the conflict of opinion is... How do you decide the condition [of the asset] if the parameters are not defined then it becomes very subjective... The Government looks at it from their way perspective - as an asset owner they want their asset in a tip-top condition. The two parent companies [owning the asset maintenance company], they are commercial entities, so they have their own interests. Of course they'd never advocate poor governance They'd still want us to do all the proper activities. That's where the subjectivity comes in, the asset condition expectations from both sides are different and that's a big political issue.... but if they had defined it at the start of the contract, then you take the subjectivity out of it."* (MAINTENANCE, project manager).

Nevertheless, the ability to identify, articulate and translate value clearly and appropriately was felt to be an important aspect as it helps garner further support for future project propositions and funding, as expressed by UTIL, a public sector organisation, *"If we can explain the value there then actually they would make it easier for us to obtain that money for us to go ahead and start implementing some more projects over the next 12 years"* UTIL, PMO manager).

At the strategic portfolio level, ‘singular or transactional value’ is seldom applied in isolation, as value is perceived to go beyond transactional short-termed value in the real world. A project deliverable or direct outcome is likely to generate further value for other projects, the portfolio and the organization. For example, in the non-profit context, the positive experience of recipients as key stakeholders can also strengthen support for future work for the portfolio, for instance, one stakeholder discussed a patients’ experience of projects through satisfaction measures (the agreed transactional value), *“a change in the [satisfaction] responses to a particular question on that survey.... Having a good patient survey is almost like currency, it becomes bragging rights for more support.”* (HEALTH, PMO manager).

2. Generative value

Value of this type is generated and identified through the flow-on effects of projects – a ripple effect that can deliver value in other areas, in the present and future, possibly to benefit different stakeholders. Decisions made in the present can have far-reaching or future generative value outcomes for staff, beneficiaries or their communities. An individual project may generate values that enable a generative or enabling effect on other projects, programs, portfolios or beyond. Value can therefore be viewed as shifting and not static (Grönroos & Voima, 2012; Helkkula, Kelleher, & Pihlström, 2012). Our findings suggest that the management of portfolio value is then a matter of creating boundaries around how value will be identified, tracked and measured, and how far one needs to go in terms of identifying ‘generative value’ in their systems, as ‘generative value’ can have far-reaching outcomes in impacting other portfolios, organizations, external bodies and society. For example, the Project and Portfolio Specialist of FINANCE mentioned *“When the system owners talked to their clients, they found quite a few groups thinking this would be something that they could use. They then aggregated the requirements together across a number of business units to rollout as a single release.”* ‘Generative value’ can be planned (deliberate) or unplanned

(emergent), as commented by the Head of Portfolio Management at HEALTH, *“Incidentally, you deploy something that you think you're going to get further benefit, and you might still get that benefit but you get a range of other benefits that you didn't realise that you were going to get.”* However, the challenge is that some stakeholders may expect tangible financial value, *“At the moment it's finance, they're only looking at NPVs and ROIs”* (HEALTH, PMO manager), whilst other longer term and intangible value constructs may be overlooked, *“I reckon we'll get broader stuff, we can talk to people... how's it working out seeing you've been with it for a year and what are you seeing, and anecdotal evidence on how it's helped.”* (HEALTH, PMO Manager). Some of HEALTH's stakeholders are willing to consider intangible reports of value, for instance, staff anecdotes that imply that new system changes derived from projects are beneficial as stated by the PMO manager, *“Some of the projects are actually articulated fairly well (in terms of value), but it's around that change and acceptance and the anecdotes that come from the floor, for example the clinic system, and staff commenting on how that [new system] helped and what a difference it made.”*

Another example of 'generative value' is recognised in a program's ability to generate innovative solutions. In MEDIC-LIFE, the skills of surgeons in Australia and New Zealand are enhanced through the opportunities and exposure to rare, complex and unusual medical cases that they would otherwise not experience locally. The value of this exposure is that surgeons are able to innovate and develop new medical techniques that may be applied to domestic cases should the need arise, as revealed by the following comments, *“Huge value because he's (surgeon) been partially responsible for devising new techniques in dealing with horrific burns which countries like Australia might not otherwise have been able to.”* (MEDIC-LIFE, Program Executive Committee Member).

Problems in managing the portfolio value arise when not all value constructs are identified or articulated clearly upfront by stakeholders or managers during decision making as expressed

by the HEALTH PMO manager, *“The measures for the childcare center weren't specific enough...their measures and the value weren't articulated well which made it near impossible to say, this has been a worthwhile thing. We can see where it's helpful but not for the reasons that it was helpful. [Like with] The Opera House (laughs).”* The reference to Sydney Opera House highlights the contrast between viewing it as a failed project due to time and cost overruns, or as one that was successful in generating long term value, but possibly not for the reasons intended (Lim & Mohamed, 1999).

Additionally, further value may emerge in the longer term and this may occur beyond the life of the project in the portfolio, as commented by the Projects Director, MAINTENANCE, *“That said for the business managers over the longer period of time in theory at least, should be out of say two or three years out if the project improved things. That's usually beyond the life of the project, so which is why the sponsor is really key to the whole thing.”* In these situations where projects are viewed as temporal and the sponsors or portfolio management are permanent, there is the need for management to consider the projects' long term value contributions beyond the life of the projects, *“You can get a benefit [from projects], but it takes time to realize value.”* These expressions reinforce the directional statement of Winter et al (Winter, Smith, Morris, & Cicmil, 2006) highlighting the complexity of understanding value whereby value creation continues beyond the lifecycle of the project from initiation to closure.

3. Transformational value

The findings illustrated situations where value can also be transformational. For example, where the outcomes from a project proves to be life-changing for the recipient of surgical aid. The transformational effect of gaining a sense of normality, functionality, self-efficacy, social engagement and improved living circumstances was expressed many years later by a former patient of MEDIC-LIFE, *“There are no words to actually describe the feelings that I went*

through at the time. At times I would ask mum, 'Why I'm I here? Why are we doing this? Why can't we just go home?' As a grown up woman now, I'm glad that decision were made to get my life transformed".

This 'transformational value' can generate further value for the patient, portfolio and the community, as seen in the following scenario. Twenty four years later, the former patient of MEDIC-LIFE is now a committed spokesperson for its programs, and the circle of compassion and contribution follows on through the transformation of the patient, as expressed, *"From there I have the desire to give something back to MEDIC-LIFE. It's something that I will talk about everywhere I go, to whomever, about MEDIC-LIFE, of what amazing things they have done. To restore dignity to children like myself who are disadvantaged or forgotten children."* Consequently, these identified and articulated retrospective value constructs in turn, add further value to the portfolio, but are only realised in a very distant time horizon.

For other projects, 'transformational value' may be realized depending on how the receiving stakeholders or organisation utilise project deliverables, as expressed by the Projects Director for MAINTENANCE, *"I think [through this project] we can radically transform the way we do maintenance and we can deliver a real big benefit in terms of a more efficient system to get value out of it, depends what the business does next. It's not the whole, the project is not the whole story, it's an enabler for what the business wants to do."* The project is viewed as an enabler for transformation and is dependent on its stakeholders' subsequent actions to harness the transformational value potential. The evidence about transformational IT project contributions are congruent with other studies on IT value contributions to organisational transformation (Basole 2005, Gregor et al 2006).

4. A Value Spectrum (Range)

Rather than viewing values in discreet terms, value can appear as a spectrum across a range. Although value that can be quantified and measureable is easiest to articulate, and is most commonly used in PPM frameworks, we found value expressions across a range or spectrum from the intangible (qualitative) to the tangible values (quantitative) (Ang, Killen, & Sankaran, 2015). The findings in this paper further extend the ‘value spectrum’ concept and demonstrate the multi-faceted and often qualitative and subjective nature of value. ‘Value spectrums’ could include bases of time (short-long term), cognition (rational-emotional), viewpoints (individual-multiple), function (operational-strategic) or saliency (importance, urgency, power). One view acknowledges that people can have different viewpoints, and using the spectrum meant embracing a strategic view of people. UTIL expressed another view where their R&D portfolio was found to have yielded much more value than they expected after engaging a consultant that was able to measure the value return of the portfolio that included intangible value, *“We’ve just recently valued our R&D portfolio enterprise wide. We’re spending \$7 million for our R&D portfolio. We gained \$420 million in realized benefits within the organization. That’s deferred cost to our assets, improvement to our assets.”* (UTIL, PMO manager). The resulting impact of being able to measure value in this instance is that the portfolio is now more likely to be able to generate more funding and interest from other stakeholders. UTIL continues to explain, *“The main thing we want to achieve through that is selling our R&D portfolio to the executive team and telling them that this R&D portfolio is value to the organization. Its R&D benefits link across the whole business. It realizes so many benefits, not only financial benefits, but intangible benefits as well.”* In developing and applying the ‘value spectrum’ in projects (and portfolios), it became apparent that benefits can come from individual and multiple stakeholder sources, and hence

it is important to take the perspective of the broader stakeholder levels in the relationships and interactions.

5. Retrospective-Reflective-Future Orientated value

Some aspects of value were observed to have been identified only when reflected upon in hindsight based on past experiences, present realisations and future anticipations or opportunities. This 'rolling hindsight' is paralleled to the sensemaking concept borrowed from Weick (1995). In some cases, the 'retrospective-reflective-future orientated value' is also transformational. For example, building on the example in the previous section from the non-profit program for MEDIC-LIFE, the value from the decisions made to provide medical aid may not be appreciated by the patient (child) at the time, as explained by a former patient, *"During that time, no. I didn't understand what was happening... because of the pain that I went through. It was excruciating. Then I realized, 'Hang on...if things were not done you wouldn't be here.'"*

In another instance, failed projects can offer 'retrospective value' through learnings for future projects, or unanticipated value. MAINTENANCE and UTIL both highlighted experiences with failed projects that in hindsight proved unanticipated valuable to the organisation. These quotes demonstrate their experiences, *"Even a failed project sometimes delivers value and the value is the organization learns something, because there is some discovery that goes on. At least we've discovered a few things about how our business works, and discovered a bit more about the organization."* (MAINTENANCE, Projects Director). For UTIL, although the original values expected from their project were not delivered, the data derived from the project was eventually highly valuable in guiding portfolio decision-making, and was proven to have long term economic value and impact on the business, as expressed by the portfolio manager, *"We got an enormous amount of learnings out of what went wrong and we actually decided that was extremely valuable and would save the organization an enormous amount of*

money because they were thinking of potentially rolling out this technology. We now have a lot of evidence to say for all these reasons it's not ready.” Value gained from projects can be emergent and may not always be anticipated or known upfront.

6. Value Networks and Relationships

From the perspective of ‘value networks and relationships’, value can emerge through fostering and strengthening relationships among stakeholders (Agarwal & Selen, 2009; Allee, 2000a; Voss & Kock, 2013). UTIL describes the value generated in their networks this way: *“So it is getting the right mindset with the larger university, getting them to work together with smaller universities with an industrial-driven program rather than [just a] research-driven program.... It’s getting that trust and relationship and having that understanding why we need this work done.”* (UTIL, program manager). A term labelled as ‘Aggregate complexity’ (Manson, 2001) helps to pinpoint how relationships can be more important than project attributes in defining the nature of components in a portfolio.

FINANCE described their experience of creating power and political alignments with certain stakeholders in order to enhance value for the portfolio. *“You talk to all the key stakeholders, you understand the priorities.... You got to be very cognizant of the politics....understand where the power bases are.whose power matters, typically, it's on the basis of track record, in other words, have they always got their own way. They are very good at playing the game. If I want to optimize the people who are the power players, if they have particular outcomes they want to achieve, you work out how you can align yourself to achieving those outcomes.”* (FINANCE, Projects & Programs Specialist). Gibson-Graham (1993) states that a person is situated in a web of relative power relations rather than existing as a single identity. The view provides an alternative perspective of how value can emerge and be enhanced in a portfolio – through investing in power networks and relationships. In this context, it is about strategic network alignments to achieve portfolio outcomes.

7. Preventative value

The ‘preventative’ perspective of value deals with the value generated by actions taken to balance uncertainty and prevent negative consequences through risk reduction. When a potential for ‘preventative value’ is perceived, it can lead to actions to minimise negative outcomes through investing in preventative measures. Communicating ‘preventative value’ can be hampered by the fact that the avoided negative consequences can be hard to see. We draw on decision theory in Pascal’s Wager (Arnold, 1989; Hacking, 1972; Hájek, 2003) and the statistical concepts of Prospect Theory (Kahneman & Tversky, 1979) for this perspective. Both Prospect Theory and Pascal’s Wager view decision making under risk or uncertainty as a choice between prospects or gambles, and assigns expected utility or value to gains and losses. The two theories suggest that the ratio of gains and losses for decision making is asymmetrical and uncertain. From this perspective, project investment decisions are based on the value of preventative actions. It is about identifying and minimising the probability of a catastrophic event occurring, for example reducing the likely occurrence of public casualties or customer complaints if an asset is not checked or maintained (ASSET) or the risks of patients being infected if surgical tools are not sanitized (HEALTH).

Project initiatives to generate value in this perspective are often invisible though often highly critical. It is likely to occur through prevention and risk management projects and is most visible in a negative occurrence (for example during a disaster). This type of value tends to be discussed in preventive initiatives (Anderson, 1991; Manning, Smith, & Homel, 2013) and in reducing technical performance risks and uncertainty in product development projects (Browning, Deyst, Eppinger, & Whitney, 2002). Our findings reveal that this type of value perspective impacting on decisions to be made is prevalent in R&D modeling, medical IT and asset maintenance initiatives. Investments into any project is acknowledged not to be infinite and unlimited, yet when decisions are made under conditions of risk and uncertainty, when viewed through the ‘Preventative’ lens, these case examples show that it is about measuring

the probabilities of the upside and payoffs of supporting the projects versus downside or losses of not supporting the projects in the portfolio.

HEALTH expresses the importance of such projects *“so when we do projects that are about reducing or making it much less likely that these preventable harms won't happen. Then that's a value, that's important that we don't hurt someone.”* (HEALTH, PMO Manager), and provides an example, *“One day a tray of instruments didn't get put through the sterilizer and they'd use it on the next patient. Which is actually mortifying in a clinical context, it's a huge risk. It didn't take long with the new project to track all of that electronically and actually flash up alerts that surgery is about to start with something that hasn't been sterilized.... this project was worth doing because we know that it's prevented us from operating with something that wasn't sterile.”*

In responding to the expression ‘bang for buck’ (the term was used in one of the organisational documents) and value, ASSET commented that having a low level of customer complaints and a non-eventful day translates to the public service’s reliability in maintaining its assets, *“The bang for buck implies a one off, discrete benefit.... Bang for buck, the dollars that are spent... You don't see the bang, if you like, especially from the maintenance point of view...It's spending an amount of money to not get a bang, if you like. You're looking for no bang. You're looking for a continuity of service”* (ASSET, Principal Manager). In another case, UTIL provides value to society in managing risks to the public, such that a non-event is value to its public stakeholders, although this is not something tangible to the public eye, *“invest at the right time and the right place and also minimize the impact and the inconvenience to the customers, as well as [minimize impacts on] the traffic and social environmental, the destruction that takes place.”* (UTIL, program manager). This is supported by an external stakeholder of UTIL (R&D supplier), *“Our job here is to then utilize the funds to maintain, sustain that [asset] system and resilience to that service. That's what*

the value of our work is eventually. By renewing [assets] in a timely manner, you save money and help reduce failures. Failures can lead to consequence, the damage it causes. There are instances, people have lost lives.... Societal damages like traffic jams and all those things - public and communications, those things coming together. Value I think is in improving quality of life and sustaining the community standard.”

Some measures of this value perspective are customer satisfaction, levels of complaints and compliments received. The findings suggest that value in this perspective equates to generating information and interventions that minimize negative consequences through reducing performance risk (ASSET, UTIL), preventing public catastrophes (UTIL), enhancing customer experience (ASSET), and reducing the risks of medical disasters (HEALTH). For communicating and negotiating value in these types of projects, it is about managers developing a case around the endpoints to risk reduction, that is, to demonstrate the downside of not investing where the resulting outcomes could be major and sufficiently devastating.

A typology of seven value perspectives of project portfolio stakeholders

This study explored how project portfolio stakeholders identify, construct and manage value.

We have identified seven ‘value perspectives’ based on our findings about the manner through which stakeholders identify and perceive value in project portfolios. To sum up these findings and to provide a framework for future research or to guide practice, we propose a typology of the seven value perspectives. The typology of value perspectives is illustrated in Figure 2, while Table 2 outlines the characteristics and examples of the seven perspectives.

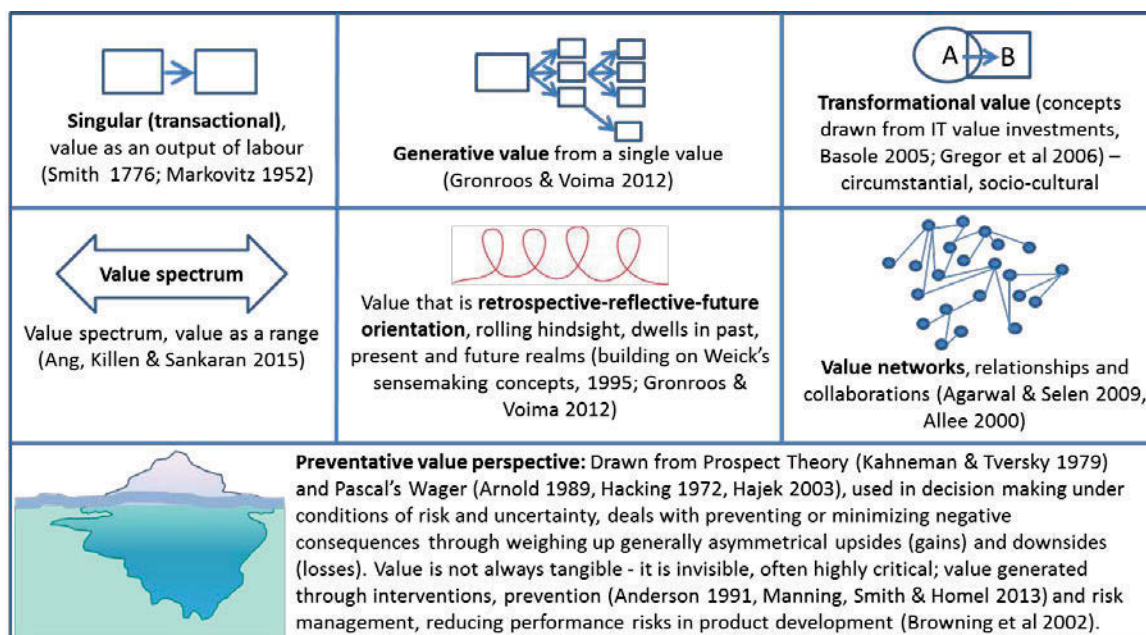


Figure 2: A typology of 7 value perspectives

Table 2: Value perspectives and examples

VALUE PERSPECTIVES	Characteristics of the perspective for value identification	Example of value identified through this perspective
SINGULAR/ TRANSACTIONAL VALUE	Relationship drawn between labor (provider) and output (recipient) (Smith, 1776). Routine activities, simple, found mainly in task-orientated activities, or operational supervision. Value or deliverables derived are usually planned (deliberate), expected and articulated upfront.	Transactional deliverable of operational tasks, e.g. delivering a report, delivering a new IT automated database system, contracted project deliverables
GENERATIVE VALUE	Value that is generated through projects and activities is not static but flows on (ripple effect) to deliver value in other areas, in the present and future – to benefit different stakeholders. Value derived could be planned (deliberate) or unplanned (emergent).	Value is generated in the longer time horizon, and generative value emerges as work unfolds. Aggregated project deliverables generate value for other business units; involvement in rare medical cases generate opportunities for innovation value in the medical field.

VALUE SPECTRUMS	<p>Value as a spectrum runs along a range, for example:</p> <p>Tangibility: unarticulated (qualitative) intangible and unmeasurable versus clearly articulated, defined and measured (quantitative) (Ang et al., 2015)</p> <p>Time-based: Short-long term</p> <p>Cognition: Emotional-Rational</p> <p>Viewpoints: Individual (micro) -Multi-perspectival (macro)</p> <p>Function: Operational-Strategic</p>	<p>In making sense (exploring, identifying, clarifying, confirming) of key stakeholders' expectations early in the planning phases of a business case; development and translation of strategic goals into Key Result Areas (KRAs - qualitative) and Key Performance Indicators (KPIs – measurable-quantitative)</p>
TRANSFORMATIONAL	<p>Ability to change circumstances, magnitude or quality of project, portfolio or organisation. Adds value through reputation, publicity, morale and reinforcing the strategic purpose of the portfolio.</p> <p>Likely to have a longer term time horizon. Includes facilitating changes to stakeholder mental models or the way project management is practiced in the system.</p>	<p>Medical interventions transforming patient and community's well-being; IT and infrastructure systems transforming organizational practices and quality of service; projects as enablers of transformation in the organization.</p>
RETROSPECTIVE -REFLECTIVE- FUTURE	<p>Involves rolling hindsight in sensemaking (Weick 1995).</p> <p>Value is not static, it shifts (Grönroos & Voima 2012) based on past experiences, present realisations and future anticipations. Value realized in the past may pave the way for present and future opportunities.</p>	<p>May assist managers with identifying the 'tipping points' of knowing that the projects may have had little/some value at the start but that the overall value in hindsight can be greater.</p>
VALUE NETWORKS, RELATIONSHIPS AND	<p>Includes relationships that are collaborative or cooperative (Agarwal & Selen 2009). Describes the ability of stakeholders to engage and add value through their own experiences and connections with others. The strength of the relationships can determine the magnitude of the value contribution towards the portfolio.</p>	<p>Joint-ventures and partnerships can contribute to enhancing project capabilities, joint fund raisers Referrals for knowledge networks and network supports could accelerate or enable further efficiencies in a chain of events</p>
PREVENTATIVE	<p>Used in decision making under conditions of risk and uncertainty where project investments are about prevention or minimizing negative consequences to the portfolio or organisation.</p> <p>Business case is built around the endpoints to risk reduction, demonstrates the downside of not investing where the resulting outcomes could be major and sufficiently devastating as opposed to the often invisible upside (normality, maintaining the status-quo of the investments).</p>	<p>Generating information and interventions that reduce performance risk, avoid harm. Preventive projects that manage risks, for example mishap prevention, avoidance of 'imploding' occurrences (catastrophic events) that incur high costs to the organization and its community.</p> <p>Risk reduction of medical disasters</p>

Only the first type, the ‘singular (transactional)’ perspective, is shown to be well catered for in project and portfolio decision-making and planning in our analysis. Values generated by the other perspectives are less likely to be recognised clearly in PPM decision-making frameworks. In practice, the findings demonstrate that portfolio managers struggle with determining value for their portfolios when project members are unable to identify and articulate value in alignment with organisational strategies and stakeholder expectations upfront. Furthermore, while some stakeholders expect a clear articulation of project deliverables and value early in the business case, other stakeholders are unable to articulate the value they expect to be generated by the projects and portfolios. The recognition and management of value has been observed in varying degrees depending on the circumstance. For example, the portfolio specialist at FINANCE explained how ‘generative value’ is managed by talking to clients and aggregating their input about the flow-on benefits of projects, whereas the projects director at MAINTENANCE revealed the difficulties in gaining recognition for the ‘generative value’ that emerges beyond the life of the project. In another example, UTIL and MAINTENANCE discuss the importance of ‘retrospective-reflective-future orientated’ values such as the organizational learning and the longer term contributions to practice as a result of their projects.

The ‘retrospective-reflective-future orientated’ and ‘preventative’ perspectives highlight types of value that are generally only appreciated either when reflected upon in hindsight, or when the negative consequence or downside is considered. The awareness of these perspectives highlight an opportunity to provide a ‘thinking prompt’ for managers to better consider its relevance in project prioritisation and planning for the portfolio.

In promoting the ‘preventative’ perspective of value, such prompts could help decision makers identify the right time to invest in the right projects that could help avoid inconvenience, minimize negative outcomes and destruction by ensuring ‘normality’ or

maintaining the status-quo rather than face a disaster or failure. The types of questions a portfolio manager could explore with stakeholders and decision makers to identify 'preventative' value contributions to the portfolio could include the following:

- What **will** happen if the portfolio **does not** include this project?
- What **will not** happen if the portfolio **does not** include this project?
- What **will** happen if the portfolio **includes** this project?
- What **will not** happen if the portfolio **includes** this project?

Further analysis of the seven value perspectives reveals that higher-level outcomes are often overlooked in planning. From a 'systems' frame of reference, we observe how tracing the individual stakeholder micro-constructs of value leads to higher level and longer term values (for example 'generative' and 'transformational' values) that could translate across the components of the portfolio, organisation and beyond. These 'system' level insights reveal outcomes that include the mega (societal) contributions (Kaufman, 2012) extending the focus of portfolio value to include its impact on families and communities, and national and international interests. For example, the extended impact of a MEDIC-LIFE project is described by a former board member, *"It's not just for that child, We promote where we can, the impact not only of the child but of the family, the community."* In the case observations we note that values at this 'mega' level are not generally discussed and planned for as part of the management of the project portfolio. We found some consideration of 'mega' values in the not-for-profit MEDIC-LIFE case, and from the public sector with UTIL and MAINTENANCE (ASSET's external stakeholder), however in the other organisations, the community is only discussed in relation to their role as direct service recipient, user, patient, client or customer of the organisation rather than at the mega level where the value is generated indirectly as a result of a ripple effect from the intentions of the portfolio and organisational system.

The findings highlight that value creation can be non-linear, and may not automatically follow the provider's intentions (Grönroos & Voima 2012). We show how value can exhibit emergent properties, and can be generated through a range or combination of perspectives. The findings have illustrated situations whereby value is a phenomenon resulting from relationships and synergies – the organisation and its high profile or power-laden stakeholders (Value Networks); projects and its beneficiaries (Transformational value); projects jointly resulting in programs or extended projects (Generative value); stakeholder engagement resulting in change and long term holistic value (Generative value, Transformational value); projects resulting in medical innovation and benefits for the community (Generative value), IT projects that deliver work efficiencies and productivity (Singular/Transactional and Generative value); or R&D and maintenance programs that ultimately reduce risks for the organisation or community in the longer term (Retrospective-Reflective-Future Orientated, Preventative). In some situations, long term value for the recipients loop back to return immense value from the original investments made through the project portfolio.

Our observations and findings on value identification in project portfolio environments show some alignment with the knowledge management field. For example, 'singular' (simple, transactional, repetitive, routine) and 'retrospective-reflective-future orientated' values could be argued to be paralleled to single (standard, operational) and double loop learning (generative, dynamic, shifts in understanding) (Argyris & Schön 1978); and other experiential and reflective (Kolb 1984) learning perspectives that link past knowledge with current experiences for future actions. Meanwhile a spectrum of tacit and explicit knowledge (Nonaka & Takeuchi 1995) may be compared to hidden and explicit value constructs. However the difference is that value can be invisible, unarticulated and also, unidentified and unknown until a different time and context in the future. The alignment between our findings

on value perspectives and knowledge management helps to explain and strengthen our observations and reminds us that in many ways, PPM involves knowledge management and organisational learning processes.

Conclusion

This paper has explored PPM practice through in-depth case studies in different organisational contexts to understand how different stakeholders perceive and express value. We have analysed the many ‘micro-constructs’ of value as expressed by the individual stakeholders, and have presented a typology that outlines seven different perspectives through which value is identified in project portfolios.

The findings draw from five different organisations in Australia, and these may not be generalizable to other contexts, industries or countries. Therefore whilst we have purposefully selected a range of cases to get a broad picture of value perspectives, we recognise that the highly complex and contextual nature of PPM in multi-stakeholder environments mean that any conclusions need to be considered accordingly. Implications for future research is recognised through the need to further explore the ways in which value is generated, as well as the different types of value produced by a project portfolio. The study reported in this paper can provide an in-depth baseline upon which future researchers can draw. Future research could aim to test and validate the framework with practitioners, and measure the extent to which these perspectives of value identification occur, or to further explore how value is considered in project portfolio decision-making.

Viewing the micro-constructs of value from a higher level provide an insight into the ‘systems-level’ and ‘mega’/societal influences from project portfolios, and the emergent and long-term nature of value realisation. The research indicates that PPM approaches are most adept at handling the short-term singular (Transactional) value, and that values identified

through other perspectives are less likely to be adequately considered or managed through PPM. Our research highlights the difficulties in recognising and managing these different types of value, especially value that is generated in the long-term and that which is usually only apparent upon reflection. The typology comprising various perspectives of value could be useful in project portfolio environments where awareness is raised through the many ways that value is constructed and generated.

In practice, the typology could lead to a more holistic view of value construction and could offer PPM managers and decision makers a novel perspective in seeking, making sense of and integrating value in a multi-stakeholder environment in order to make better informed decisions that ultimately contribute to the long term value contribution to their respective portfolios.

In summary, the findings reveal that project stakeholders employ numerous ways of thinking, questioning, articulating, negotiating and demonstrating the tangible and intangible value contributions of the projects. Our findings also show that PPM practices do not generally cater for the wide variety of perspectives on value, thus limiting the ability to recognise and maximise portfolio value during decision making. We have proposed a value perspective typology based on the findings, and argue that such a typology can serve as a catalyst and prompt to widen the ways in which value is incorporated in PPM decision making. By raising awareness of the range of value perspectives, the typology is designed to assist decisions makers to make sense of and integrate value holistically in a multi-stakeholder environment to support informed decisions that ultimately contribute to the long-term value of the portfolio.

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Paper 3: 'Value for Whom, by Whom': Investigating value constructs in non-profit project portfolios

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RESEARCH ARTICLE

Value for whom, by whom: investigating value constructs in nonprofit project portfolios

Karyne Ang¹, Shankar Sankaran², Catherine Killen³

University of Technology Sydney (UTS), PO Box 123, Broadway NSW 2007, Australia

Corresponding author: Karyne Ang, University of Technology Sydney (UTS), PO Box 123, Broadway NSW 2007, Australia. Karyne.Ang@uts.edu.au

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SYNOPSIS

This paper explores how value constructs are identified in a nonprofit project portfolio. The study sheds light on the question “Value for whom, value by whom?” by investigating the broad range of value constructs beyond financial value, to better support portfolio decision-making in multi-stakeholder environments.

RESEARCH DESIGN

The research applies an in-depth case study methodology, involving two interrelated organizations operating in a multiple project environment. The findings draw from in-depth interviews, field observations and organizational artefacts. Triangulation is achieved through the different data collection and analysis methodologies. A thematic analysis of the data was conducted using a combination of manual and computer-assisted qualitative data analysis (using QSR NVivo software) approaches.

MAIN FINDINGS

The findings illustrate the complexity of multiple stakeholder value perspectives in a nonprofit project portfolio, and reveal how value understanding is built from many “micro-constructs” of value emanating from a variety of stakeholders. A typology comprising seven value perspectives that aims to improve project portfolio management decision-making is proposed.

RELEVANCE FOR RESEARCH AND EDUCATION

Educators and researchers may find the insights useful, as they draw on real-world practice-based examples of value construction. For practitioners, educators and researchers, the typology of seven value perspectives aims to improve the recognition of

these value perspectives to help organizations anticipate, probe, and better understand the full range of value to support communication, people management, and project portfolio management decision-making in multi-stakeholder environments.

RESEARCH VALUE

This study is relevant to project portfolio management and nonprofit organization research in several ways. By studying how value is expressed and used to influence decisions in a nonprofit organization environment, deeper insights into the wide range of values at play in project portfolios are revealed. Value is an especially challenging area due to the often subjective, intangible, and emotive aspects, particularly in projects managed by nonprofit organizations. The study makes contributions to research methodology by illustrating how case studies can be analyzed to draw out multiple stakeholder perceptions and input.

Keywords

Nonprofit, Project Portfolio, Value Perspectives, Stakeholders, Decision-making

Type

Empirical qualitative research (original research paper)

Introduction

In most nonprofit organizations (NPOs), there are multiple programs, projects, or initiatives running simultaneously. The management of multiple projects in organizations can be coined as project portfolio management (PPM) (Archer & Ghasemzadeh 1999). In any project-based organization, it is critical that selected projects align with and deliver the organization's strategy or mission. Decisions about project funding are strategic decisions, particularly when there are resource limitations. In PPM decision-making, the allocation of resources to projects requires a clear judgement of value across multiple perspectives. Value has often been expressed in financial terms; however, increasingly research indicates that non-financial considerations are equally important in evaluating value.

A key task in PPM is to maximize value across the portfolio. However, value can be a subjective notion, as each person may have different expectations of what is valuable. The involvement of diverse stakeholder interests could create complexities in decision-making in NPOs due to value being interpreted in different ways by the stakeholders. Furthermore, in order to achieve its purpose, NPOs depend heavily on donors, patrons, and sponsors – stakeholders who contribute to the portfolio but are often not the direct recipients of the services provided by the NPO (Kaplan 2012). Nonprofit portfolios often compete with other initiatives for resources and attention from the same donors and sponsors, and may need to constantly justify the value they provide to these stakeholders.

Most research about value in PPM has been conducted in the for-profit sector. Recent value-based studies in the project portfolio field stress the importance of considering both commercial and non-commercial value in portfolio decision-making (Killen, du Plessis & Young 2012; Kopman 2013; Martinsuo & Killen 2014; Thiry 2001, 2002). Non-commercial value includes the ecological, social, and learning dimensions of value (Martinsuo & Killen 2014),

while commercial value is characterized by financial and economic measures like market value. The research reported in this paper is distinct as it investigates non-commercial value in the nonprofit sector. The study extends our knowledge about strategic value and multi-stakeholder management in the nonprofit sector. The findings also contribute to the overall understanding of PPM by providing insights into the multi-perspective aspects of value, as well as the management of portfolios in complex environments involving multiple stakeholders.

This paper commences with an outline of past and contemporary views about value, and discusses how these views might relate to PPM and NPOs. Next, it deliberates the extent to which multi-stakeholder perspectives of value are discussed in the literature. An empirical qualitative research design is used to explore value in project portfolios, from the perspectives of multiple stakeholders in two interrelated NPOs. The paper concludes with a discussion of the findings, highlighting several value perspectives drawn from the nonprofit sector that have significant theoretical and practical contributions to make to understanding value typologies, which underline stakeholder constructs of value and decision-making in project portfolios.

Early and contemporary views of value

Early theories about value were placed within an economic dimension, specifically value as a single entity in time and an output of labour (Smith 1776). Value soon evolved from recognition of it in a singular, albeit transactional, dimension to one of value use and exchange (Mill 1848). Through marginal utility theory, Jevons (1871) introduced the concept of subjective relative value when value is not an absolute. These debates about value nonetheless remained within the realms of labour, productivity, agriculture, and the economy.

Allee (2000) challenges the commonly addressed perspectives of value revolving around monetary assets, alliances, and relational capital, and intellectual, human, and structural capital, and offers alternative forms of value in terms of intangible assets. Allee states “every person, every organization, every country and every society are engaged in creating, exchanging, contributing or gaining some type of value in every act that they undertake” (Allee 2000, p. 29). Along this thread, alternative perspectives of value are considered. For example, Basole (2005) refers to transformational value in the study of Mobile ICT investments. The study implies that transformational value requires a long-term vision and support from all the stakeholders. Gregor et al. (2006) discuss the transformational dimensions of business value to state that change can result in new, intangible assets. Further considerations include: staff workplace quality and the ability of the organization to engage the best available human capital (Fombrun 2001; Trevino & Nelson 2010); superior resources and financial backing compared with other organizations, and having lower costs than competitors (Fombrun 2001); holding positive relationships or partnerships with multiple players and alliances (Parise & Casher 2003), and with the media and other social establishments (Fombrun 2001); and the ability to command a greater number of sales and production contracts (Fombrun 2001; Trevino & Nelson 2010). Some of these value domains can be interpreted in a nonprofit context. For example, the ability to command a greater number of funds and donors, to build long-term sponsors and partners, and to improve human capital and staff in terms of volunteers.

More recently, Grönroos & Voima (2012) review conceptualizations of value that extend beyond economic exchange and use. These concepts portray holistic and experiential dimensions that are derived from customer experience rather than service offerings (Heinonen & Strandvik 2009), and are part of practice and social systems (Edvardsson, Tronvoll & Gruber 2011; Holttinen 2010). However, Kaplan (2001) mentions that in NPOs the recipients

of services are often different from the ones paying (donors and sponsors). In determining and delivering value to nonprofit stakeholders, it is therefore more than just about delivering customer (donor and sponsor) satisfaction; it is important to understand how the other stakeholders across the portfolio understand and construct value. We use the term “value constructs” to mean representations of value as expressed by different stakeholders.

Furthermore, the complexity of identifying value is further exacerbated with the recognition that value is not static. Value might be found at different points in time and space, that is, value continues to evolve through past, present, and future experiences (Grönroos & Voima 2012; Helkkula, Kelleher & Pihlström 2012; Voima, Heinonen & Strandvik 2010). These concepts of multidimensional value, beyond financial value, offer some insight into how decision-makers might start to make sense of the wider stakeholder value constructs that are relevant to their own projects and portfolios.

Value in project portfolio decision-making

Maximizing value across the portfolio is an important area in project portfolio decision-making. Cooper et al. (2001) state that portfolios relying largely on financial measures are less likely to show portfolio success, compared with those that use multiple measures. Yet in practice, financial methods of evaluation tend to be the preferred approach. Current PPM decision-making practices are criticized for still being preoccupied with financial processes (Cooper, Edgett & Kleinschmidt 2001) and economic analyses of value (Kester et al. 2011). Beyond the dominant foci in PPM on financial and economic value for decision-making, more recent PPM studies show that in practice PPM involves a complex, interrelated, and often interdependent group of people with different perspectives, as well as implicit and explicit capabilities and agendas. The PPM literature considers practice-based issues that include human factors (Elonen & Artto 2003; Killen, Hunt & Kleinschmidt 2008) and informal approaches to activities (Olausson & Berggren 2010), including resource allocations (Blichfeldt & Eskerod 2008) or legitimacy challenges (Gutiérrez & Magnusson 2014). PPM is also shown to involve a process of negotiation and bargaining, involving internal and external organizational stakeholders (Christiansen & Varnes 2008; Martinsuo 2013), and multiple perspectives on short-term and long-term (strategic) value that influence the ways that value is managed and delivered by projects (Martinsuo & Killen 2014). Increasingly, researchers are extending the understanding of project portfolio value to recognize aspects such as preparing for the future or taking advantage of opportunities (Voss & Kock 2013).

From a PPM perspective, resource allocation usually depends on the ability to communicate and demonstrate a project’s value potential, including tangible and intangible value. This is important because socially complex and intangible resources such as reputation, organizational culture, long-term relationships with suppliers and customers (mainly donors and sponsors in the case of NPOs), and knowledge assets are seen as resources that may lead to long-term competitive advantage (Barney 1991; Teece 1998). The reality for an NPO is that it needs to balance projects in its portfolio to ensure it is able to manage scarce resources, and fulfill its purpose while maximizing value in the portfolio. Bryson, Gibbons and Shaye (2001) call for NPOs to take a strategic enterprise approach in order to survive, grow, and accomplish their mission in a sustainable manner. They state that NPOs need to produce outputs that are valued by their various stakeholders. To them, key stakeholders are those “whose satisfaction is crucial to the generation of sufficient support, legitimacy, and resources to ensure the organization’s viability and effectiveness.” (Bryson, Gibbons & Shaye 2001, p. 273).

Stakeholder considerations in project portfolio value construction

This research takes into account stakeholder theory in its exploration of value constructs in project portfolio decision-making. Stakeholder theory considers how managers articulate the shared sense of value they create, as well as how core stakeholders are connected (Freeman 1984, 2004). Subsequently, the legitimate interests of individuals, groups, and communities who are affected or impacted by their organization's activities need consideration (Donaldson & Preston 1995; Freeman 1994), particularly stakeholders who can have an impact on an organization's performance, strategic value generation, and long-term success. Mitchell et al. (1997) raise questions of stakeholder identification and saliency, under the principle enquiry of who and what really counts. Therefore, the question "Value for whom, value by whom?" is posed in this paper: that is, whose value constructs need to be considered in portfolio decision-making in order to maximize portfolio value, since nonprofit stakeholders might include volunteers, governments, media, the community, donors, sponsors, suppliers, and other nonprofit agencies? The areas reviewed reinforce the importance of considering the multiple stakeholders and decision-makers involved when integrating value in nonprofit project portfolios, yet the literature available to lend guidance to nonprofit portfolio value maximization and decision-making is almost nonexistent.

The purpose of this study is to explore multiple stakeholder perspectives on project and portfolio value, to offer some insight into the ways in which NPOs might harness value in projects for overall portfolio benefits.

Research design and methodology

CASE STUDY AS THE STRATEGY OF INQUIRY

Due to the exploratory nature of the research question, an in-depth case study approach relying on data triangulation was adopted (Yin 2014). The case study incorporated the perspectives of multiple stakeholders in two organizations that supported the mission of a shared program portfolio. The cases are part of an ongoing multi-case study that explores value from multiple stakeholder perspectives.

CASE SELECTION CRITERIA

In the Australian context, an NPO is described as one that "does not operate for the profit, personal gain or other benefit of particular people" (ATO 2015). The case selection criteria required that the organizations operate in a multiple project environment, with active projects and portfolios at the time of research. Access to a wide range of case participants was important for the study, including project, program and portfolio members, decision-makers, and key stakeholders within the portfolios under study.

The two organizations that were selected are interrelated. To protect confidentiality, the code name "Medic-Life" will be used when referring to the organization that provides medical aid to families, and "Humanitarian" when referring to the group of regional and local societies that support Medic-Life. The cases explore Medic-Life's and Humanitarian's multi-stakeholder constructs of value and project portfolio decision-making, by evaluating participants' perceptions of value and their lived experience of their environments, and the researchers' observations.

The accounts in this paper draw from in-depth interviews, field observations, and organizational artefacts. These three modes of data collection enable traceability through the creation of a chain of evidence with multiple forms of evidence where they all triangulate on the same set of research questions (Yin 2014). The interviews contribute thick description to the case studies, enabling in-depth understanding, and are triangulated with the analysis of documents, meetings, and event observations.

INTERVIEWS

Eighteen individuals involved with different aspects of Medic-Life and Humanitarian projects were interviewed. A semi-structured, in-depth interview protocol was used to develop a multi-perspective understanding of the project portfolios. Interview durations ranged from 45 to 90 minutes. For confidentiality purposes, the actual roles of the interviewees are not disclosed. The roles are labelled generically in Table 1, and individual IDs differentiate each interviewee.

Table 1 Interviewee roles and IDs by organization (de-identified)

Interviewee	Organization	Role	ID
1	Medic-Life	Former board member	FB1
2	Medic-Life	Board member	CB1
3	Medic-Life	Board member	CB2
4	Medic-Life	Board member	CB3
5	Medic-Life	Board member	CB4
6	Medic-Life	Committee member	CM1
7	Medic-Life	Committee member (district)	CM2
8	Medic-Life	Committee member (regional)	CM3
9	Medic-Life	Committee member (regional)	CM4
10	Medic-Life	Society director/host/carer	CH1
11	Medic-Life	Former patient	FP1
12	Medic-Life	Surgeon	S1
13	Humanitarian	Society member	HM1
14	Humanitarian	Society board member	HB1
15	Humanitarian	Society board member	HB2
16	Humanitarian	Society board member	HB3
17	Humanitarian	Society board member	HB4
18	Humanitarian	Society committee/former board member	HC1

Questions in the interview protocol are summarised in Table 2. To further enrich the credibility of the study, the questions included iterative questioning and probes to elicit detailed data (Shenton 2004).

FIELD OBSERVATIONS

Five different Medic-Life and Humanitarian meetings and presentations, and two events were observed to understand the various project and portfolio stakeholder interactions, priorities, decisions, and actions. Presentations about Medic-Life provided opportunities to observe how value was communicated. The Medic-Life corporate event included speeches by key stakeholders in the project portfolio. This enabled observations about sponsor activities, expectations, language, and value constructs, and the informal interactions with various stakeholders, including doctors, hosts, donors, supporting agencies, corporate members, society members, and the local community. The fund-raising event was an opportunity to observe local Humanitarian interactions with its project members to achieve its goals.

PROJECT AND PORTFOLIO ARTEFACTS

When relevant during the interviews and field observations, participants shared or referred to photographs, videos, promotional material, manuals, minutes of meetings, and diagrams pertaining to organizational structures and decision-making processes. Publicly available

Table 2 Interview protocol (abridged)

Questions	Topic/Notes
Can you please tell me what your role is in this organization? What does a typical day look like for you in this organization?	Warm-up questions
What types of strategic decisions have you come across or made in this particular project/program portfolio? Can you describe who the stakeholders and decision-makers might be who are involved in these project portfolio decisions?	Decision-making
Can you describe what value means to you? How do you determine or identify what is valuable in the project portfolio? How do you make sense of what is of value to your organization and your portfolio? How do you make sense of what is valuable to the others? How do you know when you have delivered value?	Value constructs
Tell me about a time in the past when a strategically problematic decision was made in the portfolio. Tell me about a time in the past when a strategically effective decision was made.	Adapted from Dervin's sense-making methodology (Dervin et al. 2003)

documents (annual reports, flyers, newsletters) and social network media (Facebook) were also analyzed. To ensure anonymity, references to organizations and individuals have been de-identified, and Facebook postings have been paraphrased.

Analysis

This study uses a recursive deductive–inductive analysis approach (Miles, Huberman & Saldaña 2014). To strengthen the face validity and credibility of the research (Patton 2002), the views and experiences of each interviewee are portrayed in their own words, with the exception of their Facebook postings, which have been paraphrased to ensure anonymity. A two-pass analysis was conducted using manual coding (by hand), followed by the application of qualitative data analysis software (QDAS), namely QSR International's NVivo. The two-pass analysis approach further strengthens the quality of the analysis, particularly by viewing it in two different formats.

Initially, broad provisional codes were introduced deductively. As the data collection and analysis progressed, further emergent codes and sub-codes were added (inductive coding) (Creswell 2003). Using a combination of manual and QDAS approaches enabled patterns and themes to be identified, which might otherwise have been missed using a manual approach only. QDAS also enables codes to be organized, revised, merged, and reconstructed more flexibly and efficiently, particularly when there are large amounts of data (Miles, Huberman & Saldaña 2014). Themed clusters and patterns emerging from the interview transcripts were further grouped through thematic analysis (Crabtree & Miller 1999).

Although findings were influenced by the research objectives, some unexpected, new findings and theory also emerged from the raw data analysis (Corbin & Strauss 1990), in addition to a priori expectations or models. From the codes, through peer debriefing (Shenton 2004), the researcher consulted with superiors, other academics, and practitioners to formulate an interpretation of the data, through the coding constructs of value in conjunction with cross-disciplinary literature and extant theories including project, program and portfolio management, and value and stakeholder theory.

Case findings

This section commences with an introduction to the background of the Medic-Life case. Next, the Medic-Life approach to projects and portfolio management is presented. Value constructs, as shared by key stakeholders, are provided through narratives and extracts from various organizational artefacts, to demonstrate the richness of the case and multiple perspectives of value occurring in the portfolio.

BACKGROUND AND STRUCTURE OF MEDIC-LIFE

Medic-Life was established in the late 1980s, in collaboration with the Australian and New Zealand societies of Humanitarian, a well-established international NPO with over a million members worldwide. Medic-Life provides medical aid to children from developing countries, particularly those in the Asia-Pacific region. The annual budget of Medic-Life's program portfolio is around A\$1 million. Medic-Life's aim is to treat 45 to 50 children from developing countries each year in major cities in Australia and New Zealand. So far, more than 400 children from over 20 countries have benefited from the volunteer-based program.

THE MEDIC-LIFE APPROACH TO PPM IN A MULTI-STAKEHOLDER ENVIRONMENT

Medic-Life projects are managed through an executive board, which distributes the work regionally to Humanitarian societies supporting the organization. Medic-Life deals with multiple stakeholders at different levels of the organization, ranging from internal strategic and operational members to external stakeholders, including the government, media, patients, families and their communities, suppliers, sponsors, and donors. Figure 1 illustrates the various stakeholders involved with Medic-Life who influence, support, contribute to, receive value from, or add value to the organization in their own capacities.

While Medic-Life includes several standard practices commonly found in project management such as scope, cost, and risk management, it also adopts aspects of medical “case management” in its project portfolio decision-making and governance processes to identify, prioritize, and select the medical aid recipients (each case is referred to as a project). Additionally, the portfolio has a comprehensive operations manual that provides detailed criteria, conditions, and guidelines to assist with project decision-making (for example, selection criteria based on medical achievability, cost, and availability of resources such as hospital beds and carers).

The management procedures demonstrate evidence of a clear workflow through different stakeholders, budget and cost management, financial management, delineation of roles and responsibilities, and risk management. At the time of study, there were over 100 projects in the portfolio at different stages of progression, ranging from “referrals” to “completed”.

FINDINGS ON VALUE CONSTRUCTS IN THE MEDIC-LIFE PROJECT PORTFOLIO

This section presents multiple “micro” (individual) value constructs, as illustrated by the expressions of the various stakeholders. We apply the term micro-construct to statements

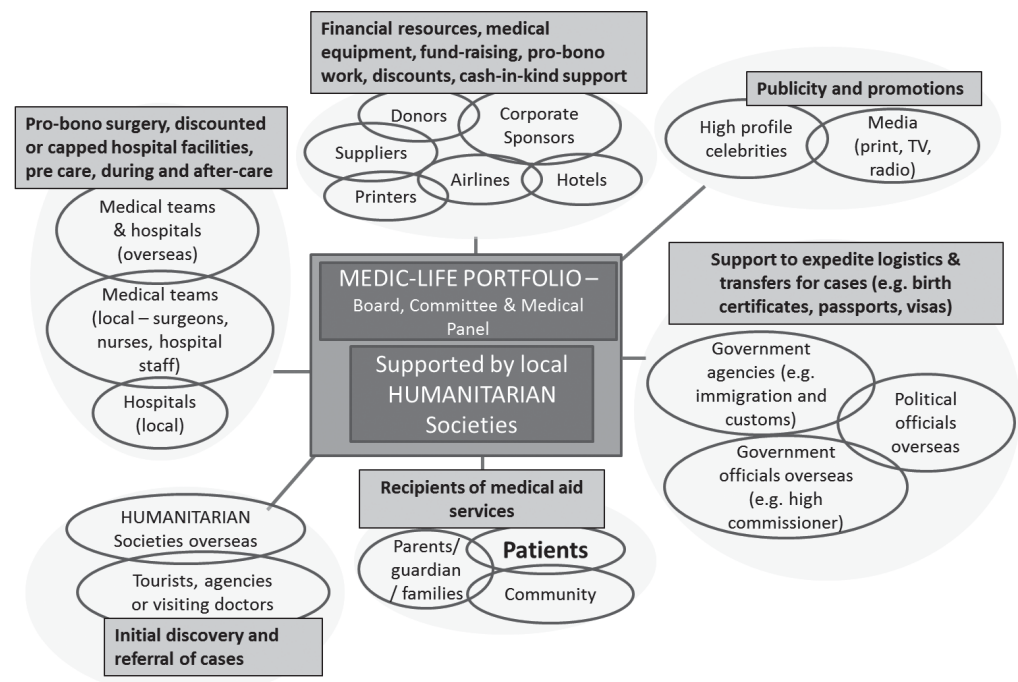


Figure 1 Medic-Life stakeholders and their value involvement

about value expressed during the interviews. These micro-constructs represent elements of value (such as spoken or written statements about value) and form the basis for the analysis in this paper. The findings demonstrate the myriad ways in which value is described, understood, and constructed by different stakeholders in a nonprofit scenario. The individual stakeholder micro-constructs or expressions of value were clustered and thematically labelled. Figure 2 presents several of the clusters that form the key themes, to demonstrate the underlying constructs of each perspective. As this is a qualitative study, the themes are not ranked in any specific order of frequency or weight.

From our analysis of the stakeholder micro-constructs and clusters of value, we identified seven different “value perspectives” as follows:

1. Singular or transactional
2. Generative or accumulative
3. Networks and relationships
4. Retrospective-past-present-future orientation
5. Value spectrum or range
6. Transformational
7. Personal reward

Each of the seven value perspectives represents a particular way that value is perceived or recognized. These perspectives are not mutually exclusive, and overlap and coexist in practice. In addressing “Value for whom, value by whom?” in a multi-stakeholder NPO environment, the following section presents a summary description of the distinguishing characteristics of these perspectives. These perspectives are then aligned with extant literature when relevant, and some triangulated examples from the findings are drawn upon. Toward the end of the section, we offer some possible applications for the value perspectives in the project portfolio context for all organizations.

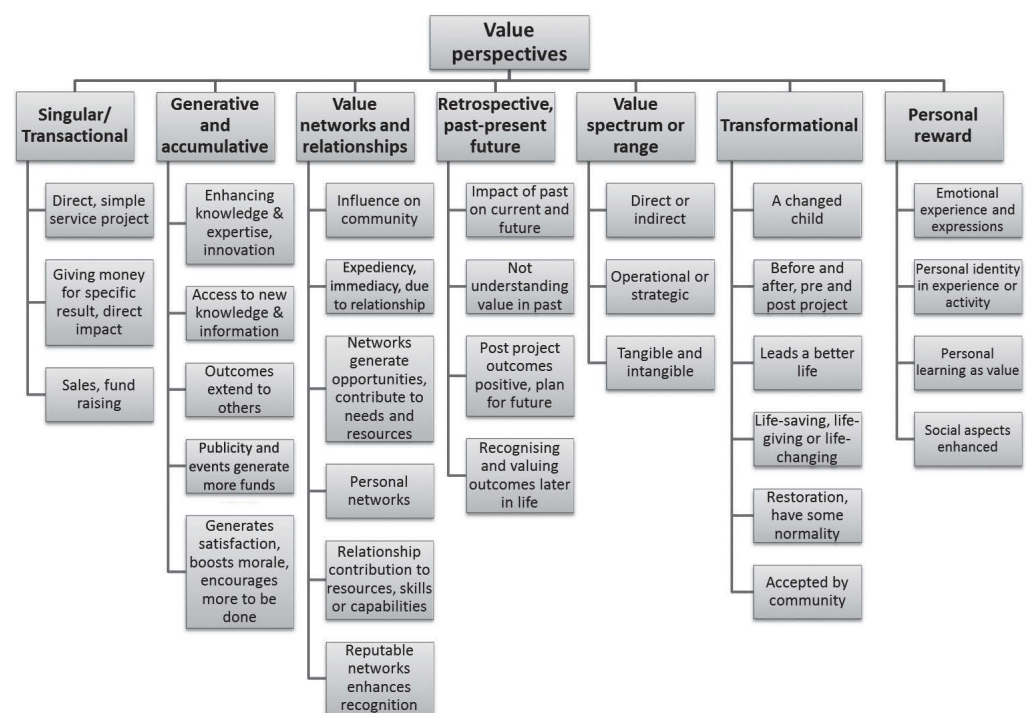


Figure 2 Clusters and themes developed from stakeholder micro-constructs of value

SINGULAR OR TRANSACTIONAL VALUE

The singular perspective can be viewed as a transactional perspective or direct exchange of value. Grönroos & Voima (2012) discuss two ways value can be perceived: as a singular perspective, or as the accumulation of value through multiple singular entities. Keywords of micro-constructs of value along this perspective are clustered around direct fund-raising projects and sales that enable “raising money,” which translates to “money saved,” equivalent to “ability to fund 14 life-saving procedures.” Micro-constructs of value in this realm, as expressed by a Humanitarian board member, demonstrate the immediate impact and transactional nature of this perspective:

Two kids didn't have the money to go. We give Medic-Life enough money to have those kids go, so I think they could see some immediate impact. (HB2)

[...] because we run a bucket collection as well, so whatever is in that bucket collection goes to Medic-Life. (HB2)

Another example of the transactional value perspective in the portfolio is value derived from international grants to provide a singular direct exchange of funds for specific actions, as observed in extracts from Medic-Life’s annual report:

Grants fund cardiac surgery for two children [...] [and] provide training for four health care personnel from Vanuatu. (Annual Review 2014/15)

GENERATIVE OR ACCUMULATIVE VALUE

The generative value perspective recognizes value that builds on singular value and generates further value creation and delivery. In this instance, the value generated enhances knowledge and expertise, creates further opportunities for funding, or impacts more than the main project beneficiary. One such example is reported in a summary of committee meeting minutes, illustrating how the value of changing a patient’s life can have an accumulative or ripple effect of secondary values, including the patient’s ability to then engage with and contribute to the community:

Former patient FP1 now lives in Sydney and wishes to assist in Medic-Life activities. (Summary of committee meeting 2015)

The researcher later witnessed this outcome during a corporate event, when FP1 publicly shared her experiences about Medic-Life. Numerous Facebook postings of FP1’s continued engagement with Medic-Life further demonstrate the generative value of the initial project, paraphrased as follows:

FP1 shares her life story and her achievements due to Medic-Life’s investment in her as a child. (Facebook 2016)

Another example of generative value is the opportunity for surgeons to innovate, expand on knowledge, and progress the medical field through the initial exposure gained in treating the rare medical cases. The value of this exposure is that surgeons are able to develop new medical techniques that may be applied to domestic cases, should the need arise, as revealed by the following comments:

It’s allowing surgeons to develop skills. Some of the techniques that were developed on our children are now being used on Australian and New Zealand children. That is fantastic [...] some surgeons are doing pioneering work because of the opportunities we bring to them. (CB1)

This is also supported by extracts from the *Annual Review 2014/15*:

Our surgeons created new unique ways for them to be treated that, subsequently, hundreds of Australians have benefited from.

VALUE NETWORKS AND RELATIONSHIPS

Value networks include relationships that are collaborative or cooperative (Agarwal & Selen 2009). The network also describes the ability of stakeholders to engage and add value through their personal experiences and connections with others. The strength of the relationships could determine the magnitude of the value contribution toward the portfolio. A portfolio member's personal or work networks and knowledge of the field could enhance the services provided (for example, a board member who is a travel agent providing logistics support with flight budgets and itinerary). Another value network that builds portfolio value comes from high-profile portfolio sponsors and ambassadors with a strong sphere of influence, or long-term relationships with airline companies and immigration to expedite the transportation of urgent cases like burns victims.

This was evident in several documents. For example, in the 'Strategic Planning 2014/16' document, Medic-Life declares its intent to:

[...] use each other as overseas partners in applying for [de-identified grants] [and] Build on relationships with Patrons, Ambassadors, Medical Staff, Hospitals and key supporters.

In the minutes of a committee meeting in 2015, a memorandum of understanding between [de-identified] Airlines and Medic-Life is reported:

[...] which gives six patients and a parent/guardian free return travel [...] in addition, two pediatricians have one free return flight each to the Solomon Islands for Medic-Life business. The [local] Humanitarian society has agreed to pay all taxes for these flights.

Remarks in a newsletter include:

As part of a new arrangement, Medic-Life is now able to bring in five children from overseas each year to receive lifesaving treatment at Hospital [de-identified].

A Medic-Life board member (CB2) makes further comments about the value of high-profile relationships:

Through their network of personal contacts, they can talk a bit about Medic-Life and spread the word. It's usually people who are well exposed in their positions and we feel we can gain an advantage by hanging on their coat-tails.

In many instances, strong networks and relationships with government officials in the developing countries provide great value in expediting the travel requirements, as described by CB4:

It happens because we've built the relationship. They [immigration] understand what Medic-Life does. They understand we only handle urgent life critical cases [...] That's the power that Medic-Life brings with it.

The value derived from networks and relationships enables alliances to be formed, facilitates the sphere of influence, provides expediency when urgent projects require immediate attention, and contributes by way of skills, manpower, logistics, facilities, and other resources needed in the portfolio.

RETROSPECTIVE-REFLECTIVE-FUTURE ORIENTATION VALUE

The case study revealed an interesting and possibly powerful value construct, one that is developed only through deeper reflection. This construct involves a rolling hindsight, a sense-making concept borrowed from Weick (1995), in which value is orientated in retrospective-reflective-forward values based on past experiences, present realizations, and future anticipations. Put another way, value delivered in the past could pave the way for present and future opportunities. In this sense, value may only be recognized in retrospect by some stakeholders, particularly patients. A child patient may not be able to appreciate the value of medical aid at the time it is provided, as explained by a former patient:

During that time, no, I didn't understand what was happening. If somebody tells me about Medic-Life or Humanitarian [at that time], I would just walk away, because of the pain that I went through. It was excruciating. Then I realized, Hang on, think about what Humanitarian has done for you. If things were not done you wouldn't be here. You would be in your own cave. [I would have been] hiding away from the community because of the deformities that I had. (FP1)

Additionally, the patient's realization of value contributes to future opportunities, both in the life of the patient and in the contribution the patient makes to promoting Medic-Life projects. For example, 24 years after receiving medical aid, FP1 is a committed spokesperson for Medic-Life, as evidenced by the following comments:

From there I have the desire to give something back to Medic-Life. It's something that I will talk about everywhere I go, about what amazing things they have done. To restore dignity to children like myself who are disadvantaged or forgotten children. (FP1)

VALUE SPECTRUM OR RANGE

Value can be perceived as a spectrum in which value runs through a range or along a continuum. For example, time-based values could range from immediate- and short-term through to medium- and long-term.

Another example is the tangible-intangible value spectrum. At one end, value is clearly articulated, defined, and measured (quantitative) (Ang, Killen & Sankaran 2015). Value, as described by committee members, can take the form of measurement against goals and targets: [...] so we only value in terms of, yes, our fund-raising goal and our ability to deliver (HC1). Or the measurement could be in terms of funding: By the amount of money that comes in, in donations, is one way (CM1).

At the other end of the tangible-intangible spectrum, value is viewed as unarticulated (qualitative), and hence intangible and unmeasurable, as evidenced by the following comments shared by interviewees when asked about what was valuable in the portfolio:

[...] when the clubs see the work, that it gives them a sense of pride and a sense of achievement, and the members get a lot of satisfaction out of it, because they go, "Wow, look what Humanitarian has done." (HB2)

It depends how you want to define value. I mean, in an organization within Humanitarian, such as Medic-Life, it's harder – value is morality and goodness. (CM1)

A rational-emotional value spectrum also fits into this perspective. For example, at one end of the rational-emotional spectrum, the value of a leg operation is based on enabling a child to walk (rational value), and at the other end of the spectrum, the value of that operation is the "parents' joy" and the family's "thrill and satisfaction" (emotional value).

TRANSFORMATIONAL VALUE

Value can be recognized in terms of transformational outcomes: for example, by changing the circumstances, magnitude, or quality of socio-cultural engagement for a person, based on the initial project. The keywords “life-saving” and “transform” are contained in Medic-Life’s mission statement and objectives. The front page of its *Annual Review 2014/15* is illustrated with an image of a child and a caption highlighting the “transformation story” of one of its cases.

These transformational changes may enhance the portfolio through values of reputation, publicity, morale, and reinforcement of the purpose of the portfolio and organization. The ‘Strategic Planning 2014/16’ document outlines the need for Medic-Life to portray transformational value through its strategic actions, including: “Presentations to contain heart-warming stories about Medic-Life patients” and “For each new patient, [regions are] to organize a short story, with pictures, to share with other regions, and also on Facebook and the website.” Stakeholders who are able to see value are more likely to support the portfolio in the future. A committee member illustrates this point, commenting on a presentation to sponsors:

We will present what we are doing and achieving in Medic-Life. Then they will see all the benefits, like that little girl I was talking about with scoliosis. They paid \$140,000. They will see pictures of her before, and then all the X-rays, and then see her afterwards. They will be just blown out of the water by it. (CM3)

These presentations, delivered at meetings and corporate events, were observed by the researcher and reinforced how transformational value is conveyed to different stakeholders. Additionally, Facebook is used to engage various stakeholders with transformational value, as observed in these paraphrased postings:

An incredible picture of Patient x2 after his operation. Once a child with limited mobility and a shortened lifespan, now he can lead a normal life, and get into all the mischief a young boy should. (Facebook 2014)

Additionally, value is viewed through the transformation of a fearful and isolated child into one who is confident and becomes a committed spokesperson for Medic-Life, or another child whose future is transformed from a life begging on the streets to one in which the child is more able to function in society.

There are no words to actually describe the feelings I went through at the time. At times I’d ask Mum, “Why am I here? Why are we doing this?” As a grown-up woman now, I’m glad that decisions were made to get my life transformed. (FP1)

He says, “If I hadn’t had this surgery, for the rest of my life I would have been a beggar on the streets.” (Conversation with a former patient, recounted by CB1)

The transformational perspective is further evidenced in numerous Medic-Life documents, like *Annual Review 2014/15* and newsletters, in which transformational value is revealed through case stories, accounts, and phrases. For example: “384 children’s lives changed,” “new lease of life,” “now enjoying life as any normal child in the village,” “the girls, now 14 and 15, who have become mature, responsible, and delightful young ladies,” and “could not believe the transformation happening before her eyes.”

The following views demonstrate transformational value in the form of normality, restoration, and life-giving value:

Knowing that you're enabling a child to have a normal life because you can see what the alternative would be. Relatively easily [...] by raising a bit of money. (CB2)

With the burns, they'll never take away the scarring, but they can do a hell of a lot to give them back the use of their muscles. They'll be scarred for life, but they'll still have proper use of their body. They are the things that give value. (CB2)

The value to me in all of this is it's about changing lives and about changing lives for the better. (CB1)

What I do is add value, saving lives. Actually, giving life because there was no life to save. (CB4)

VALUE OF PERSONAL REWARD

Yet another perspective of value is the personal reward received by the different stakeholders. Kaplan (2012) supports this perspective, stating that in an NPO a volunteer's personal values to do good for society are enabled through contributions to the organization's programs. Numerous interviewees expressed value derived from emotional constructs such as pleasure, inspiration, and satisfaction in their involvement with the projects and portfolios, as highlighted in these comments from board members:

A very deep down, satisfying feeling in your heart that you're doing something for a child. Great personal reward. (CB2)

So inspirational, energizing, motivational that [a] child can survive all that. (CB4)

Another value construct within the theme of personal reward included the embedded-ness of personal identity in social or learning opportunities, as illuminated by these statements from Medic-Life committee members:

Medic-Life to me has been a combination of my nursing career, using it on these children. For me, it's been exactly what I'm supposed to be doing. (CM3)

You get to be in the hospitals with the magnificent surgeons and medical staff, who give all their time for nothing. You get to meet them and to know the people [...] It just makes you think that there are such wonderful people in this world. (CM3)

You learn a lot by being involved in things. You actually grow as a person. (CM4)

A further value construct involved the direct personal engagement of members with the project. For example:

To help people directly and see the outcome of what you do feels better. Money given to charities often does not reach the people affected. If I can help human beings [directly] I prefer do it this way. (HML)

The "mission", as a key portfolio dimension for NPOs (Drucker 1989; Krug & Weinberg 2004), drives the board to strive to improve their systems and abilities, as described by one board member:

At the end of the day, it's the patient and the family who are our whole responsibility. They're the ones we're here for, and we've just got to improve our systems. We've got to improve our abilities, and that we're able to communicate quickly is important. (CB4)

Applications for the typology of value perspectives

These value perspectives each provide a different way of looking at or perceiving value. By drawing from multiple sources and considering value from multiple points of view, these value perspectives illuminate many different types of value.

Based on our research, we propose a typology of value perspectives (see Figure 3) to provide a structure for categorizing the many micro-constructs of value provided by the stakeholders, which influence PPM decisions. Importantly, these categories illustrate the breadth of values that affect stakeholder perception and influence decisions. Although our typology has been developed from findings from an NPO case, we propose that the value perspectives could also apply across different project and portfolio sectors.

We suggest three ways in which the value perspective typology could assist organizations responsible for managing value across a portfolio of projects. The value perspective typology serves firstly to improve the manager’s and the practitioner’s ability to identify and express a comprehensive range of values, in order to make better decisions. The value perspectives could also help organizations identify opportunities to improve the construction and delivery of relevant value propositions, toward engaging their stakeholders more effectively.

Secondly, the typology could aid the management of largely volunteer people-power in a nonprofit environment. In contrast with for-profit organizations offering monetary rewards, it is necessary in nonprofit environments to use personal reward to motivate volunteers to participate. Therefore, understanding these values is important for managing the human resources and logistics of volunteer organizations.

Thirdly, the typology could improve the communication of value in project processes and stakeholder engagement. Communication is an essential part of organizational activity across all sectors: through communication, value is expressed, reinforced, and channelled into current and future decisions. In helping to structure and thereby improve communication, the typology could assist project and portfolio members in leveraging their relationships, experience, and expertise to seek out opportunities that could benefit the organization. In situations in which managers may not have the resources or required funding, the ability to then engage, appeal to, and communicate these ideas clearly with their audience (sponsors, humanitarian societies, the community, and potential and existing networks) is a key capability that can add value to the portfolio.


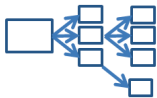



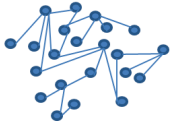

 <p>Singular (transactional), value as an output of labour (Smith 1776; Markovitz 1952)</p>	 <p>Generative value from a single value (Gronroos & Voima 2012)</p>	 <p>Transformational value (concepts drawn from IT value investments, Basole 2005; Gregor et al 2006) – circumstantial, socio-cultural</p>
 <p>Value spectrum Value spectrum, value as a range (Ang, Killen & Sankaran 2015)</p>	 <p>Value that is retrospective-reflective-future orientation, rolling hindsight, dwells in past, present and future realms (building on Weick’s sensemaking concepts, 1995; Gronroos & Voima 2012)</p>	 <p>Value networks, relationships and collaborations (Agarwal & Selen 2009, Allee 2000)</p>
 <p>Personal Reward Personal values to do good for society are enabled through their contributions in the organisation’s programs (Kaplan 2012) and perceived as value or worthwhileness.</p>		

Figure 3 Value perspective typology

Our findings align with and reinforce several themes that have been noted in literature reviewed earlier, and provide a unique contribution in presenting a value perspective typology focusing on project portfolio decision-making. However, the study is limited to the exploration of the nonprofit sector, through the perspectives of two organizations offering their views on a shared project portfolio. This restricted context may not reveal all the value perspectives at play. There is opportunity for future studies to explore further cases, and to include the private and public sectors to find out what other value perspectives exist for different stakeholders, in different portfolio contexts. Our exploratory case studies have identified and explicated seven perspectives of value, but cannot evaluate the degree to which they are representative by other sectors. We recommend further confirmatory work on validating, refining, structuring, and/or extending the value perspective typology.

Conclusions

Organizations managing multiple projects simultaneously need the capability to make decisions and take appropriate action, including decisions and action around allocating scarce resources (like people-power and funds) to ensure the best value is delivered through the portfolio. In for-profit and nonprofit environments, value constructs play an important role, a role that has not previously been studied comprehensively from a PPM perspective.

Our study contributes to PPM and NPO research in several ways. First, we provide new insights by drawing together the literature on value, PPM, stakeholders, and nonprofit environments. This combination of literature opens up an important area, as NPOs often have an especially diverse set of stakeholders, their decisions are often value-laden, and their portfolios are expected to provide as much value to those stakeholders as possible, with limited resources.

Secondly, by studying how value is constructed, our findings reveal how value understanding is built from many micro-constructs of value, emanating from a variety of stakeholders. These micro-constructs shed light on the question “Value for whom, value by whom?”. The findings demonstrate how value is conveyed from the different perspectives (for example, through narratives, presentations, videos, and photographs) to help stakeholders appreciate the intrinsic and transformational value of the work done. We show how the value generated is not isolated to the project but adds far-reaching and long-term value to the portfolio, its stakeholders, and the communities involved directly and indirectly in the program.

Finally, we contribute to the field by proposing a typology of seven value perspectives that aims to assist NPOs in harnessing value in projects for the benefit of the overall portfolio. The recognition of these value perspectives can help organizations to anticipate, probe, and better understand the full range of value to support communication, people management, and PPM decision-making in multi-stakeholder environments.

Our findings and contributions aim to assist NPOs and other organizations to compete and thrive. NPOs like Medic-Life compete with other agencies and programs for the attention of sponsors and donors. Our research contributions aim to help such NPOs make decisions incorporating a comprehensive range of values, and communicate those values to different stakeholders. This is an especially challenging area due to the often intangible and emotive aspects of nonprofit projects. Increasingly, for-profit organizations must also manage multiple stakeholders, incorporate multiple perspectives of value in their decision-making, and communicate value to stakeholders.

Through a new perspective on PPM value in NPOs, we propose that insights drawn from the question “Value for whom, value by whom?” and the value perspective typology could assist organizations in understanding and incorporating a more comprehensive set of stakeholder values, for improved PPM decision-making.

About the authors

Karyne Ang is a PhD candidate and Project Manager at the University of Technology Sydney (UTS), Australia. Her research interests include project and portfolio management, multi-stakeholder engagement, value co-creation and decision-making in complex environments across the public, private and not-for-profit sectors. Professionally, Karyne has led multiple client-based portfolios encompassing NPD, brand management, consumer behaviour and market segmentation research for several market-research agencies. Her current research into how value dimensions might influence decisions could contribute future opportunities for optimising relevant value constructs and relationships in project portfolios to further the well-being of society through NPOs, as well as government and business organisations.

Shankar Sankaran is a Professor of Organizational Project Management at the University of Technology Sydney. He has been involved in community projects carried out by not for profit organisations for more than twenty years. He completed an Australian Research Council funded research grant studying leadership development in not-for-profit organisations in health and community care. He teaches advanced level subjects at a Master of Project Management Course at his University where his students work on community projects. Shankar's research interests are in organizational project management systems thinking and action research.

Catherine Killen is an Associate Professor at the University of Technology Sydney (UTS), Australia. Catherine conducts research on innovation processes with a focus on project portfolio management and has published more than 60 journal articles and conference papers. Catherine's research extends the perspective on project portfolio management, emphasising that it is a human-centred capability, and widening definitions of value to improve decision making across a wide range of project-based environments. Her current research themes include the relationship between strategy and the project portfolio, the multi-dimensional nature of strategic value, and organisational capabilities for survival in dynamic environments.

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Paper 4: Multilevel value creation in projects, programs and portfolios: Results from two case studies

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Multilevel Value Creation in Projects, Programs, and Portfolios

Results from Two Case Studies

KARYNE ANG and CHRISTOPHER BIESENTHAL

Introduction

The management of value is an increasingly important process to meet stakeholder expectations on multiple organizational levels. Existing project management research focuses primarily on a single-dimensional perspective of value creation, such that value is either addressed from an organizational or project perspective. From a project portfolio management (PPM) perspective, a key goal is to maximize strategic value across the portfolio to ensure its alignment with organizational strategies. Therefore, seeing the multilevel nature of organizations dealing with multiple projects, programs, and portfolios is to achieve its strategic intent, the single-dimensional approach through typical project management approaches often fails to capture the complexity of value management in a strategic organizational environment. The multiplicity of influences and value expectations of different stakeholders may potentially lead to complex decision conflicts, dilemmas, compromises, and inconsistencies in project, program, and portfolio decisions.

This chapter introduces value as a multilevel, multidimensional concept and explores the mechanisms for dealing with value interdependencies across different organizational levels and stakeholder groups, whose expectations of value are often contradicting. It discusses the dimensions of values (i.e., short-term and long-term strategic value, tangible and intangible) occurring at the micro-, meso- and macrolevels, represented by the project, program, and portfolio levels. It presents two case studies of organizations in two different contexts – the public and private sectors, to demonstrate how value is cocreated across these distinct,

yet interconnected, organizational layers. The authors argue that project, program, and portfolio value management in organizations is a reciprocal and interdependent process in which macrolevel values (portfolios) shape and are shaped by the values at the meso- (program) and micro- (project) levels. As such, value management within organizational project management (OPM) becomes an iterative process that includes a sense-making approach, in which the final values for different stakeholders emerge and evolve during the course of the project, program, and portfolio.

Value creation is the ultimate goal of any project in an organizational setting and therefore the keystone that brings together the different topic areas discussed in this book. In particular, determining what value means for any stakeholder across the different organizational levels should be part of the strategizing process. It is ultimately the stakeholders that determine what value means, when value is created, and how organizations create value for themselves and for other stakeholders across the different organizational levels using an iterative process. As such, value is an important concept that requires further attention and a vital new direction in OPM.

A Multilevel Perspective

The project management literature largely investigates organizational phenomena using a single level of analysis (e.g., individual, team, business unit, organization). While this is appropriate for many inquiries, we argue that when investigating organizational value and value creation, a multilevel perspective is imperative to capture the full

complexity of underlying practices and interdependencies. A multilevel perspective further helps us develop a more contextual and holistic picture of organizational value creation, which accounts for different agendas, objectives, and practices (Sydow, Lindkvist, & DeFillippi, 2004; Windeler & Sydow, 2001).

In most organizations, multiple levels coexist, such as the project (micro), program (meso), and portfolio (macro) levels. Despite their different functions, the levels have a certain degree of interdependence (Brady & Davies, 2004; Keegan & Turner, 2002; Larson, 2004). Project-to-portfolio interdependencies are increasingly acknowledged and understood as important (Collyer & Warren, 2009; Dahlgren & Söderlund, 2010; Elonen & Artto, 2003; Rungi, 2010; Stummer & Heidenberger, 2003). These interdependencies, particularly across projects, might include resource interdependencies (where scarce resources are shared by more than one project), outcome dependencies (the outcomes from another project is needed), market or benefit interdependencies (complementary or competitive effects), knowledge dependencies (capabilities and knowledge gained through another project need to be incorporated in the subsequent projects), and financial dependencies (Blau, Pekny, Varma, & Bunch, 2004; Eilat, Golany, & Shtub, 2006; Verma & Sinha, 2002). An area that is seldom explored in the literature is the value dependencies in OPM across different organizational levels. An exploration of value concepts from the literature provides us with a launching point in understanding what value dependencies might mean for OPM.

Concepts of Value

Value concepts are well recognized and applied in various disciplines including project management (e.g., Kelly & Male, 1988; Prasad, 1997; Thiry, 2002), marketing management (Bradley, 1995; Prahalad & Ramaswamy, 2004; Ulaga & Chacour, 2001), portfolio and corporate inventory management (Maizlish & Handler, 2010; Michalski, 2008), investment management (which is different from

PPM) (Irani, 2002), intellectual capital (Petrasch, 1996), and strategic management (Kaplan & Norton, 2001; Male, Kelly, Gronqvist, & Graham, 2007; Moore, 1995; Stoker, 2006). These disciplinary studies are focused on devising a systematic process for improving productivity through value engineering and by focusing on economic and customer value in order to gain competitive advantage (Kelly & Male, 1988).

As a strategic planning process where projects are linked to business strategy, Winter and Szczepanek (2008) studied the various foci of value at three different levels of a business; namely, at the strategic group level (shareholder value); business unit, program or portfolio level (provision of customer service, unit sales, and profits); and project levels (improving service and quality). They argue for the move away from both the traditional product-centric view (e.g., capital assets, systems, or facility) and the “traditional project management triangle” of specifications, cost, and time to a value-centric perspective (e.g., business strategy, organizational effectiveness, and stakeholder benefit realization) (Winter & Szczepanek, 2008, pp. 97–98). They also imply a representational shift from singular to multidisciplinary projects and emphasize the importance of considering multiple perspectives in project management. The move from a product- or goods-centric view to a service-orientated view is also posed by Vargo and Lusch (2008), who apply a service-dominant logic perspective in the marketing discipline to argue that value rather than products, and networks rather than dyads, could shift the way services, processes, and intangibles are viewed. The case for a value-centric perspective in organizations is equally important for OPM and PPM, where a strategic perspective of OPM needs to be orientated around encapsulating the multiple perspectives and expectations of different stakeholders. It implies the need to engage with multiple stakeholders in a relevant and useful way to ensure that value is identified, managed, and optimized. Male et al. (2007) posit that value can be managed following a process-driven, structured, consultative inquiry methodology. The discussions highlight the necessity for a participatory, multidisciplinary representative group of people working

together to establish and improve value in the products, services, projects, programs, administrative processes, organizations, and systems.

Dimensions beyond Direct Financial Value

The value generated by projects has long been understood to be more than just the direct financial value. Thiry (2004) states that there is a need to differentiate between direct and indirect values: “Direct values are financial impacts directly related to the choice of the alternative. Indirect values are elements valued by stakeholders, and especially decision makers that have may have an economic outcome beyond direct economic value” (p. 247). With regard to indirect value, when decision makers take into account value beyond economic value, they need to make trade-offs between various elements of value (Thiry, 2004).

Contemporary researchers are actively working on extending the understanding of value for project portfolio environments (Killen, du Plessis, & Young, 2012; Kopmann, Kock, Killen, & Gemuenden, 2015; Martinsuo & Killen, 2014). Conceptual and developing projects making their way through the portfolio through a selection and prioritization process need to be considered in terms of the potential value they may generate in their life cycles, even before a project commences. For example, value in a portfolio can come from current and developing projects in the organizational pipeline (Delerue, Drouin, Sicotte, & Petit, 2015), such as the potential relational networks, organizational reputation, knowledge, and learning that could be generated through various projects at various points of the project life cycle, even from incomplete or terminated projects (Ang, Killen & Sankaran, 2015). In the case highlighted by Ang et al. (2015), the value generated by a project initially perceived as “unsuccessful” was acknowledged as pivotal to future investment decisions for other projects in the organization. Moreover, projects and programs can be interdependent (Archer & Ghasemzadeh, 1999; Rungi, 2010), and some projects lag in time in the way they generate long-term contributions to the portfolio. When multiple stakeholders influence value determination from different directions,

value may, in practice, emerge from different levels of an organization; for example, from the bottom up, that is, from the micro (projects) to the meso (program) and macro (portfolio) levels. We therefore define multilevel value interdependencies in OPM as *the value of a project (micro), program (meso) or portfolio (macro) that is dependent upon or impacted by value generated from other micro to macro organizational elements including the dynamics of their respective stakeholders.*

Value in the Eyes of the Beholder

Value is a complex and subjective phenomenon – managers need to deal with multiple stakeholders who have competing, conflicting and often inconsistent interests and value expectations. Different stakeholders interpret value differently across organizational levels; it is not a fixed entity, but rather varies in the ways it is perceived by each stakeholder, and in how each individual’s value perceptions are translated into practice. This notion is also supported through the idea that organizational contribution can be a subjective construct embedded in the values and preferences of stakeholders (Aubry, Hobbs, & Thuillier, 2007). Since the alignment of stakeholder expectations in terms of value creation is crucial when managing projects, programs, and portfolios in a multilevel environment, stakeholder theory serves as a good starting point to investigate this aspect of organizational life.

Stakeholder theory is based on a socially oriented perspective and argues that an organization should be managed in the best interest of all its stakeholders, including all external and internal stakeholders across different levels (i.e., micro to macro level) (Blair, 1996; Jones & Wicks, 1999). Stakeholders are any “*identifiable group or individual who can affect the achievement of an organization’s objectives, or who is affected by the achievement of an organization’s objectives*” (Harrison & Freeman, 1999, p. 91).

We postulate that value management in organizational project management is a reciprocal and interdependent process in which macrolevel values shape and are shaped by the values at the micro- and

mesolevels through the management and engagement of multiple stakeholders.

Stakeholder management is a continuous task of balancing and integrating multiple relationships, conflicting demands, and multiple objectives (Freeman & McVea, 2001, p. 194) and is particularly important in project portfolio management with its multiple-stakeholder focus (Thiry & Deguire, 2007; Winter, Smith, Morris, & Cicmil, 2006). In consideration of the relational interdependencies from the microproject to the macroportfolio levels of the organization, an organization can thus be viewed as interdependent relationships among primary stakeholders (Chakravarthy, 1986; Clarkson, 1995; Donaldson & Preston, 1995). The mechanisms of stakeholder theory address the diversity of stakeholders and their underlying objectives and find a way to balance the different expectations in an effective way. It is therefore crucial for the managing project team to clearly understand what outcomes the different stakeholders expect from the project so that performance drivers can be put in place (Biesenthal & Wilden, 2014).

A Case Study Approach in Exploring Real-World Practice

We draw upon two practical and distinct case study examples from a public and private (for-profit) organization in Australia to highlight, compare, and contrast scenarios of interdependencies of values in order to demonstrate how value transcends and works across the different levels in practice with multiple stakeholder groups, whose

expectations are often contradictory. In the two cases, in-depth exploratory interviews were conducted with project, program, and portfolio members, and their internal and external stakeholders. Stakeholders are instrumental in the identification and evaluation of project and portfolio value, and are a primary source of information for the study. These included project, program, and portfolio members, decision-makers, and other key stakeholders (including suppliers, senior executives, staff, and consultants). To protect the anonymity of the organizations and participants, references made to specific industries, persons, or roles have been generalized, adapted, or de-identified. The participant roles and codenames can be found in Table 20.1. The data was analyzed to identify themes, patterns, and relationships surrounding dependencies in projects, programs, and portfolios with a particular focus on value and stakeholder relationships at the various levels. The interviews contributed thick descriptions to the multiple case studies and allowed for depth of understanding. To strengthen the face validity and credibility of the research (Patton, 2002), the participants' views and experiences are evidenced through extracts from the raw data (Rice & Ezzy, 1999).

Synopses of case study organizations – ASSET and FINANCE

This section commences with synopses of the two case organizations including their approach to managing multiple projects, programs, and portfolios. We discuss the themes found in the cases

Table 20.1 Reference to Organizations, Interviewee Codenames, and Roles

Organizations and Departments	Interviewee Codenames	Roles
ASSET	SE1, SE2, SE3, SE4, E5	Senior executive-Standards, Senior executive-Unit, Executive-Unit
ASSET – Maintenance (External Supplier)	PrD, TS, PM	Projects Director (Consultant), Technical Supervisor, Project Manager (Engineer)
ASSET – Engine (Agency, Internal Supplier and Customer)	SE6	Senior executive, Project Manager, Project Recipient (multiple roles)
FINANCE	PoD, ELC, HoP1, HoP2	Portfolio Director, External Lead Consultant, former Head of Program Delivery, Head of Program Delivery, Head of Program Delivery

pertaining to multiple interdependencies from the project (i.e. micro) to the portfolio (i.e. macro) levels of the organization.

ASSET is an independent unit established within a state-owned public organization in Australia. The unit is responsible for providing asset stewardship through developing and updating its standards and industry documentation, developing engineering governance and frameworks that support related industries in delivering assurance in areas of public asset design, delivery, and management across a vast range of projects and complexities. The state's various public assets are currently valued at A\$104 billion. ASSET introduced a new approach in integrating and managing the network of projects, programs and portfolios through a "Whole of Life cycle Management of Assets" (WLMA) framework that encapsulates systems thinking and multiple interdependencies.

The framework is illustrated through a typical gated process that appears sequential but is, in fact, iterative. The stages in the gateway are interdependent and iterative as managers make sense of considerations at the back-end and front-end of the life cycle, for the short- and long term, in order to deliver value across the asset portfolio to the various stakeholders including the public taxpayer. In this framework, projects are no longer commissioned in silos but have to be considered in relation to other projects in the pipeline for the "whole-of-life cycle" for the asset. A significant change initiative incorporating a change of mindset through the adoption of the new framework is currently being driven by ASSET across the various stakeholder organizations involved with the state public asset of focus. Regular engagement programs are held with internal and external stakeholders (for example, with planning units, project delivery teams, maintenance and operations suppliers, engineering service organizations, and designers) to ensure that each stakeholder understands their roles and accountabilities in the whole-of-life cycle of the asset.

To provide several stakeholder perspectives, this case includes a privately owned asset maintenance organization (MAINTENANCE), who is a key outsourced supplier of ASSET,

and another independent public agency (ENGINE) of the state-owned public organization, who holds a shifting dual role in the projects and portfolios as both the deliverer and receiver of value depending on their position in the ASSET life cycle at a given time. ENGINE elaborates on this:

Sometimes we play different parts. Part of our link with ASSET, is sometimes we can be the recipient of a project. Someone at the higher level may commission somebody to go and do an improvement project. We're the receiving party. Other times, we might actually do that work, and then our role becomes different. We become the deliverer of the project rather than the recipient of the project. That ever-changing fluid landscape, as change has constantly happened on the network, it's constantly switching to "am I deliverer of this, am I a recipient of this?"

The various stakeholders have different views about what a project or portfolio entails. MAINTENANCE, for example, uses the term "projects" when referring to streams of work or a series in a program. They also term multiple projects under "program of works" for a mix of projects that also include other peripheral nonproject work. Multiple projects in the organization are managed under a Projects Director.

FINANCE is an Australian financial institution established in the 1800s. The institution provides consumer and business/commercial services in Australia, New Zealand, and several Pacific Island Nations including banking and insurance products for consumer, business, and institutional customers.

The business units of the organization are structured as a hybrid around projects, programs, and portfolios, as well as functional units. The portfolios comprise different programs and, within those programs, there are multiple projects. The IT department functions in a matrix structure and works across the different levels in the organization. Within the organization, stakeholders had slightly different conceptualizations of projects, programs, and portfolios. The terms "projects-programs" and "programs-portfolios" were often used interchangeably.

One of the programs incorporates five portfolios of work in the retail and business banking divisions with a total portfolio value of A\$350 million. Meanwhile, another program is identified by size and value as “one huge piece of work or many small pieces of work” valued at around A\$20 million. When more than twenty programs valued at over A\$20 million need to be managed, it is identified as a portfolio.

Another portfolio investigated in this case study deals with regulatory change for the institution. They fund, manage, and prioritize projects and programs in the organization dealing with regulatory reforms. The portfolio consists of around thirty programs that run for up to five years, with seventy to ninety projects in total. Projects usually have an operational and budgetary timeline of no more than twelve months. The Regulatory Portfolio tends to be managed on a top-down basis due to its links with mandates, legislation, compliance, and stringent financial regulations and policies.

An external lead consultant (ELC) commented:

Even in this organization, there were almost no rules around whether you wanted to call something a project or program. You had projects which were clearly programs, but because of the funding arrangement they were continued to be called a project. Others, because they wanted to make it sound important, they called program, but they were still being funded as a project. We implemented guidelines and rules around “Is it a project, a program, subportfolio, or a portfolio?” Broadly, those rules are accepted and followed.

Findings and Discussion: Mechanism for Dealing with Value Interdependencies

The case studies provided us with fruitful insights into the multidimensional nature of value in OPM and the implicit interdependencies of values. Since this chapter is primarily concerned with the mechanisms for dealing with value interdependencies across different organizational levels and stakeholder groups, we will discuss the main mechanisms that emerged from our cases in the remainder of the chapter.

The focus of governance and optimization at the various organizational levels

Project governance is concerned with the alignment of the project with stakeholders’ needs or objectives, making it a crucial factor to deliver value across different organizational levels.

From the case studies, we found that at the microlevel, individual project successes do not always contribute to the overall success of the program or portfolio. There can be a disconnect between projects, whereby even if a project appears to have been successfully completed, it might not meet the stakeholder’s needs. It is important to define and understand the intended contribution of a project toward the bigger picture, as commented by Senior Executive SE6, ENGINE:

We don’t always define very well what it is that we were setting out to do. You get to the end of the project, and yes, you might have met the standards, ticked the boxes. But, did you actually meet the intent of what you were trying to do? The real intent, we need to have it be properly defined . . . This party, quite rightly is saying, I did everything you asked me to do. I delivered as per the contract. If they’re very focused on just meeting engineering standards, we can end up with something that doesn’t meet our needs, and we don’t necessarily know what to expect, or we have to compromise, or have additional costs.

The quote exemplifies that stakeholder interests and intentions in projects and portfolios can transcend beyond project deliverables. Expectations that are of value to stakeholders can range from purely financial objectives (e.g., return on investment) over political objectives (e.g., keeping a campaign promise) to purely social objectives (e.g., reputation).

The general view of FINANCE is that deliverables are optimized at the project or microlevel, while the business case is optimized at the program level, and strategic objectives at the portfolio level. In practice, FINANCE executives mentioned that there were times when stakeholders from other divisions external to the various portfolios exerted influential executive power on decisions made

about project eligibilities, priorities and selection. This also highlights the importance of being aware of and understanding stakeholder interests and their interrelationships in optimizing value across the micro- and macrolevels. In addition to governance mechanisms, interdependencies are impacted by one's position of power and influence, particularly in attending to and aligning with key stakeholders that can have an impact on an organization's performance, strategic value generation, and long-term success (Jones, 1995).

Identifying and creating value at different organizational levels requires a good understanding of the expectations, relationships, agendas, and objectives residing on each of the levels, as well as the interdependencies between those organizational levels. Many view the relationship between strategy and projects as a one-way downward process from strategy to projects (Bridges, 1999; Dinsmore, 2006; Meskendahl, 2010; Turner, 1999). Others indicate a two-way interaction whereby organizational and project portfolio activities are said to facilitate the two-way interaction (Burgelman, 1991; Milosevic & Srivannaboon, 2006). Having a macroview of the organization and its microcomponents or projects is strategically crucial. For example, from a macroperspective, a portfolio manager is able to provide a bird's-eye view or big-picture approach to projects and programs in the portfolio to identify and reduce redundancies while optimizing valuable synergies. When asked how value is enhanced in a particular portfolio, the Portfolio Director (PoD) of FINANCE explained that portfolio value delivery was often evaluated by how much money was saved by eliminating duplicates and integrating synergies. The PoD explains: *"Because I am at a portfolio level, I can see when two projects or programs have got a lot of overlap. We would discuss, 'Can you combine some of the work, leverage on what that one is doing? Can you at least design it once, and both work to the same design?'"* Centralizing and combining several projects that have similar requirements and deliverables can generate synergies that translate to financial savings for the portfolio.

Engage with stakeholders to manage and optimize multilevel dependencies

In order to manage various types of project or program value dependencies, Head of Programs (HoP2) suggests that dialogue and engagement with other related project management teams is crucial in order for each party to understand the interdependencies. *"You're engaging and monitoring with the people upon whom you're dependent or who are dependent on you."* A Unit Executive (E5) of ASSET shares similar perspectives about why it is important to engage with other project groups: *"You're working on one project and you have to keep hold of what other projects are doing, and that's very difficult and understanding what the pieces are that are going to influence yours. Then they find issues with their piece, so they change. It's about having briefings . . . we had briefings for most projects in keeping engaged, informing them of what's happened in our part."* In these cases, managers highlight the importance of communication across the organizational levels from the top down and the bottom up as a way to manage and optimize multilevel value dependencies.

The challenges at the various levels are exacerbated by the instances when priorities and outcomes for the business and program are unclear or misaligned, as commented by HoP2-FINANCE: *"If we need to make decisions about priorities, it isn't always clear what the highest priority is or what the end net results of the business will be as opposed to the net result for the program, its scope, its business case."* As such, priorities and the achievement of expected results require value to be clearly articulated and tracked more frequently in a disciplined fashion as demonstrated in the next section.

Clarity and accuracy of priorities and promised value deliverables

Issues may arise when projects and programs feed projected financial requirements and value contributions upwards to the portfolio that may not be accurate. At FINANCE, programs report or negotiate business cases by estimating value deliverables from the bottom up, while the portfolio (top down)

functioned to review if the estimates and assumptions are justified. A problem that the higher levels sometimes face is where the projected value contributions communicated through the business cases to garner support may not be accurate, as expressed by HoP2: *“The guys on the project always talk up the benefits around what they do.”* In overcoming this issue, FINANCE suggests reviewing and tracking the assumptions behind the numbers and metrics to evaluate how the figures were derived.

This problem was also observed at the portfolio levels:

The problem we’ve got is in the program business case. The estimates are just gut feelings . . . From a portfolio point of view that gives us a lot of discomfort because we’d like to know what’s your estimate based on? We always review it. What tasks you are doing? What’s your work breakdown? How many resources, so we can really feel comfortable if I give you 10, 20 or 30 million and I know exactly what you’ll do. The team of portfolio managers can meet with you every month and cross-check (PoD-FINANCE).

Time horizons: Priorities and tracking value in the short- and long-term

In order to drive value throughout the programs and portfolios, FINANCE suggests that more frequent, disciplined approaches in identifying and tracking value is required. *“We’re focusing more time on understanding what value looks like, not in twelve months’ time, but in three, six, nine, twelve months and having disciplines upfront in your program, to forecast, provide an actual and then understanding the difference between the two”* (HoP1).

The emphasis on interdependencies and long-term planning is critical in ASSET as the public assets could require operations and maintenance for up to forty years or more. Thus the considerations of value for ASSET require attention in the early stages of life cycle management and include a long-term focus of the dependencies. *“What you do [projects] in that first six months [concept/design] influences the operations, so we focus on the design stage because that’s where you get the best value for money and that’s where we have influence”* (SE6-ENGINE). This comment was

supported by ASSET-MAINTENANCE, the external stakeholder who looked after the maintenance and operations of one of the asset groups. Poorly conceptualized and designed assets in the early stages can impact greatly on the latter stages of operations and maintenance as described by the Technical Supervisor (TS): *“If the design is not suited to the environment or the maintenance-operator, we will suffer and we have already seen that in many situations here. That a certain thing was designed but the designer had something else in his mind and now we are replacing something every six months just to keep it going.”* This continuous replacement is detrimental to any organization’s value realization, as it inefficient and resource intensive, and shows the importance of involving relevant stakeholders (i.e., end users) early in the project. End users (for instance, maintenance and operations personnel) need to be consulted and involved in the design process at the early stages, otherwise this may prove costly to the organization in the longer term, as emphasized by TS: *“So we are the end user, if we are not involved in the design process it is going to be hard, because you will end up spending a lot more, so the whole lifecycle cost will go up unless you close the loop at the design level.”*

However, in managing multiple stakeholders and projects in a life cycle portfolio like ASSET’s, the implementation of top-down directives from stakeholders can be very challenging, as witnessed in ASSET’s different stakeholder requirements of timeline and scope. External stakeholders, especially suppliers in project delivery teams, struggle with adhering to high-level stakeholder requirements due to the different requirements and value deliverables expected from contractual agreements and delivery time frames that different stakeholders operate on, as explained by TS-MAINTENANCE: *“The Whole-of-life is a very different concept to what we are doing. If we have a seven-year time frame, how do we budget for longer term actions? If I do something now that will save money but the payback is 10 years, my management won’t be too keen.”* From this example, internal and external stakeholder expectations of short- versus longer-term value returns from project deliverables ought

to be reviewed, clarified, and negotiated early to account for the different time frames and conditions that different stakeholders are working within.

Power, politics, and relationships: Relational factors contributing to dependencies, value creation and delivery

Dependencies at the various organizational levels need to consider the relational aspects of various stakeholders. As previously discussed, in order to gain clarity around the issues or expected value, managers need to make sense of the stakeholders' priorities and issues. A large part of making sense of stakeholder needs is in communicating and engaging with them, as demonstrated through these comments: *"You want to uncover what's working and what's not working. You talk to all the key stakeholders. You understand where they are all coming from. What the most important issues are . . . You meet the people, you understand the priorities, a lot of it is in working with people. How you work with people. You work one-on-one"* (ELC-FINANCE). To a certain extent, Project Director (PrD)-MAINTENANCE stresses the importance of communicating and connecting with key stakeholders from the onset: *"I want to go and meet all the key stakeholders, I want to very quickly know who is important in this project, I want to meet them face-to-face, I want to get a sense of what's this person like. You talk to the sponsor, that is the first place that I start."*

Where dependencies are identified, it is important to identify the relationships in the flow. Building elements of trust and respect in a stakeholder relationship is key, particularly for managers attempting to deliver multiple programs owned by different stakeholders, as shared by HoP1-FINANCE: *"I had a colleague running that program. Understanding those dependencies and building a relationship with the areas where you had the dependency rather than just hoping it will be solved. Now, this is a people game. This means you need to engage with the people who are actually going to make the impact, the outcome that you're striving for. You've got to build those trusted relationships and one of respect."*

The complexities arise when stakeholders exert their power and influence on projects that may be

deemed ineligible in a portfolio, but may have an impact on the portfolio from a relational perspective. PoD-FINANCE illustrated the point:

and he needed about 2 million to do a small change but really was not eligible. I had to say no to him. He was very unhappy. He made a lot of phone calls. We ended up funding his change, but logically and clearly, we shouldn't have done it, but I also realized because he is quite politically placed, and he is a very powerful player. If I don't help him in the longer term it will be bad for me. I am still a bit sore because I feel I was pushed, almost bullied into it.

Having stronger organizational governance policies and protocols around decisions and accountabilities could help in reducing such incidences from happening in organizations, while protecting those in the position of executing stakeholder requirements.

Power and relationship interdependencies are further highlighted as the norm to influencing and achieving outcomes in large, complex organizations like FINANCE: *"People want to get their way because of what it means for them personally and professionally. It's all about influence and recognition. The people who get to these high levels, effectively more so"* (HoP1). This point is supported by ELC about understanding and attending to power bases: *"Politics is all wrapped around the power. People getting what they want . . . it's to do with someone's objectives, or what they want to achieve. You have to understand whose power matters, typically, it's on the basis of track record, have they always got their own way . . . once they are determined to get an outcome, they get it. You pay a lot of attention to them."*

"It's a political game . . . Ours is about winning over influence, getting support from your peers and being placed in a position where you can make decisions. Then, the money will flow" (HoP1).

In the two scenarios, stakeholders are observed to seek out and align themselves to the perceivably effective, important and influential "power bases" in order to ensure their own success in the organization. However, stakeholder saliency, roles and expectations, attention, and interests can differ at various points of the project, program, or portfolio. As such, value management within OPM

becomes an iterative process that includes a sensemaking process, in which the final values for different stakeholders evolve during the course of the project, program, and portfolio.

Sensemaking with different stakeholders at the different stages and levels

Organizational sensemaking is an important factor in the process of managing multilevel value in OPM and helps us to understand and investigate how value can be produced and managed across different stakeholder levels. Weick (Weick, 1995, 2001; Weick et al., 2005) talks about organizations as “sensemaking systems.” Sensemaking in organizations is a complex process of forming and reforming shared understandings from the ongoing interactions and coordinated actions between people (Easterby-Smith, Crossan, & Nicolini, 2000; Weick, Sutcliffe, & Obstfeld, 2005). In the context of value, people share feelings, intent, and perceptions of value among themselves and gradually define and create meanings about value. These shared sentiments enable people to make decisions and take actions in their projects, which helps them to achieve the strategic goals of the portfolio and organization. This interaction is an iterative, trial-and-error, sensemaking process built through discussion and conversation, and subsequent actions. In a way, making sense of value occurs both in process and in actuality. For instance, value delivery and realization in actuality might differ from how it ought to happen (creation and proposition) as it is influenced by multiple actors among other organizational factors.

Through sensemaking perspectives, managers attempt to build clarity around what constitutes value in a portfolio of projects in order to prioritize their decisions, and this in turn will help them define, negotiate, and integrate value dimensions with multiple stakeholders that can help determine future decisions and actions. However, decisions made are often determined by people’s preconceptions of their surroundings (Weick, 1995, 2001). This could lead to portfolio managers focusing on the dominant views of value in decision-making including financial value or shorter-term gains, thus dismissing or neglecting other important

factors in the decision process such as the consideration of long-term value generated from the project and program outcomes. These longer-term value contributions to the portfolio are often intangible, and the neglect could exacerbate pre-existing blind spots within the teams or portfolio and may lead to project breakdowns and portfolio disasters. This point creates a tension and gulf between what Weick (1995, 2001) states about sensemaking practices as a subjective and interpretive practice as opposed to traditional project portfolio processes and decision support tools that offer as “best practices” in determining what is of value in a portfolio. This amplifies the challenge and complexities of understanding value creation interdependencies when there are multiple stakeholders at multiple levels in organizational project management.

We instrumentally link sensemaking practices with exploring how managers at various levels interpret and integrate stakeholder value dimensions from the micro- to the macrolevels to achieve the strategic intents of the organization.

Our version of sensemaking fosters the incorporation of multiple stakeholder expectations when creating value and accepts the evolutionary character of organizational value. Value can and often does change constantly or is characterized, shaped, and verified within the stream of lived experiences that occur throughout the project (Cicmil, Williams, Thomas, & Hodgson, 2006). Organizational value is therefore fundamentally contextual (Schiller, 1966). We believe sensemaking is a vital aspect to acknowledge, align, and combine viewpoints and activities to create organizational value that represents the best result for all stakeholders involved.

The case studies illustrate several examples of sensemaking through the facilitation of shared understandings and establishing common language across the organizational projects. *“It’s not always clear what the right direction is, so it is a case of getting people together and having discussions and going through what makes sense, where is there a common agreement and working from the common agreement and enlarging it until we figure out what we need”* (PrD-MAINTENANCE).

PrD uses a collaborative approach in making decisions about the projects. Others describe their process as:

Stakeholder consultation, all the way through, and again in different ways . . . Actually getting people together to have those discussions, and seek out what it is the stakeholders want . . . It is talking to the right people, and understanding what their role is, and the limits of their role . . . A lot of it concerns talking, and really, where projects are working well is where people are getting in a room together and really understanding what everyone's role in this is (SE6-ENGINE).

PrD-MAINTENANCE emphasizes the importance of stakeholder involvement, alignment, and the understanding of their role in the project. Additionally, due to the often divergent views about projects, it was important to ensure that stakeholders had a common understanding of the project arrangements and ensure that they were aligned since most stakeholders in the projects came from diverse parts of the business and had different interests in the project. At FINANCE, the IT governance group works across a number of business units to collaborate with senior representatives from each business unit. This ensures that when the group is discussing major IT architectural requirements, and priorities, each business unit has a voice.

Sensemaking mechanisms allow managers to combine multiple, different agendas, objectives and practices with practical excellence to successfully cocreate the best value for all stakeholders involved. However, the cases demonstrate that successful value creation for all stakeholders in a multilevel OPM setting require solid, active, and timely communication and engagement across all organizational levels.

Importance of communications and information sharing in a multilevel context

Project and portfolio managers need to actively communicate and share information in order to keep track of projects in an evolving strategic environment (Aritua, Smith, & Bower, 2009). Besides interproject communications (Nobeoka & Cusumano, 1995; Platje, Seidel, & Wadman, 1994), organizations

need to be able to capture and share information (Kim & Wilemon, 2007) and view that information from a portfolio perspective (Cooper, Edgett, & Kleinschmidt, 2001; Durant-Law, 2012; Levine, 2007) in order to support decision making. Additionally, information needs to flow from the bottom up, as well as across units. One such example emphasizes the importance of ensuring that other facets of the organization stay connected and informed about the projects or programs so that the value can be understood and further communicated to others: *"One of the big things about benefits that we're driving both through our portfolio now and what we did back then is ensuring the banker and customer awareness around what we're doing so they can talk to customers about the value"* (HoP1-FINANCE).

In another example, information can be used influentially from the micro level up to macro- or mesolevel when harnessed well. *"Then once you've actually, got that information, you then go leave it to your board to make the decision. Obviously, you influence on the way up . . . the way influence goes, it goes from low to high as opposed to high to low. It can go both ways, but often in decisions of this magnitude . . . require a lot of influencing, understanding and trying to ensure that you go to the right people for the right advice"* (HoP1-FINANCE). This example indicates the importance and power of reciprocal communication in multilevel organizations. This two-way interaction fosters collaboration and thus value creation across different levels, as all stakeholders are provided with the opportunity to voice their opinion and share relevant information.

Meanwhile, managers need to be very clear about the purpose and problems to solve in order to deliver value, as explained by HoP1: *"I've got a big belief that any project has got to be about understanding a problem. Once you can articulate the process in which we solve that, then it's around the execution, and then, achieve the outcome . . . The best projects that deliver the best outcomes is where you have a very specific purpose and why you established it, and the value which you're creating as a result of building that asset is very clear and actually is measurable."*

However, how the information is shared for effective decision making is also of importance in a multilevel setting. Projects and programs are dependent on effective and efficient decision making. ASSET and FINANCE have different approaches to project and program information and knowledge sharing. Much of portfolio decision making is around prioritization, and FINANCE needed a more efficient way to make decisions involving multiple stakeholders, as expressed by ELC: *“Only because a lot of decisions with portfolios is to do with prioritization. It’s one thing over another. Sitting around a table and arguing over a bit of paper, it’s not effective.”* FINANCE reduced the number of meetings with various stakeholders through its adoption of the Agile philosophy, *“A lot of the decision-making that we do, now, happens in real time. We’ve actually found a much better communication and information sharing using visualization techniques in real time. Instead of sitting in front of a table, they stand in front of a wall where they can actually see where the issues are, see the impacts. They can see the decisions which have been made . . . You have very lively discussions in front of the wall, at the end of the day, you make a decision and you move on”* (ELC).

Thus, the examples show that projects, programs and portfolios are dependent on the effective and efficient flow of information to engage, influence and support the decisions and value judgments of different stakeholders.

Engagement through driving project value rather than project deliverables

Ultimately, project teams at the micro levels need to be more actively engaged with driving value and not just project deliverables, as commented by HoP1-FINANCE: *“Once upon a time, as a project manager, we were seen as building an asset, handing it over to the businesses, and then letting the sponsors drive the value. Whereas now we’re saying, ‘you’re with the project team together with the change management capability. You need to be much more commercially orientated around driving value. You are also responsible for driving the benefit to the shareholders on what you built.’”*

In contrast, MAINTENANCE views that value is determined by the sponsor because value might only be realized several years after a project has been completed. The sponsor is viewed as the key stakeholder in recognizing post-project value, as commented by PrD: *“That’s usually beyond the life of the project, so which is why the sponsor is really key to the whole thing. They can see the whole thing. At the end of the day the sponsor has to decide whether value was added, was it worth the expense. Within the project it’s sometimes not visible, but within the business that sponsors the project, you would hope that they have ways of measuring it over time.”* The two cases demonstrate that while project teams need to engage with driving value for stakeholders, some types of value returns might only emerge after a long time, beyond the life of the project.

Conclusions: Sensemaking as a way to engage, drive, and integrate multilevel organization value creation

The chapter provides an organization-level perspective of value creation by considering the interdependencies at the multiple levels of projects, programs and portfolios. We drew upon two diverse case studies in Australia to demonstrate an OPM perspective of value dependencies in the different levels of an organization. Whether in private (for-profit) or public (government) environments, value dependencies in organizations play an important role, but one that has not previously been studied comprehensively from an OPM perspective.

The findings provide examples of mechanisms that organizations use to manage multilevel value dependencies across projects, programs and portfolios. One of the key capabilities that occur within the outlined mechanisms is stakeholder communication and engagement across the organizational levels from the top down and the bottom up. This can be challenging, especially in a multilevel organizational environment, as it requires a good understanding of the expectations, relationships, agendas and objectives residing on each of the levels, as well as the interdependencies between those

organizational levels. One needs to be cognizant of the relational aspects of dealing and engaging with stakeholders. Power, politics and stakeholder relationships can influence and impact on multilevel dependencies, value creation and delivery. Stakeholder and organizational project priorities and the achievement of expected results require value to be clearly articulated and tracked more frequently in a disciplined fashion. To do so, one needs to be aware of and understand the relationships between strategy, projects, and portfolio management to fully grasp the magnitudes of work, the flows of information and the dependent nature between projects, programs and portfolios.

A vital component to manage value interdependencies and to cocreate value for all stakeholders involved is the ability to combine multiple, different agendas, objectives, and practices. This ability reflects organizational sensemaking, which is critical when dealing with complex multilevel organizational project management, particularly when there are multiple stakeholders at the various stages and levels of the organization, from the project, program and portfolio levels, in addition to other organizational activities. Sensemaking is therefore an important area that needs to be further explored in the context of OPM.

To conclude, the cases demonstrate that successful value creation for all stakeholders in a multilevel OPM setting requires solid, active, and timely communication and engagement across all organizational levels. For these reasons, a project team's ability to be flexible and agile, while considering the longer-term contributions and their engagement with driving project value, rather than just project deliverables, might be better appreciated by higher management. Success – in terms of value creation – in projects, programs, portfolios or the organization is based on a combination of efforts that involves a multilevel perspective on organizational mechanisms, communication and stakeholder engagement. When considering the combinations of efforts involved in optimizing value for OPM, sensemaking becomes a vital capability that helps to integrate the dependencies and relationships from the micro to the macro levels, as value can then be viewed, identified, negotiated, articulated, and integrated more holistically in an organization.

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Paper 5: Unanticipated value creation: sensemaking and the value spectrum in partnership projects

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Unanticipated value creation: Sensemaking and the value spectrum in partnership projects

Karyne C.S. Ang *, Catherine P. Killen **, Shankar Sankaran ***

* University of Technology Sydney, P.O.Box 123, Broadway NSW 2007, Sydney, Australia
School of Systems, Management and Leadership, Faculty of Engineering and IT

Email: karyne.ang@uts.edu.au

** University of Technology Sydney, P.O.Box 123, Broadway NSW 2007, Sydney, Australia
School of Systems, Management and Leadership, Faculty of Engineering and IT

Email: catherine.killen@uts.edu.au

*** University of Technology Sydney, P.O.Box 123, Broadway NSW 2007, Sydney, Australia
School of the Built Environment, Faculty of Design, Architecture and Building

Email: shankar.sankaran@uts.edu.au

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This paper explores the dimensions of value across a partnership project (that requires collaboration from two or more organisations), and highlights how unanticipated values from a project can add value to the overall portfolio. Insights into the complexities of defining and managing value derive from a study investigating managerial decisions to persist with a partnership project despite indications of possible failure, and how value was ultimately created. The study highlights a variety of valuable outcomes from project and portfolio activities. Sensemaking processes are illustrated and a value spectrum model is presented to provide guidance for portfolio decision makers involved in partnership projects.

KEYWORDS

Value, project portfolio management, partnership, sensemaking

Introduction

In today's networked environments, relationships with multiple stakeholders and partnerships with outside entities are viewed as essential for an organisation's success (Parise & Casher 2003). Collaborative partnerships and alliances in project and program management can provide benefits such as improving competitive advantage, growth and contributing to the long term value creation of the overall portfolio of projects in the organisation. By adopting a portfolio-level perspective, project portfolio management (PPM) enables organisations to strategically and holistically manage the project portfolio as part of the strategic programs. However the project portfolio decision makers face a challenging and complex task - they must identify and distinguish the long term value in partnership projects in order to make decisions that optimise value creation across the portfolio.

Enhancing the value generated by projects is a complex, multi-faceted endeavour. This paper explores the dimensions of value across a partnership project, and highlights how unanticipated values from a project can add value to the overall portfolio. By exploring the different interpretations of value among multiple stakeholders, this study provides an in-depth look at the spectrum of values created through project and portfolio outcomes.

The exploration into why managers chose not to terminate but persisted in continuing with a partnership despite indications of possible failure, and how value was created in the partnership provides insights into the complexities of defining and managing value. This paper examines portfolio management and decision making from different stakeholder perspectives of project and portfolio value to understand how decision makers make sense of value in complex multi-stakeholder contexts, especially when multiple stakeholders are likely to have different needs, and some of these could be conflicting (Beringer, Jonas & Kock 2013).

The remainder of this paper is organized as follows: The next section provides an introduction to project portfolios and partnerships. Next, the multiple perspectives of value and their association with stakeholder theory are briefly outlined. The challenges of integrating multiple stakeholder expectations of value in partnership portfolios are presented. The research methodology is then outlined, and the findings on the case organisation and the partnership project are presented. Drawing upon the findings and the literature, we present a

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model of the 'value spectrum', identify multiple levels and categories of value and offer several propositions that have implications for theory, future research and practice.

Portfolios, programs, projects and partnerships

Project and portfolio structures are increasingly used to organise work with the aim of enhancing organisational outcomes. Due to the prevalence of project structures, and the strategic importance of project outcomes, projects are progressively being linked to broader business agendas and organisational strategies, and thus managed as part of the portfolio of an organisation's projects rather than in isolation (Artto & Dietrich 2004; Müller, Martinsuo & Blomquist 2008; Reyck et al. 2005).

Project Portfolio Management (PPM), is viewed as a simultaneous management of a collection of projects and programs as one entity. This field is of growing interest and importance in both theory and practice. PPM enables organisations to manage the project portfolio holistically in alignment with its strategic intentions (Lycett, Rassau & Danson 2004; Vereecke et al. 2003). In fact, the adoption of PPM processes has been found to reduce project-related problems, and is well correlated with project performance (Reyck et al. 2005). These are critical considerations especially as today's organisations are reliant on the power of projects and programs to deliver effective and holistic strategic outcomes for their stakeholders.

Much of the existing work on PPM considers projects as wholly within an organisation's control, and the portfolio-level decisions about project investments within the organisation's boundaries (Christiansen & Varnes 2008; Cooper, Edgett & Kleinschmidt 2001; Killen, Hunt & Kleinschmidt 2008). However, project options often extend beyond firm boundaries and include 'partnership projects', defined for the purposes of this paper as projects that require collaboration from two or more organisations that contribute to the effectiveness and efficiency of the projects, such that the projects would not exist without the partnership.

Many studies about partnership projects adopt the perspective of PPP (Public-Private Partnerships). According to Linder (2000), there are multiple meanings of the term 'partnership', including a wide spectrum of purposes and executions of partnerships such as a standard-procurement-by-contract with a joint-investment arrangement, partnerships that convey official endorsements or sanctions, partnerships as risk shifting or as a way to

restructure public services, for power sharing. While PPP is often associated with public-private partnerships, alliances, collaborations or joint-ventures, there are also public-public and private-private partnerships (Linder 2000) depending on the intent of the partnership formed.

There are many types of partnerships, for example partnerships where there is close, explicit and formal cooperation between sectors to deliver goods and services, inter-sectoral policy partnerships for those in the same policy sector, combinations of public funding and private provision of services for the public good (Linder & Rosenau 2000). Inter-organizational collaborations (Faems, Van Looy & Debackere 2005) and alliance portfolios (Parise & Casher 2003) are viewed as multiple organisations collaborating to achieve business goals and can serve to supplement or enhance internal organisational activities. For example, access to complementary assets (Teece 1986), transfer of knowledge (Eisenhardt & Schoonhoven 1996), spread the costs in the project (Hagedoorn 2002) and thus reduce risks involved in project investments (Faems, Van Looy & Debackere 2005).

We define a partnership as a *“relationship involving multiple partners who work collaboratively to achieve common goals by means of cooperation, joint-investments, shared ownership and division of labour based on the strengths, resources and capabilities of each partner. These partners are stakeholders to the partnership, and the saliency of the partners and magnitude of contribution could vary depending on the role in the partnership”*. A ‘partnership project’ is a project created by a partnership – and as projects are temporary endeavours, the partnership in the ‘partnership project’ is formed for the project and exists for the duration of the project.

In the non-profit sector, shortfalls in revenue and funding have prompted the development of partnering relationships, often involving the government, non-profits, volunteers, with the commitment to service delivery in community settings (Linder & Rosenau 2000). Partnerships involving a non-commercial portfolio with a social, community or public focus must balance social goals with an economic motive – a term often known as mission-market tension (Young 2005). Such partnerships face special challenges as they need to be market-centric and mission centred (Ames 1988; Zemsky, Wegner & Massy 2005) as well as support innovative practices and outcomes whilst still maintaining standards (Moulton & Anheier 2001; Todd & Ware 2000). Similar challenges are illustrated studies about network

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relationship portfolios involving organisational relationships with entities relevant to the firms' business (Tikkanen, Kujala & Artto 2007).

However, managing and making decisions for a portfolio of projects that includes partnership projects add a level of complexity. This is because decision-making in PPM involves multiple stakeholders with diverse goals and expectations (Bentzen, Christiansen & Varnes 2011; Beringer, Jonas & Kock 2013; Bourne 2009, 2011). Multi-criteria decision making as such is recognised as a problem in the decision making field (Almeida & Duarte 2011; Stummer, Kiesling & Gutjahr 2009) as the multiplicity of influences could lead to complex decision dilemmas, potential compromises and inconsistencies in reality. However, these issues have not been studied and addressed in-depth in portfolios, particularly those with partnership projects.

Value creation and knowledge sharing is important for the success of the partnership from an alliance or partnership portfolio perspective. Parise identifies value within the context of holding positive relationships or partnerships with multiple business players and alliances (Parise 2003). McEwen (McEwen 2003) suggests that successful and sustainable partnerships should be built upon effective relationships, with an understanding of the stakeholder's culture, relevance to stakeholders' needs and a common understanding for the purpose and role of the project. Furthermore, value is not simply added, but can be mutually created and recreated among actors (including customers and partners) and the nodes in the business networks (Biem & Caswell 2008). In this way, partnerships, inter-organisational alliances and project collaborations aim to deliver better services by combining the strengths of the project partners, each focusing on the areas it does best.

Since partnerships involve multiple players or stakeholders, and partnership projects are meant to contribute to the overall project portfolio in achieving organisational goals, it is important to understand how value is derived from such partnership projects and how it impacts decision making for the project and portfolio. There are challenges for PPM and decision-making in increasingly complex and dynamic portfolio settings when there are often multiple and inter-dependent stakeholders involved. These challenges are amplified when value and decision making have not been thoroughly explored from a multi-stakeholder partnership-project perspective.

Stakeholder theory and stakeholder perspectives of value

Stakeholder theory considers how managers articulate the shared sense of the value they create, and how core stakeholders are connected (Freeman 1984; Freeman 2004). It also propels managers to consider the types of stakeholder relationships and inter-dependencies required in order to deliver on their purpose (Freeman 2004). In essence, unless stakeholders are defined and identified, it would be almost impossible for managers to consider delivery on the intended value.

How widely or narrowly stakeholders are defined, will have an impact on portfolio decisions. Stakeholders can be identified simply as shareholders (Freeman 2004) or as any group or individual that is able to affect or be affected by the achievement of the organisation's objectives (Freeman 1984). Certain stakeholders can have an impact on an organization's performance, strategic value generation and long term success (Donaldson & Preston 1995; Freeman 1994). An organization can therefore be viewed as interdependent relationships among key stakeholders (Chakravarthy 1986; Clarkson 1995; Donaldson & Preston 1995). Alternatively, Irani (2002) classifies stakeholders as strategic (directors and senior management) and operational (those whose job functions are affected by the IT/IS investments).

In exploring the relationship between stakeholders and value, stakeholders have differing and often conflicting viewpoints of value and competing goals (Hillman & Keim 2001; Jones 1995) and this could differ by sector and portfolio context. Furthermore some stakeholders may be instrumentally more important than others (Jones 1995), whilst the engagement of others could potentially result in tensions, misaligned interests, contributions or resource commitments especially in partnerships (Le Ber & Branzei 2010). Stakeholder theory attempts to address the question of which groups of stakeholders deserve or require management's attention (Freeman 2004). Additionally, stakeholder saliency is likely to differ from issue to issue and from time to time (Mitchell, Agle & Wood 1997). Thus stakeholder management is a never-ending task of balancing and integrating multiple relationships, conflicting demands and multiple objectives (Freeman & McVea 2001, p. 194) and closely parallels the characteristics of project portfolio management and partnerships in its multiple-stakeholder focus although its presence in the PPM literature is still scant (Thiry & Deguire 2007; Winter et al. 2006).

Making sense of value through multi-stakeholder perspectives

Sensemaking in organizations is a complex process of forming and re-forming shared understandings built from the ongoing interactions and coordinated actions between people (Easterby-Smith, Crossan & Nicolini 2000; Weick, Sutcliffe & Obstfeld 2005). Weick (1979, 1995, 2001) talks about organizations as sensemaking systems. People inside and outside the organizations socially create and recreate conceptions of themselves and those around them (Dervin (1998). Therefore, decision making and ultimate actions taken in ‘actuality’ can differ from how they ‘ought’ to happen as it is influenced by multiple actors among other factors (March 1994). Drawing on Weick’s (1979, 1995, 2001) theories on sensemaking that decisions made are often determined by people’s preconceptions of their surroundings could lead to portfolio managers dismissing or neglecting other important factors in the decision process including value dimensions by multiple stakeholders, exacerbate pre-existing blind spots within the teams or portfolio resulting in portfolio disaster as an outcome. Unfortunately, project portfolio research relating sensemaking practices specifically to value constructs in multi-stakeholder environments is almost non-existent and only two such project (or program)-based studies were found to date (Sense & Badham 2008; Thiry 2001).

Furthermore, what is of value is a matter of perspectives (Elias 1998). Over the years, a wide number of theoretical perspectives have been used to study value in organizations. These include value engineering and value management (Elias 1998; Kelly & Male 1988), value as viewed from a systems and networks perspective (Allee 2000a; Biem & Caswell 2008) and stakeholder theory (Donaldson & Preston 1995; Freeman & McVea 2001; Jones 1995). However, due to the polyvalent nature of ‘value’, it is often a challenge for managers to make sense of the dimensions of ‘value’ to be managed.

Allee defines value as ‘*a tangible or intangible good or service, knowledge, or benefit that is desirable or useful to its recipients so that they are willing to return a fair price or exchange*’ (Allee 2000b, p. 28). Allee (2000b) challenges the commonly addressed perspectives of value revolving around monetary assets, alliances and relational capital, intellectual, human and structural capital and offers alternative forms of value in terms of intangible assets (viewed as unseen and often unappreciated) including corporate social responsibility and environmental sustainability. For example, knowledge can be exchanged for tangible goods, services or money; or intangible value like customer loyalty (Allee 2000b). Other writers support the idea that intangible and non-financial benefits including indirect project costs need to be

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considered in evaluating infrastructure investments in Information Technology (IT) and Information Systems (IS) (Hochstrasser 1990; Irani 2002).

Allee (2000a) explores the conversion of intangible assets into negotiable forms of value by the virtue of the impact of intangibles on value networks. Allee (2008) also addresses the collaboration, innovation and value creation at a global telecom to stress the importance of intangible value and the power of networks, and subsequently maps the value network including intangibles. What is important in Allee's studies about value is that the writer attempts to expand the idea of value to include intangible assets and previously unnoticed social and economic contributions. Nogeste and Walker (2008) suggest that inexplicit intangible outcomes could be cross-referenced into explicit tangible outputs. Whilst the latter study was limited to the perspectives of those delivering projects and not its recipients, and specifically addressed outcomes, benefits and outputs, rather than 'value' per se, what is important is that expanded perspectives of value to include intangible dimensions are increasingly recognised in the literature.

Public value perspectives

In the public service sector, value is often determined by the citizens and often identified as improved services, enhanced trust or social capital, or diminishing or eradicating social problems (Horner & Hazel 2005). For Kelly, Mulgan and Muers (2002), services, outcomes, and trust, legitimacy and confidence in government provide the basis for guiding decision-makers in considering the value they create. O'Flynn (2007) highlights the multiplicity of goals and objectives, multiple accountability systems including citizens as overseers of government, customers as users and taxpayers as funders, and implies that the dominant focus of public value creation may be in managing relationships and engaging in negotiation. In Porter's view (2010) of the health system, whilst value is defined around the customer and the patient, it is also measured by the processes and encompasses all the services and activities that jointly determine success in meeting the patient's needs. Additionally, accountability for value should be shared among the providers involved, hence there are multiple actors in the value generation and realisation dimensions (Porter 2010).

Other perspectives include ethical quality and moral reputation as value dimensions, (Palomino, Baron Gomis & Ruiz Amaya 2011), employee workplace quality and the ability of the organisation to engage the best available human capital (Fombrun 2001; Trevino &

Nelson 2010); firm competencies in accessing superior resources and financial backing, having lower costs than competitors (Fombrun 2001), the media and other social establishments (Fombrun 2001); and commanding a greater number of sales and production contracts (Fombrun 2001; Trevino & Nelson 2010). Although non-financial dimensions are evident in these examples, the underlying motive is to enhance financial and economic outcomes.

A project portfolio perspective can assist with allocating resources when the value potential of a project is communicated and demonstrated through dimensions of both tangible and intangible value. This is important because socially-complex resources such as reputation, corporate culture, long-term relationships with suppliers and customers, and knowledge assets are seen as resources that may lead to long term competitive advantage (Barney 1991; Teece 1998) using the criteria to determine value as : valuable, rare, inimitable and effectively deployable (Barney 1991). These types of resources are often intangible, difficult-to-replicate and are argued to be necessary to underpin the business processes for competitive advantage and stakeholder value creation.

Drawing on Allee's (2000b) ideas of value management, research on value specifically within project portfolios that explore different value dimensions and constructs across multi-stakeholder environments is scarce. Improving the understanding of 'value' has become especially important as PPM is being adopted across a wider range of industries, many in non-commercial areas where the 'value' generated by the portfolio does not fit with typical PPM frameworks that emphasize financial value.

In project management studies, although there is acknowledgement of the influence of multiple stakeholders on managing portfolio value and the need for improved ways to truly improve portfolio value (Thiry 2002; Thiry & Deguire 2007), there is a lack of guidance for practitioners in their quest to strategically and holistically improve non-financial value through the project portfolio. Furthermore, projects and portfolios in different industries can be perceived and potentially treated quite differently to meet the value expectations of different types of stakeholders (Blomquist & Wilson 2007). Organizations of all types look to PPM for guidance as they struggle to cope with reduced funding and increased governance requirements for transparency and reporting in complex multi-actor environments (Blomquist & Muller 2006; Klakegg, Williams & Magnussen 2009; Mosavi 2014).

Decisions to terminate projects are complex and are said to be one of the most difficult decisions to be made in business practice (Balachandra, Brockhoff & Pearson 1996; Balachandra & Friar 1997). Subsequently, PPM is much more complex than just selection and termination decisions (Kester et al. 2011). Decisions are also made to either delay or continue projects. It is viewed that these decisions are made in consideration of resources, having the right projects, and allowing for agile decision making across the portfolio's set of projects (Kester et al. 2011). Decisions to continue or terminate projects within the portfolio are also strongly linked to whether it has a strategic fit or not (Kester et al. 2011; Unger et al. 2012). Some studies imply that certain projects facing a losing course of action might not be terminated due to personal involvement and individual project decisions to escalate their commitments (Biyalogorsky, Boulding & Staelin 2006). However, not all evidence of project decisions and outcomes may be visible upfront, and thus there is a degree of managerial intuition associated with opinion-based portfolio decision making (Kester et al. 2011). On one hand, decisions to delay the termination could result in the diversion of scarce resources from other more promising projects (Balachandra, Brockhoff & Pearson 1996). On the other hand, according to Moenkemeyer et al (2012), project termination can become an opportunity when 'project failures' are turned into 'successful failures'. The study focussed on the consequences of project terminations and its value in building resilience in project members. Overall, having clear decision making processes can help portfolio managers 'avoid the trap of escalation bias' often associated with major strategic decisions as mentioned in the literature (Biyalogorsky, Boulding & Staelin 2006). The project management literature discusses aspects and consequences of project termination. Less is known about the value dimensions that influence the decisions that project and portfolio managers make to continue with troubled projects where multiple stakeholders are involved.

Research Design and Methodology

Mitchell et al (1997) raise questions of stakeholder identification and saliency under the principle question of 'who and what really counts'. The PPM literature has not thoroughly discussed the impact of multi-stakeholders in managing portfolio value and its impact on decision-making.

The research in this paper forms part of a larger research study that addresses the following questions:

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- How do the dimensions of value inform decision-making in project portfolios?
- How do the different perspectives of value in various multi-stakeholder environments including partnerships influence project and/or program portfolio decisions?

The research aims in this paper are:

- To explore stakeholder value dimensions in partnership project decision making
- To investigate the phenomenon of decision making to continue in a project despite being in a poor partnership environment
- To learn about harnessing the value in partnership projects for the benefit of the overall portfolio

This exploratory study specifically looks into portfolio decision making and the value generated in partnership projects. We contribute to PPM research by illustrating the complexities surround the multi-dimensional aspects of value and how portfolio managers negotiate in complex environments involving partnerships and multiple stakeholders.

Case study research

This exploratory study is conducted through a single case study (Yin 2009) focusing on partnership portfolio decisions in a public utilities organisation. The case is part of an ongoing multiple case study that explores value from multiple stakeholder perspectives. Guba and Lincoln (1981, p. 372) suggest that case studies could be used to describe what it is like to ‘experience’ a situation, a function identified as ‘rendering’. Due to the exploratory nature of the research question, an in-depth case study approach relying on data triangulation was adopted (Yin, 1994). The case study incorporated the perspectives of multiple stakeholders in a partnership project and portfolio.

Semi-structured interviews and document reviews were used to collect the data about the case organisation. The interviews were conducted so that participants were able to use their own terminology and to raise issues and discuss concepts in order to best represent their own experiences and interactions (Gioia & Thomas 1996). The case study also included an analysis of project and partnership artefacts including publicly available communications material, annual reports, flow-charts, reporting templates and business proposals. The diverse sources of data enabled traceability through the creation of a chain of evidence, and the development of a rich database with multiple forms of evidence (Yin 2009).

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The case study methodology (Tellis 1997; Yin 1996) included the design and review of the case study protocol including clear project objectives and case study issues, field procedures and case study questions. Pragmatic and sensemaking perspectives informed the research design including the development of interview questions tailored to explore the ‘actuality’ of projects (Cicmil, Williams, Thomas, & Hodgson, 2006). Dervin’s framework of questioning was adapted to incorporate micro-moment decision-making questions about the specific value dimensions, their level of strategic importance, the influence of stakeholders, and other details about each decision-making moment (Dervin 1983).

This exploratory study focuses on the case of a problematic partnership project within an organisation’s portfolio of projects. The research explores the dimensions of value that influence portfolio decision making, and encompasses a wide range of considerations including the decisions and the influence and input from stakeholders during the project (Tellis 1997).

The case organisation is a state-owned public utilities corporation (referred to as ‘UTIL’ in this paper to provide confidentiality) that generates revenue for the government. The case selection criteria required that the organisation operates in a multiple project environment, with active projects and portfolios at the time of research. Access to a wide range of case study research participants was important for inclusion in the study - these included project, program and portfolio members, decision makers and key stakeholders within the portfolio under study. In-depth interviews of 60 minutes each were conducted at UTIL with the senior manager of corporate strategies, the portfolio manager, the project management office (PMO) manager and the program manager.

Findings

This paper focuses on the findings from analysis of multiple perspectives on one problematic partnership project within UTIL. First, a synopsis of UTIL provides the context for the organisation and the portfolio, followed by detailed findings about value in the partnership project.

Case synopsis: UTIL

UTIL is a statutory state-owned public utilities corporation that is wholly owned by an Australian State Government. UTIL serves the public in a large metropolitan area and also

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works with the local communities to enhance the liveability of the city through maintaining and restoring public utilities in the region. Although it is a public utilities corporation, UTIL adopts a business-oriented attitude and has a strong financial and revenue focus. The corporate strategy is set around the mindset of customer-centricity, business excellence and future-orientation.

The portfolio explored in this study is the R&D Enterprise Portfolio from the Corporate Strategy Unit of UTIL. The R&D Enterprise portfolio incorporates a total of approximately 50 projects.

Each project in the portfolio has been selected to fit with the strategic priorities and to create value. The portfolio manager emphasised that *“the whole program is developed in alignment with our R&D plan which is across the corporate strategy. So every project that we do has to fit in with those agreed priorities and it has to have an internal champion.”* (Portfolio manager). This comment is also supported by the Project Management Office (PMO) manager, *“valuing things through our corporate strategy... So if it aligns to our customer at the heart or world class performance or ... through culture ... that means you're adding value.”*

The R&D portfolio consists of research projects on emerging technologies, decision support tools and models for efficiency initiatives and asset condition assessments. The projects are selected to provide positive impact on the services to be delivered by the organisation as highlighted in a discussion of value by the PMO manager, *“The way I would see whether the portfolio has delivered value is when you get information back from another division that implemented that new process, that new idea, that new technique or the new asset into their... business-as-usual activity.”* (PMO manager). The successful outcomes from projects can add value through financial savings to the service delivery teams and customers. Alternatively successful outcomes can free up resources and shift the resource and capacity focus to other parts of the business, or the outcomes can resolve community issues. All of these diverse outcomes are viewed as valuable and represent the ‘value’ generated by projects in the R&D portfolio.

In order to maximise value in the portfolio, the PMO manager works with divisional portfolio managers and other operational and strategic stakeholders to determine what is of value to the portfolio through the various divisions, programs and projects. Projects are then generated or

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selected to be aligned with these values in order to fulfil the value expectations. While it is fairly straight forward for UTIL to identify the value of projects that can be translated into a short term operational improvement (for example reducing costs), they also work on projects that generate long term value, *“we don't do anything that the business doesn't see is valuable or is something that they feel they could then translate into an operational improvement or ... I mean, having said that we do some Blue Sky research which, you know, a lot of work around climate change for example where, yes, there's going to need to be some short and medium term changes but yes, you're dealing with long term issues.”* (Portfolio manager).

The portfolio manager explains how the portfolio and projects are orientated around ensuring that the outcomes from the projects are of value in the business, *“rather than just delivering the project, it's about that benefits realization and saying, Okay, so, we're going to deliver this report or this finding, so how are you then going to use it in the business? And we set up end-user groups and all sorts of things to ensure that those things are taken up”*. However, it was also expressed that while projects need planning upfront, there is always an element of uncertainty over the outcomes. Nevertheless, for R&D projects, it is important to recognize what the issues, challenges or opportunities are, as evidenced by the comment, *“It's in the project planning upfront. It's, okay, what are your needs, and I mean, you don't always know all your needs, so some of the research part of it is finding out what is needed but it's essentially identifying what the core issue is.”* (Portfolio manager).

While UTIL is seen to value shorter term project investments, it is possible to convince stakeholders to consider longer term issues by engaging with key stakeholders and translating and linking project findings into business benefits. *“So we were able to, kind of, translate the science into something that was applied for them, we translate that science into applied benefits, applied outcomes for the business so they know what it means.”* (Portfolio manager).

Many of the projects in the portfolio involve partnerships and have both internal and external stakeholders. Internal stakeholders are those who are working at UTIL and may include portfolio managers, other managers, the board of executives, and other UTIL committees, scientists and engineers; while external stakeholders are likely to be universities, utilities' associations, other research organisations, consultants, and the community. UTIL prefers to have the lead in managing the projects in order to have control over the decisions made to ensure that they get the best value out of those projects.

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In working with multiple stakeholders, comments were made about having a good understanding of stakeholder needs and expectations upfront in order to plan around stakeholder requirements, as evidenced by the following comments, *“So when we talk to stakeholders, we should have, and my expectation would be that we have a good understanding of what they want to know and what their expectations are because we agreed that upfront. Everybody is on board from the beginning of the project and we know what the outcomes ... we don't know what they're going to be but we know, you know, we have a plan around them and implementation.”* (Portfolio manager). The portfolio also engages with multiple stakeholders through the development of inter-divisional research groups to collaborate on how value might be added to the business, for example, *“Value is ... trying to get our portfolios not only to align to our corporate strategy but also to value all of the different divisions enterprise-wide...like a research reference group where we've got representatives from the different divisions who then provide a list of ideas, projects, information on where we can add value to the business that are probably adding value more on a financial, more tangible value.”* (PMO manager).

However, as explained by the Corporate Strategy Manager *“sometimes obviously the views can be conflicting, contradictory, as it always is with stakeholders. Sometimes even stakeholders from a similar space have very different views.”* Hence it is important to identify and manage the expectations of different stakeholders to ensure that the project value can be realised effectively.

The challenge of translating intangible values into tangible measures

In engaging with stakeholders to make sense of the stakeholders' constructs and expectations of value, UTIL tries to ensure that they are in alignment with the corporate strategy. They are in the process of developing key result areas (KRAs) for the portfolio that eventually translate into project key performance indicators (KPIs) so that the outcomes from projects can be measured through a metrics, as expressed in a discussion with the PMO manager, *“We've got key results areas so we've got a metric in order to measure our projects. That's quite important. So I'm developing a KRA for each of the [four] portfolios. And then from there the KRAs I'm trying to do some KPIs from those KRAs.”* From the discussion, it appears that KRAs are likely to be qualitative, whilst KPIs are quantifiable metrics, *“So say for example a key results area could be ‘we value our customers’. So that's a key result area. So then a KPI could be, you know, we need to obtain an above eight or something for our customer satisfaction”*.

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However, the challenge in identifying project or portfolio values is that they are often intangible and difficult to measure as commented, *“So from within corporate strategy ... a lot of them are intangible ... and they're very difficult to measure. I've probably developed about, key result areas, maybe about over fifty. I'm still thinking of whether these are of any value to us. And a lot of these are intangible measures.”* (PMO manager). The following section presents the insights based on the phenomenon of decisions made in a problematic partnership project, identifies the value dimensions, challenges and learnings from the project.

Technology Research Project (TRP): Insights from a problematic partnership project

One of UTIL's partnership projects is the focus of this paper because it demonstrates the complex issues around defining value in multi-stakeholder projects, and reveals insights about anticipated and unexpected value creation. The project is referred to as the Technology Research Project (TRP) in this paper. UTIL saw opportunity and potential value in the scope of the TRP project and its ability to bring a new technology to UTIL by way of an experienced partner. A key overarching value dimension identified in the project by the portfolio manager was the recognition of potential strategic long term value in the project that could contribute to the portfolio and organisation. The project was problematic because it became apparent early that it would be difficult to achieve these expected outcomes, and it was a high profile project involving multiple stakeholders. The partnership was wrought with numerous challenges and uncertainties which led to a critical point where the portfolio manager needed to evaluate whether UTIL needed to withdraw from the partnership or persevere despite the problems. Firstly, there were frequent personnel changes at various levels in the lead stakeholder's organization and therefore there was often little or no project champion, leadership nor ownership of the project. There were also few channels in which to escalate issues should they arise. Secondly, project delays by the lead partner were affecting UTIL and other partners' obligations and this meant that more resources including additional funding and time needed to be negotiated. UTIL was limited in terms of taking leadership and having leverage in the project as they were perceived as a smaller stakeholder in the larger scheme of the project. This was evidenced by the following statement, *“So we were piggybacking off the project”* and *“they managed it and it was ... we understood that because they were the lead and they'd got the funding but yeah, they were managing that”*, and *“It was difficult though because it was an enormous project and we were just a very small part of it”*. Thirdly there were issues with the actual technology used for the project.

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There were pressures by internal stakeholders and colleagues to withdraw from the project, *“the whole thing got dragged out and there were numerous times during the project where we thought, ‘Well we should just pull out because we don't know whether we're going to get the real value out of this project..’ (Portfolio Manager, TRP).* It can be difficult to convince internal stakeholders of the value of proceeding with such partnerships as the value is unclear and difficult to articulate. *“It's... sometimes when things go wrong and don't work well, ... you learn more as there's value in that but it's hard to sell sometimes and people are going, you know, ‘Why are you still, why are you still participating in this?’ So yeah, that was a really difficult position because we were under pressure to pull out and..., we kept building, making the case, ‘No, we still think there's value’ and we stuck with it.” (Portfolio manager, TRP).*

Despite the apparent pressures and problems, the managers decided to persist with the project, influenced by the emergence of several other dimensions of value in the project. Three of these dimensions are discussed below.

Involvement in a topical and high profile project

The portfolio manager valued the fact that the project had good government funding and a high profile where the technology to be used was topically discussed nationally and internationally. This was expressed by the portfolio manager, *“And there's a lot of talk around [the technology] nationally and internationally. It was very topical and so the federal government were putting a lot of money into it as well and ... yeah. I think that was probably one, one of the key drivers.”*

Access to funding, resources, technology and capabilities

The project involved UTIL as a partner organisation, and seven other key research, industry, utility, educational and community groups that played different roles in the project. These groups included other utility organisations, technology providers, regional councils, universities and a retail partner. UTIL would not have been able to take on such a project on their own without partnership support by way of funding, resources, technology and capabilities, *“it had a lot of ... government funding, a lot of profile, ... It was a project that we saw value in because we probably wouldn't have been able to afford to necessarily do that on our own or test that sort of setup.” [Portfolio Manager, TRP]*

Enhancement of corporate services and reputation

Furthermore, the project inspired common interest and goals by stakeholders and had agreeable objectives in delivering improved public services. For UTIL, corporate reputation could be enhanced as they would be seen as being at the forefront of the technology, as implied by the following comment, *“So it was something [organisation] needed to be across and so did the other utilities, and it was something particularly our executive was saying, you know, ... why aren't we doing it.”* (Portfolio manager). The data and outcomes would be critical to the organisation's position in the field of knowledge. The expertise gained could also enhance long term in-house capabilities in the organisation. Thus the project was perceived to provide value through enhancing the organisation's core services to the public (deliver improved services) and official corporate expectations (funding, technology, capabilities, corporate position, reputation and profile) for the organisation.

Learnings: Short term pain for long term gains

The project team continued to build the case with internal stakeholders for continued support. A comment was made by the Corporate Strategy Manager about the importance of relationships with the people in the organisation, *“You just need to have ongoing engagement and develop a relationship, so it's- relationships with the organization, with the organization of people, so relationships with the people in the organization.”*

Some unanticipated categories of value can sometimes be revealed when there are poor project experiences. In the end, the partnership project was completed, but the new technology was not adopted after the project learnings highlighted problems with the technology and the difficulties in working with the lead partner organisation.

Although the original values expected from the project were not delivered, the data derived from the project was eventually highly valuable in guiding portfolio decision-making, and was proven to have long term economic value and impact on the business. One example is expressed by the portfolio manager, *“And, we got an enormous amount of learnings out of what went wrong and we actually decided that was extremely valuable and would save the organization an enormous amount of money because they were thinking of potentially rolling out this technology. We now have a lot of evidence to say for all these reasons it's not ready.”*

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Besides the value of the data in informing business decisions, the knowledge and learnings from the partnership for the portfolio team was perceived as value. Within intangible values, this value category is important as it informs the project members of how a partnership project might be better managed in the future in order to add value to the overall portfolio. One learning, for example was that communication with the stakeholders reiterating the organisation's expectations of project outcomes is a necessary step.

“There were lots of stakeholders, there were technology providers, so the other utilities and we, we just kept pushing and said, ‘Look, you know, this is what we want. If you want us to stay in, this is what we need to happen’.”

Overall, the portfolio manager reflected that value gained from the project could not always be anticipated upfront. The valuable learnings from the project helped UTIL appreciate how high-level support and continuity of personnel at all levels are important aspects in a large multi-organisational project. The experience also suggested that where there are personnel changes, there needs to be continuity including personnel champions at different levels of the project and organization and that a solid governance structure can help to ensure that there are opportunities for stakeholder awareness, buy-in and increased avenues for escalation at different levels of the organization. UTIL also learned that for partners with a smaller role in the project, it is important to proactively ensure that the stakeholder's presence and expectations are still felt and considered in the project. In the future, UTIL will consider the leadership and management of projects and the reporting process as extremely important capabilities for large partnership projects when many stakeholders are involved.

UTIL prefers to be the lead in partnership projects in order to have better control over the management of the project and to maximise the value gained for the organisation. Their learnings from the TRP project highlighted how important stakeholder contracts are for joint projects and how important it is to communicate project outcomes progressively throughout a project or program to build stakeholder trust and confidence, and to deepen the 'buy-in' factor when stakeholders are able to see the value in the project. To build confidence and trust with stakeholders in the future, UTIL has learned to focus proactively on the benefits and the bigger picture, rather than just the technical details.

While partnership project outcomes can add value through financial savings to the service delivery teams and customers, or by freeing up resources and shifting the resource and

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capacity focus to other parts of the business, there is also the potential to add value to the community, as expressed by the PMO manager, *“So if we come up with a method, a technique of monitoring and predicting a portfolio, we not only will save the service delivery people, fifty million dollars a year or whatever, we will also then add value to the customer because potentially we don't need to increase their bills. We also free up resources free up capacity to focus on different areas within the business ... as it serves delivery people rather than them spending hours on portfolios, they would focus on other things.”* (PMO manager).

This also means that project and portfolio managers in a partnership need to have the ability to articulate how a model or set of data enables stakeholders to make better decisions and how that is translated into financial savings for the project investors and shareholders. The ability to quantify financial savings for the customer or community is advantageous. Nevertheless, within the R&D Portfolio, the Corporate Strategy Manager reflected that decisions made need to account for both the rational and emotional contexts, and the people involved, as evidenced by these comments, *“you can't just make emotional based decisions in business, but you need to actually consider the emotional context when you're making rational decisions. Because, to be honest, most rational decisions are fraught with danger if they don't consider the people side of things... the more I learn that all the big decisions I make in life aren't based on molecular structure.”*

While the partnership project ended up having outcomes that were valuable although unforeseen at the start, decisions made in the projects and portfolio are not made in an ad-hoc manner. Decisions in the portfolio tend to be supported by structured processes to ensure that the decisions are defensible, as explained, *“Interestingly, you need to have quite structured processes around it, even if it's still intangible decision making... because you've always got to have defensible decisions...when people come back in, in time and say, “Look, how did you get to that point?” You need to be able to stand up and say, “Well here's the path we took, and, why we took that path.”* (Corporate Strategy Manager).

UTIL reiterated the importance of looking at long term issues and ensuring that the projects fit with the portfolio, which often requires a mindset change in business thinking, requires buy-in from particular stakeholders, as expressed by the portfolio manager, *“We do push back on things that we don't think fit or we say, “Look, that's not really research” ... and we get a lot of that... or if someone does have a particular interest in a project, and if we don't feel it fits, it's sort of working with them to, to fit it into something that is a bit more strategic.”*

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However, managers mused that long term outcomes and values can be uncertain and project managers are sometimes unable to identify a project's value until after the project is completed (e.g. project and program learnings). Furthermore intangible values may not always be easy to track and assess as expressed by the Corporate Strategy Manager, *"and that value in a customer's mind is an important thing. That, that value if it's delight, if it's just exceptional experience, that the customers say, "This is the best thing I've ever seen, I had the greatest moment I've ever had with these guys." I mean that's an incredible benefit for us. But how do you put that into a case? ... These are hard things to do."*

Discussion

The initial value dimensions identified in this case that enabled managers to persevere with the project was the attractiveness of getting involved in a topical and high profile project. The managers were also motivated by the opportunity to gain access to funding, resources, technology and capabilities, and in addition, the project had the potential to enhance corporate services and reputation. In hindsight, managers at UTIL feel that they learned much about working in partnerships from their experience in TRP. Their findings fit with some of the findings in the literature, such as McEwen's (2003) success factors in initiating and sustaining partnerships in research programs. This includes the ability to develop effective working relationships with partners; the benefits of understanding of the partnership project culture; that R&D outcomes need to be tailored to the local audience; and project teams and stakeholders need to understand the role of the research project undertaken (McEwen 2003, p. 4). In addition, the findings from UTIL suggest that project members needed to also build relationships with internal stakeholders and not just with the immediate project partners; and that project and portfolio value need to be understood and communicated from the project members' well as stakeholders' perspectives.

The findings revealed a spectrum of values, ranging from the intangible (qualitative) to the tangible values (quantitative). The spectrum of values mentioned in the case included a range of values from the unarticulated intangible values, articulated intangible values and tangible values. The findings also demonstrate how project and program managers can identify and translate intangible values into tangible values and outcomes, as suggested by Nogeste and Walker (Nogeste & Walker 2008). Some of these tacit values may stem from individual experiences of value. Portfolios and organisations operate in environments that are

increasingly complex and dynamic. As illustrated in the TRP project, managers need to make sense of and provide meaningful interpretations for ambiguous information (Thomas, Clark & Gioia 1993). Thomas et al (1993) apply the approach of scanning, interpretation, action and performance in their sensemaking processes to understand the processes and their links to organisational outcomes. Our findings highlight the need to make sense of and link information about multi-stakeholder needs with project and portfolio value and outcomes. However, we also show how unarticulated or unknown value expectations need to be clarified in consultation with other partners and internal stakeholders to start to identify, clarify and align individual with external and internal stakeholder value expectations. This finding suggests that sensemaking practices can help facilitate the identification, clarification and alignment of multi-stakeholder value-dimensions and expectations for project and portfolio decisions and outcomes.

The UTIL case shows how intangible values that have been identified can be negotiated into a subset area of key result areas (KRAs) for the partnership and for the organisation that could in turn, contribute to a business case or project proposal. These values might be further translated into measures of key performance indicators (KPIs) in alignment with the overall portfolio. Figure 1 illustrates the 'value spectrum' ranging from the unarticulated and intangible to the articulated, tangible and quantified values. In an organisational setting, such as at UTIL, sense-making among multiple stakeholders can lead to the clarification and identification of value dimensions, which can be subsequently used to identify a set of key result areas that more clearly articulate value. With further work, KPIs might provide a mechanism for measuring some of these values incorporating the guiding principles of ensuring that these values are aligned with strategic priorities and their impacts on the business services, operations, teams and customers. Although value that can be quantified and measureable is easiest to articulate, and are most commonly used in PPM frameworks – the spectrum in Figure 1 highlights the spread of types of value and illustrates the on-going and iterative refining and translation of value expectations into more tangible and quantifiable outcomes and values.

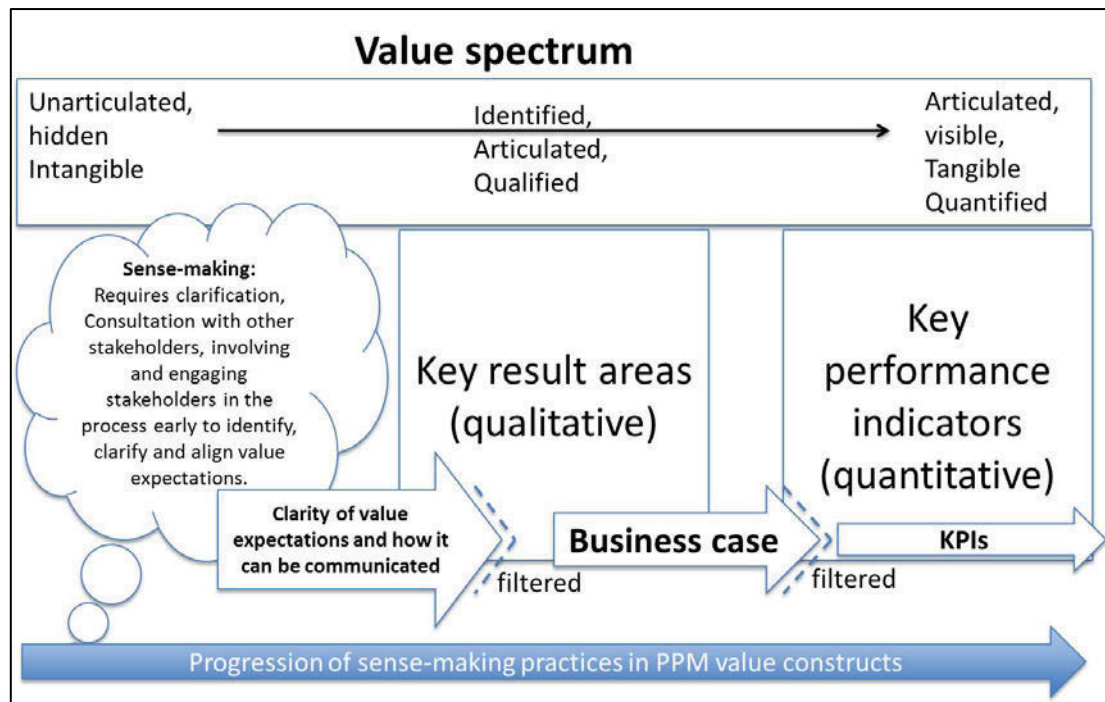


Figure 1: The value spectrum and sense-making practices for PPM

Based on these findings and drawing upon the literature, we offer three propositions about the multiple dimensions of value and how they are identified and managed through sensemaking in PPM:

Proposition 1: Dimensions of value could be viewed as a spectrum of values, ranging from the intangible (qualitative) to the tangible values (quantitative).

Proposition 2: Sensemaking practices can help facilitate the identification, clarification and alignment of multi-stakeholder value-dimensions and expectations for partnership project and portfolio decisions and outcomes.

Proposition 3: Sensemaking practices in PPM value constructs occur throughout the value spectrum.

Where projects and programs are perceived as high value and the outcomes are aligned with the organisation's goals, partnership stakeholders who have the power as portfolio decision makers are motivated to seek out pathways and solutions to 'make it happen'. The case study demonstrates that even if a project is not able to deliver the stated goals, there could be other benefits for the overall portfolio. A guiding principle to consider is the allowance for uncertain outcomes when incorporating core issues and value deliverables in project and portfolio planning. In the TRP project, the strong source of funding by an external stakeholder enabled the funded program to proceed with the anticipation of secondary gains from the project that could contribute to and be better aligned to organisational aims. The long-term

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benefits were identified retrospectively showing how unanticipated or unexpected project outcomes can contribute to long term portfolio value.

The findings also show how partnership projects can create value at the portfolio level, the project level and for individuals. We illustrate how multiple levels of value creation can stem from many categories of value in Figure 2. The main value categories identified at UTIL are: Knowledge, Technology, Capability, Innovation, Funding, Networks, Environment, Publicity, and Community engagement. Some of these values were not anticipated upfront in the project business case. To enhance value holistically, Figure 2 guides decision makers to include all of the categories and levels of value that are relevant to their organisation and context.

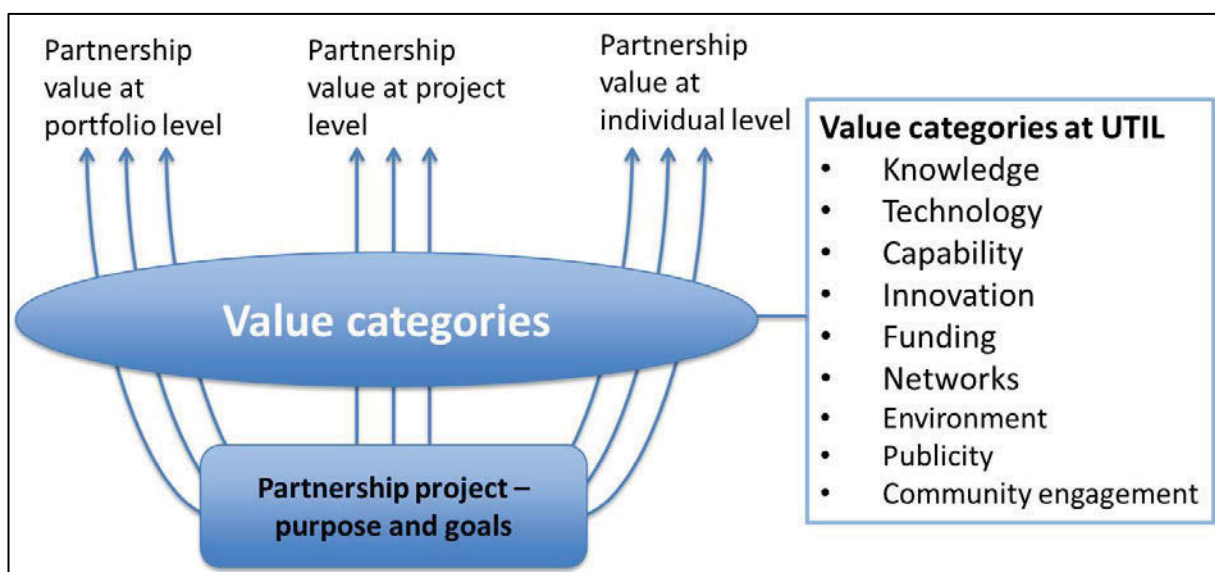


Figure 2: Value categories and benefits at individual, project and portfolio levels.

In partnership programs, each partner in turn, has their own sets of objectives to fulfil in their respective portfolios and organisations. These partners or partnership stakeholders have their own sets of stakeholders to deal with in addition to the partnership stake-holding group. This adds a further layer of complexity to the discussion. What is observed is that in partnership programs, they are likely to yield different types and magnitudes of value for some stakeholders compared to others.

UTIL's experience with the TRP project illustrates how the multiple stakeholders come together, and how their sensemaking practices are especially important in identifying value. In order to better understand and manage value, the findings suggest that managers actively seek to manage stakeholder sensemaking through a range of avenues such as holding meetings and communicating with stakeholders from the onset to gauge potential fit and alignment through

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making sense of goals and needs; making sense of stakeholder needs through networking; listening, connecting, and developing good relationships with stakeholders; knowing what stakeholders want by asking; and sensegiving by communicating with and to the stakeholders, through feedback, formal and informal reporting channels. These actions are proposed to instil trust and buy-in from stakeholders and can potentially facilitate the translation of long-term project value into meaningful business benefits for key stakeholders.

The findings also demonstrate that value constructs can range from the individual (personal) perspectives of value to the portfolio perspective of value. Subsequently value is not always tangible - some values as discussed in the literature and from the findings are intangible. Yet there are values that are intangible and difficult to articulate. These values are therefore not readily captured by portfolio analyses, and yet they could contribute to long-term portfolio value. These findings suggest two further propositions:

Proposition 4: Unanticipated or unexpected project outcomes projects can contribute to long term portfolio value.

Proposition 5: Relationships with stakeholders can enhance the identification and articulation of value in projects.

Implications and limitations

This case study was based on a single case in a public utilities corporation. Some possible limitations of the study should be noted. The corporation is state-owned and run as a corporation. It remains to be seen if the findings can be generalised to other settings for example the non-profit and private sector, and how it compares with other government sectors. While the main source of data was derived from the interviews, documents were used as a reference. Some possibility of methods bias and personal interpretations by the interviewees may occur. We suggest that further research using a multiple-case study to incorporate contrary and parallel cases in different sectoral contexts would be helpful to advance the research (Yin 1996), especially in investigating the suggested research propositions in further depth.

Future research might be designed to explore how value is constructed and identified through sensemaking activities, and how this might influence decision making in projects and

portfolios. Given the need to understand value constructs from the perspectives of multiple stakeholders, the cases could involve more internal and external stakeholders. Moreover, it is observed that the added complexity of these value constructs reside with the overall system in which the value constructs take place. These include the organisational system through the culture, structure, strategies and goals, norms, practices and policies; communication channels; internal and external stakeholders; the context and environment of the project portfolios, and the preconceptions and assumptions of the people involved. These areas have not been fully explored in this case study.

We offer a number of possible implications for project and portfolio managers in making informed decisions. The value spectrum model incorporating sensemaking practices in Figure 1 could provide guidance for decision makers involved in partnership projects or programs and help them to harness and integrate stakeholder value in a portfolio. The case we illustrate shows how that despite difficulties, a partnership project that fails to develop anticipated values from the onset, may still create unexpected value to the overall portfolio. For example, it is possible that certain long term values perceived by a project manager may not be perceived to address immediate portfolio and organisational outcomes. However if these values are deemed critical, long term but intangible and difficult to articulate, they may be missed by the portfolio. Furthermore, scarce resources and funding in a portfolio could lead to premature decisions to terminate problematic projects that do not seem to deliver on value expectations.

This suggests that in order to communicate with, lobby and negotiate for intangible values to be recognised, it is important for project managers to identify the value constructs and speak the language of different stakeholders and decision makers. However another implication of translating the intangibles to tangible values is that there is a risk of filtering and hence reducing the quality of the value construct. A framework or model that is able to make sense of and pin down both intangible and tangible values is necessary in the attempt to preserve the authenticity of the multi-stakeholder value constructs. This area requires further investigation as no such sensemaking framework for integrating multi-stakeholder value constructs exists in the PPM literature.

Hence, while project managers often have specific project and operational obligations, to ensure sustainability and longevity of projects (or programs), it might be prudent for project managers to consider value contributions to the portfolio through the project, and consider

how else the project might add value beyond the traditional iron triangle of cost, quality and time. Overall the findings suggest that project and portfolio managers involved in multi-stakeholder environments need to find a way to question, articulate and demonstrate the intangible and potentially tacit value contributions of the project in different and possibly more tangible ways to relevant stakeholders in order to maximise its value contribution to the portfolio. Moreover, this suggests that portfolio managers could demonstrate a clear and traceable pathway in light of project decisions made.

Conclusions

Overall, the main contribution of this study is in the exploration of value dimensions in terms of their influence on project decisions, and the spectrum of values that can be delivered by a project. Drawing upon the literature on project partnerships, stakeholder theory, sensemaking and the polyvalent nature of value dimensions and perspectives found in our study, we have offered five propositions on value and sensemaking in multi-stakeholder project and portfolio environments.

We show how the dimensions of value can be viewed as a spectrum of values, ranging from the intangible (qualitative) to the tangible values (quantitative). The study confirmed that partnership projects and value identification rely on effective relationships and communication amongst internal and external stakeholders as well as the effective facilitation or management of the project and its partners. It was also expected that multiple stakeholders would have different needs and expectations, and that some of these could be mismatched. Sensemaking practices are shown to facilitate the identification, clarification and alignment of multi-stakeholder value-dimensions and expectations for partnership project and portfolio decisions and outcomes. These practices in PPM value constructs occur throughout the value spectrum. An aspect that can link the partners together is having a common interest and goal in the project outcomes.

The study revealed that there are sometimes unarticulated, unknown or tacit values that may not be identified by a project or portfolio manager till the latter stages of a project. Subsequently there may be value propositions identified in a project that are not realised, whilst other unexpected project outcomes may prove to be of long term value to the portfolio. The study identified several value categories that may be of relevance for further theoretical

exploration at the individual, project and portfolio levels including knowledge, technology, capability, innovation, funding, networks, environment, publicity and community engagement.

The study demonstrated that with unarticulated values, a sensemaking approach to clarifying and identifying value constructs amongst different stakeholders is an important process, and it is recommended that sensemaking practices occur early in complex projects and portfolios with multiple stakeholders. This study also showed that even when a project fails to deliver the expected values, unanticipated and unexpected values can be delivered. While much of the PPM literature focuses on the need to identify and terminate poorly performing projects, this case illustrates that termination based on the original expected value creation could be short-sighted. Decisions on the holistic value can be enhanced by understanding the full spectrum of value dimensions, and developing sensemaking practices to clarify and articulate and if possible quantify value. Beyond the specific findings, this study encourages an overarching appreciation of the complexities recognised in the project management literature of the capabilities of decision makers in integrating multi-stakeholder value perspectives to maximise the value across the portfolio.

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Unanticipated value creation: Sensemaking and the value spectrum in partnership projects

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Paper 6: Making sense of project portfolio value in practice

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Making sense of project portfolio value in practice

Karyne C.S. Ang *, Catherine P. Killen **, Shankar Sankaran ***

* University of Technology Sydney, P.O. Box 123, Broadway NSW 2007, Sydney, Australia
School of Systems, Management and Leadership, Faculty of Engineering and IT
Email: karyne.ang@uts.edu.au

** University of Technology Sydney, P.O. Box 123, Broadway NSW 2007, Sydney, Australia
School of the Built Environment, Faculty of Design, Architecture and Building
Email: catherine.killen@uts.edu.au

*** University of Technology Sydney, P.O. Box 123, Broadway NSW 2007, Sydney, Australia
School of the Built Environment, Faculty of Design, Architecture and Building
Email: shankar.sankaran@uts.edu.au

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Abstract

This paper builds upon previous research investigating a broad range of value constructs to support portfolio decision making in multi-stakeholder environments. It draws upon sensemaking to explore how practitioners from multi-project environments make sense of project portfolio value. Project portfolio practitioners reviewed and tested a typology of value perspectives derived from multiple stakeholder expressions of value.

The typology of value perspectives was iteratively and incrementally developed from previous case studies and reviewed in Hybrid Delphi Expert Panel (HDEP) sessions reflexively as part of the overall sensemaking-inspired research design and qualitative verification strategy. Triangulation was achieved through different data collection and analysis methods. A thematic analysis of the data was conducted using a combination of manual and CAQDAS (QSR NVivo) approaches throughout the research.

The findings illustrate the complexities and subjectivities that come with making sense of value in project portfolio practice. Overall, the typology of value perspectives was viewed positively by project portfolio managers. The typology aligns well with sensemaking perspectives where aspects of time (past, present, future; short to long term value) and space (spectrum of value) are found in how stakeholders perceive value. The typology suggests an expansion in our mindsets about value by providing fresh perspectives into the complex, multiple, dynamic, emergent and alternative ways that stakeholders view project and portfolio value in practice.

Keywords: sensemaking, value perspectives, project portfolio management, multiple stakeholders, time and space, emergence, qualitative research, expert panels, Hybrid Delphi Expert Panels (HDEP)

Introduction

An emerging theme in project and portfolio studies extends the perspective of ‘value’ beyond financial and commercial values (Ang & Killen 2016; Laursen & Killen 2017; Martinsuo & Killen 2014; Thiry 2002). In today’s complex and dynamic project landscape, a narrow view of value may not be sufficient for getting the most out of a portfolio of projects. The challenge in widening the perspective on value is amplified by the need to consider the input and interactions across a range of project and portfolio stakeholders. This paper presents findings from a sensemaking method that was designed and applied to complement case

study research to explore how project and portfolio managers perceive, interpret and integrate value in practice, and how a typology of value perspectives might be useful and relevant to them in making sense of multiple stakeholder constructs of value.

We combine the practice-orientation in project management research with sensemaking theories to investigate how various stakeholders perceive and apply different aspects of value in practice. The sensemaking perspective helps to navigate the complexities of decision making for PPM, by providing new empirical knowledge and insights into the ways portfolio value is constructed and considered by multiple stakeholders.

Our study contributes to practice and theory by deeply and holistically considering different stakeholder perspectives of value and developing a framework and a method for gaining feedback on the framework's likely application in practice. Since value is a subjective and complex notion, it is a daunting task for managers to continuously evaluate, re-evaluate and negotiate value among multiple stakeholders. This research is significant as it proposes a value typology to enhance the managers' ability to view value from different stakeholder perspectives, and provides insights on how a such a framework can enhance managers' sensemaking about value when managing a project portfolio.

This paper is organized as follows. The next section outlines project and portfolio management (PPM) concepts to set the context, and then explores the role of value in PPM decision making. This is followed by an overview of sensemaking as a suitable research perspective for an exploration of multi-stakeholder value concepts. Next, the full research design incorporating a multi-methods qualitative methodology (1) multiple case studies and 2) Hybrid Delphi Expert Panels (HDEPs) is outlined, with an emphasis on the HDEPs which forms the focus of this paper. We introduce the findings by first briefly outlining the typology of multi-stakeholder value perspectives in PPM that was proposed during Method 1 (Case studies) of this multi-method study. We then focus on the insights about value in practice and the responses to the typology that were highlighted in Method 2, the HDEP sessions. Finally, we present a discussion and our conclusions summarizing the contribution of this study to theory, practice, research methodology, acknowledging research limitations and suggesting future research opportunities.

Literature review

Value in PPM

Contemporary organizations look beyond the management of single projects towards the management of multiple projects including networks of internal and external projects (Andersen & Jessen 2003). In a portfolio setting, an organization's projects and programs are grouped together to facilitate holistic and effective management (Lycett, Rassau & Danson 2004; Vereecke et al. 2003). The Australian Institute of Project Management (AIPM) defines 'project portfolio management' (PPM) as: "*the centralised management of one or more portfolios of projects, which includes identifying, prioritising, authorising, managing and controlling projects, programs and other related work, to achieve specific strategic business objectives.*" (AIPM 2011, p. 4). One of the key aims of PPM is to prioritize, select, balance and manage the mix of projects in order to maximize the value in the portfolio in line with organizational strategies amidst limited resources (Cooper, Edgett & Kleinschmidt 1999; Kopmann et al. 2014). A recent study on PPM reveals that value is often perceived in a narrow fashion, and calls for the extension of value considerations in PPM to consider aspects of value beyond financial and commercial value (Martinsuo & Killen 2014).

PPM decisions including prioritization, investments and resource allocations are often made by a committee of executives charged with managing portfolios and often in consultation with other key stakeholders. These portfolio stakeholders are defined as '*as any group or individual in a relationship with a project portfolio, such that the group or individual can affect or is affected by the achievement of the portfolio's objectives*' (Beringer, Jonas & Kock 2013, p. 831). Stakeholder perceptions of value drive their expectations and influence the portfolio investment and project prioritization decisions. The involvement of multiple stakeholders can lead to conflicting priorities, power tensions, personal interests and less rational behaviors potentially leading to decision inconsistencies and imbalances in the portfolio (Bentzen, Christiansen & Varnes 2011; Elonon & Artto 2003; Lycett, Rassau & Danson 2004). There is little guidance on what value is, and how it can be translated into practice through PPM decision making.

Existing tools used in PPM tend to focus on ranking and prioritizing projects based on the highest projected financial value, as well as the consideration of balancing aspects such as risk and reward across the portfolio. Established methods are therefore dominated by

financial or commercial considerations, and tend to neglect the wider perspectives of value. This need for broader perspectives has been highlighted by several researchers.

Cicmil and Hodgson (2006, p. 115) posit that among [traditional] project management models and practices there *'has so far been a yet-greater emphasis on technicist solutions, quantitative methodologies, positivist methodologies and a stronger reliance on instrumental rationality'* and call for a rethink in project management. Meanwhile Svejvig and Andersen (Svejvig & Andersen 2015) provide a critical view of the new world of PM and offer six overarching perspectives about project management - contextualization, social and political aspects, rethinking practice, complexity and uncertainty, actuality of projects and broader conceptualization. The researchers encourage the spirit of enhancing rather than dismissing the classical aspects of project management - *'executability, simplicity, temporariness, linearity, controllability, instrumentality'* (Svejvig & Andersen 2015) by incorporating *'learnability, multiplicity, temporariness, complexity, uncertainty and sociability'* (Svejvig & Andersen 2015) in the discipline. A practice-oriented research approach (focusing on practices, not processes) can provide a perspective to evaluate the full range of such complexities in project practice (Blomquist et al. 2010).

Sensemaking

Sensemaking is a powerful approach to carry out qualitative and exploratory organizational research in practice-oriented topics that are multi-dimensional, subjective and potentially capricious. The approach attempts to navigate between polarities, synthesize and reconcile apparent differences in seemingly chaotic and subjective environments (Agarwal 2012; Dervin & Huesca 2003).

Sensemaking can be said to constitute a paradigm, a theory, a set of methods, a methodology or a body of findings (Case 2007, Dervin 1992). Dervin takes the view that humans are in a constant state of sensemaking and unmaking, where the human being as a subject can no longer be given an 'absolute' ontological status since they and their worlds are constantly evolving and becoming, *"...sometimes decentered, sometimes centered, sometimes fluid, sometimes rigid..."* (Dervin 1999, p. 731). Dervin posits that sensemaking focuses on *'practices rather than persons'* and mandates that it addresses time, space, movements and gaps (Dervin 1999).

Weick (1995) suggests how sensemaking can be applied in an organizational context. Sensemaking in organizations is a complex process of forming and re-forming shared understandings and is built from the ongoing interactions and coordinated actions between people (Easterby-Smith, Crossan & Nicolini 2000; Weick, Sutcliffe & Obstfeld 2005). It is characterized and shaped by social occurrences; is enactive of sensible environments (where one influences and is influenced by one's environment); retrospective; on-going as sense is constantly made and remade; and influenced by cues from which people notice and develop a larger sense of the occurrences around them. Sensemaking practices in organizations also rely on plausibility, acceptability and preference rather than accuracy (Fiske 1992; Pugh & Hickson 2007; Weick 1995) to guide their actions for the time being. Decisions are often influenced by people's preconceptions of their surroundings (Weick 1995, 2001; Weick, Sutcliffe & Obstfeld 2005). Sensemaking research perspectives provide a powerful and pragmatic viewpoint in revealing how people take a relative approach in making decisions around what is perceived as appealing and relevant to their goals, when they are faced with uncertainty and ambiguity.

In sum: Rethinking project portfolio value through sensemaking

The literature review has emphasized the need to extend PPM value considerations beyond financial and commercial value in order to create high value holistically across a portfolio of projects. The literature on sensemaking highlights the influence of context and the individual's perspective on how they perceive situations and make decisions. Sensemaking is highlighted as a pragmatic approach to research exploring practice-oriented topics that are multi-dimensional, and wrought with ambiguity, uncertainty and subjectivity.

The complexity of PPM decision environments makes it difficult for managers to take a broader view of value. While recent research into PPM value call attention to its importance (Martinsuo & Killen 2014; Thiry 2002) very little is known about how portfolio practitioners apply the multi-dimensional aspects of value in practice.

Based on the literature, the research reported in this paper is motivated by the need to provide guidance to help portfolio managers make better portfolio decisions. Sensemaking is shown to be helpful in exploring a subjective and fluid concept like the understanding of project portfolio value amongst multiple stakeholders. Therefore, this study takes a practice orientation (Blomquist et al. 2010; Cicmil et al. 2006; Svejvig & Andersen 2015) and applied sensemaking approaches to explore the subjective realities and multiple perspectives of value

in portfolio practice. Within an overarching goal to explore “How is value constructed in practice by the different stakeholders in project portfolios?”, the following two questions have been derived from the literature review to drive the design of this research:

- In practice, how do managers make sense of what is valuable (beyond financial value) in a project portfolio?
- What type of guidance might assist managers to harness and integrate a wider range of stakeholder values in PPM environments?

Research design and methodology

A multi-methods qualitative research design has been developed to address the two questions. What has been established through the research is that project portfolios exist in complex environments where there are usually multiple stakeholders who are likely to have conflicting expectations, demands and perspectives of what constitutes value. What we do not know yet, is how practitioners make sense of this value, and how these inter-subjective interactions and perspectives impact on decision-making in practice. A sensemaking approach inspired by Dervin (1998) has been adopted for this study based on the subjective area of exploration and the types of research. The approach includes the practice of enabling participants to define their own terms, set criteria, and find gaps and bridges in their own experiences.

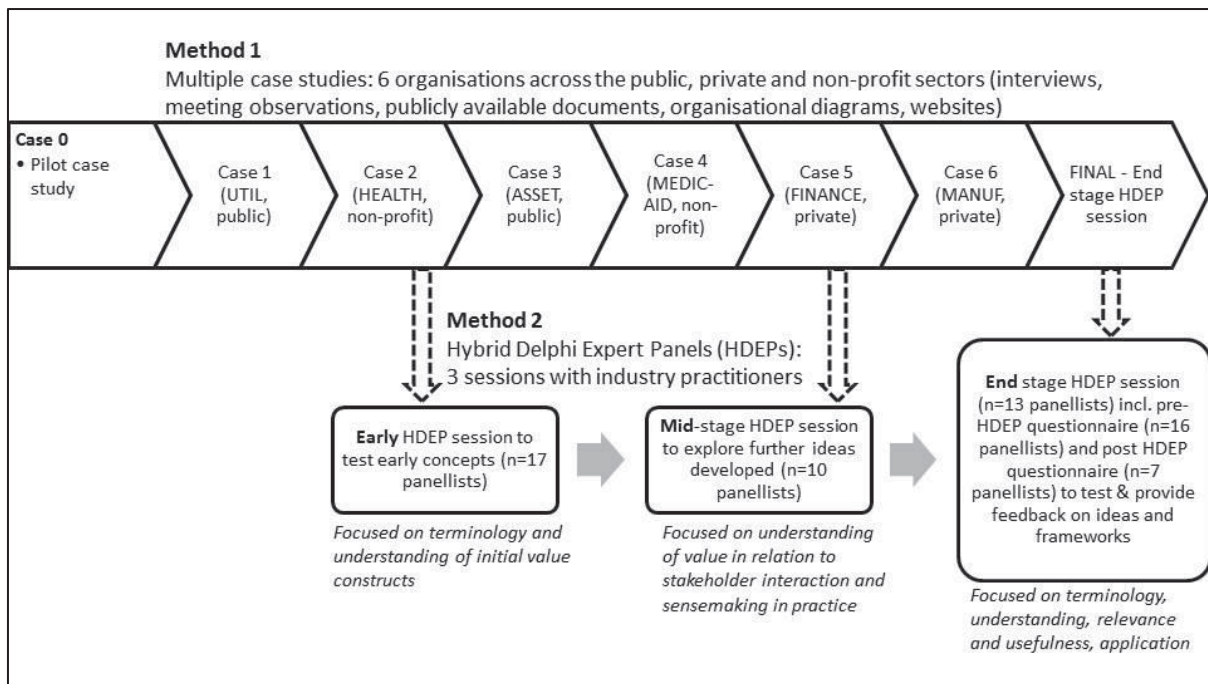
The qualitative methodology has been designed to be exploratory, open, responsive and evolving as data collection and analysis progressed (Morse et al. 2002). The overall exploratory research design comprises of two overlapping qualitative methodologies illustrated in Figure 1:

Method 1: multiple case studies (Yin 2013)

Method 2: Hybrid Delphi Expert Panel (HDEP) sessions inspired by a Hybrid Delphi (HD) approach (Landeta, Barrutia & Lertxundi 2011)

The next section elaborates on the qualitative methods. Since the methods are overlapping, for clarity, we avoid the terms ‘phase’ or ‘stage’ which often denote a sequential order, and will refer to these overlapping methods as Method 1 and Method 2.

Figure 1: Research design and qualitative methodologies



In Method 1, a multiple case study approach was used to address the qualitative exploration of the ‘how’ and ‘why’ (Yin 2013), befitting our research question. Six case studies from the public, private and non-profit organizations were conducted to explore how value is constructed in a range of multi-stakeholder project portfolio environments.

Method 2, the focus of this paper, iteratively clarified and tested a typology of value perspectives that emerged during the analysis of findings from Method 1. Three HDEP sessions were designed and conducted after cases 2, 5 and 6 as shown in Figure 1. The HDEP sessions were designed iteratively in response to the data collection at that stage of research, as supported by Morse et al (Morse et al. 2002).

The Hybrid Delphi technique by Landeta et al (2011) combines face to face workshops with anonymous remote feedback as per the original Delphi method. The original Delphi technique is acknowledged as a reputable method of ‘*harnessing the opinions of an often diverse group of experts on practice-related problems*’ (Powell 2003) and involves multiple rounds of remote and anonymous feedback from experts (Linstone & Turoff 1975, p. 376). The design of the HDEP sessions as Method 2 in this study followed a similar approach and recruited industry project portfolio practitioners as expert panels. Expert panels are used in numerous fields, and are used to generate communication and debate, judgment, evaluation and opportunities for revisions (Landeta 2006; Linstone & Turoff 1975; Nowack, Endrikat &

Guenther 2011; Okoli & Pawlowski 2004; Powell 2003; Rikkinen, Kaivo-oja & Aakkula 2006). Accordingly, an expert panel could offer different perspectives to an area of exploration and produce a higher proportion of high quality, highly acceptable solutions and better performance due to the wide range of expert alternative perspectives provided compared to individual views.

The recommended size of an expert panel session varies between 9 to 50 members, with the expectation of some drop-outs during the iterative process (Landeta 2006); (Nowack, Endrikat & Guenther 2011). Our study fits within this range, with the first, second and third HDEP sessions involving 17, 10 and 13 participants respectively. In the final HDEP session, anonymous pre (online) and post (paper) session questionnaires were also administered with 16 and 7 respondents respectively.

The iterative method was designed to work with practitioners to understand their sensemaking processes. The expert panels were provided with the opportunity to discuss, deliberate, test, feedback and refine propositions about stakeholder value perspectives from their own expert viewpoints to ensure their practical relevance and contribution to the field of PPM research. Unresolved questions and further knowledge gaps were noted and fed into the next HDEP session. This approach is detailed in the following paragraphs.

All HDEPs tested and discussed ideas and propositions (the typology) from the case studies (Method 1) and each also explored specific knowledge gaps relevant at that stage of the study. In the first HDEP session, we gauged the overall ease of understanding and use (or application) of an initial proposition of the typology, occasions in which panelists might apply the typology, to whom would such a typology be relevant to, and their ideas on the potential applications of such a typological framework in an organization. A knowledge gap was identified in HDEP 1, leading to the question “How would practitioners therefore engage with stakeholders in order to make sense of what they value?”

The second HDEP explored this knowledge gap to seek the panelists’ ideas about how the typology might work when engaging with stakeholders to make sense of their value expectations. In HDEP 2, panelists discussed the types of questions that could be asked of stakeholders to understand their perspectives on value, provided examples of how they might make sense of multiple stakeholder expectations and finally, how would they know if they have delivered value to their stakeholders.

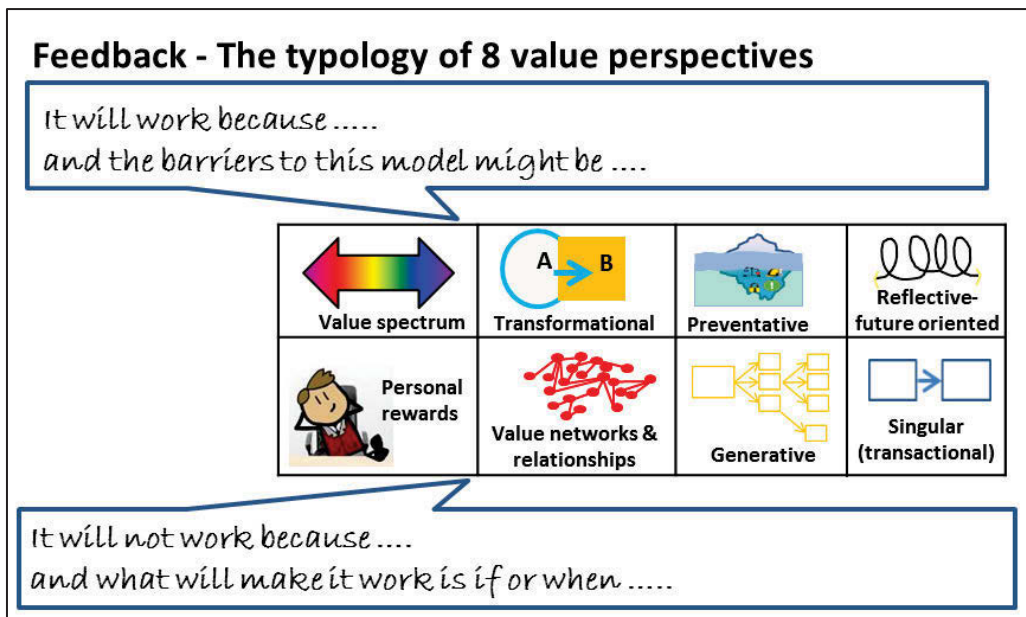
The third and final HDEP consolidated the research findings and added further depth to the research contributions by asking 'How might having a view of multiple stakeholder perspectives of value help managers in practice?', and 'How do practitioners make sense of and integrate the typology of value perspectives for decision-making in practice?'.

The third HDEP incorporated an online pre-session questionnaire followed by a face to face session and a post-session paper questionnaire from practitioners about value in their own workplaces. Pre-session questionnaire responses provided a catalyst for discussion during the face-to-face HDEP 3 session. Overall, thirteen expert panelists participated in the two-hour in-depth discussions. Towards the end of the session, participants had a further opportunity to provide anonymous written feedback to judge and validate what might be relevant or useful (Rikkonen, Kaivo-oja & Aakkula 2006).

While the typology and practices were discussed in-depth during the session, the anonymous paper questionnaire provided an opportunity for the panel to reflect on the typology in practice while eliminating any obligations they might feel in providing favorable ratings and feedback about the typology in front of the group. Seven panelists responded to the questionnaire that included open-ended and scoring questions. Panelists were also asked to provide feedback about 'what works' and 'what does not work (barriers)' in using the typology. They were also asked about how the barriers might be overcome using an open-ended question structure designed to adopt Dervin's 'neutral questions' (Dervin & Dewdney 1986) to discover one's situation, gaps and expected uses.

Specifically, panelists were requested to imagine a scenario of successful adoption of the typology in practice, and to consider what will work in the typology and provide a counter argument for the barriers to the model. Then, panelists were requested to play the 'devil's advocate' by providing reasons for why they thought the typology might not work but to also provide possible solutions or opportunities for when such a typology might work for them. A sample of how the questions were presented is shown in Figure 2.

Figure 2: Infographics and open-ended questions about the typology



The iterative nature of developing the typology of value perspectives in PPM acknowledges that it is rare to get things right the first time, especially with the amount of subjectivity and complexity involved with identifying value. The iterative feedback from testing the typology with practitioners and scholars ensures that the final research outcomes are more clearly understood, useful, relevant and contribute to both theory and practice.

Analysis

The overall analysis and interpretation of the research used iterative deductive, inductive (Miles, Huberman & Saldaña 2014) and abductive approaches (Ayer 1968; Fennell 2016; Peirce 1903; Scheffler 2013). A deductive approach (structured, predefined) was applied in the early stages of Method 1 (case studies) using the semi-structured interview questions to develop an initial thematic framework. The questioning encouraged elaboration and depth in responses. As the data was progressively collected, transcribed and coded, the analysis became more inductive (unstructured, exploratory) in its approach where the researcher used the actual data itself to derive the structure of analysis through a process where important concepts, categories, patterns and relationships are identified, tagged or coded, built up and iteratively revised as new and different codes emerge. The coding and analysis for Methods 1 and 2 were conducted using a combination of hand as well as by a computer-assisted qualitative data analysis software CAQDAS (NVivo) (Bazeley & Jackson 2013) to identify themes, relationships and patterns of how people construct a sense of value, in conjunction

with the analysis of internal and external documents (Dervin, 1983; Yin, 2003). Next, from the thematic data sets, new theories and insights are conjectured using an abductive process (Fennell 2016; Folger & Stein 2016). The non-sequential analysis and verification process draws upon Peirce's conception of abduction of '*devising*' and '*tentative discovery*'. Fennell (2016, p. 44) quotes Peirce (1903, p. 205), '*All the ideas of science come to it by the way of abduction. Abduction consists in studying facts and devising a theory to explain them. Its only justification is that if we are ever to understand things at all, it must be in that way*'. This is useful when a set of observations is still deemed incomplete, but the data has likely or plausible reasonings that '*makes good sense*' (Miles, Huberman & Saldaña 2014) that could be pragmatically developed. In our research these findings included themes of value constructs to create the initial value perspectives typology that can be further tested and discussed in the HDEPs.

Data from the HDEPs include recorded transcripts of the discussions and artefacts produced during the sessions. Context-specific artefacts included post-it notes, visual templates, ideas and group presentations made on large paper-sheets. Artefacts were analyzed manually in conjunction with the session transcripts. The researcher's and supervisors' own observations were noted and discussed in the context of the sessions to further confirm or triangulate the findings in the session.

In HDEPs 1 and 2, groups produced and discussed various themed ideas about value and stakeholder engagement on large sheets of paper. The transcripts from the group presentations and discussions were analyzed manually to seek out further themes, relationships and patterns to enrich the overall understanding of the topic.

In the third HDEP, the online and post-session responses were exported into Excel and NVivo. The purpose in doing so was to organize and structure the data in order to seek out patterns and themes, rather than for statistical analysis. Conclusions were drawn indicatively, rather than statistically since statistical analysis is not the intended analytical method this study. Analysis on the open-ended questionnaire responses and transcripts from the session discussions were analyzed deductively and inductively.

The overall insights from the two methodologies of the HDEPs and case studies were triangulated and cross-validated with the case study insights using multiple representations of different realities to strengthen the quality and rigor of the overall research and to enrich our research contributions. Rigor is discussed in further detail in the next section.

Rigor and trustworthiness of the qualitative methods used

Miles et al (2014) suggest some guidelines to test the ‘goodness’ and trustworthiness of qualitative research. Lincoln and Guba (1985; 1986) argue that establishing the trustworthiness of research appears via truth value, applicability, consistency, neutrality, and authenticity. Here, authenticity is demonstrated through the representation a range of different realities of value perspectives being studied. Furthermore, data quality can be assessed through triangulation (Miles, Huberman & Saldaña 2014). A process of qualitative cross-validation was applied through triangulation where the process compares information to determine corroboration (Denzin & Lincoln 2000; Patton 2002). Case study conclusions are more likely to be convincing when based on several different sources of information following converging lines of inquiry (Yin 2013), where they all triangulate on the same set of research questions. In our study, we used multiple sources of evidence to provide rich detail of stakeholder value perspectives. Additionally, we used informants at different levels (for example project, program and portfolio managers, beneficiaries, suppliers, senior management) to provide a variety of perspectives.

Multiple data collection methods utilized in research is said to be the strength of the research quality (Yin 2013). Different qualitative research methods will exposed a range of relevant issues and are suggested to develop a fuller picture of the phenomenon under study (Leech & Onwuegbuzie 2007; Oliver-Hoyo & Allen 2006). The iterative qualitative inquiry approaches applied in this study contribute to a system of checks and balances combining the case studies with feedback from the HDEPs to ensure the rigor of the research.

‘Verification is the process of checking, confirming, making sure, and being certain. In qualitative research, verification refers to the mechanisms used during the process of research to incrementally contribute to ensuring reliability and validity and, thus, the rigor of a study.’ (Morse et al. 2002, p. 17). Accordingly, the research process we adopted is iterative rather than linear. In this research, the studies shifted forwards and backwards between design and implementation. This ensured *‘congruence among question formulation, literature, recruitment, data collection strategies, and analysis’* (Morse et al. 2002, p.17). The analysis and interpretation was regularly monitored with supervisors, practitioners and scholarly peers, and the verification strategies adopted form an important aspect in optimizing the research contribution of this study.

Rigor is further enhanced by traceability and a chain of evidence available through recorded and transcribed interviews and meeting observations, and the use of NVivo to help code, manage and organize the data.

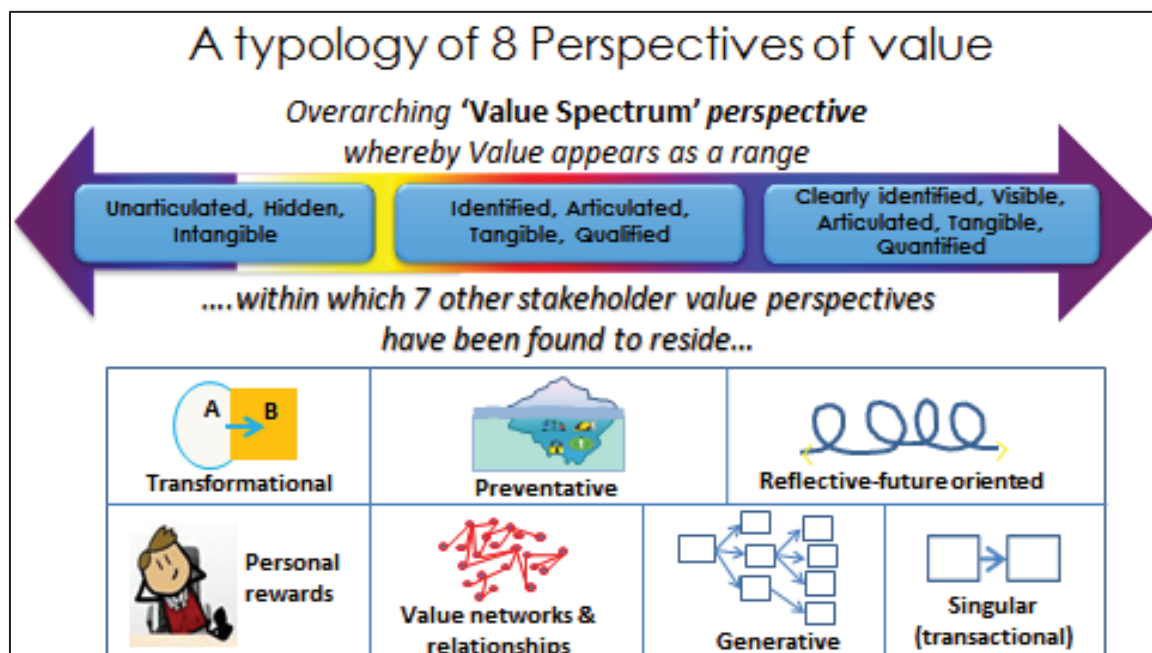
The next section summarizes the findings about value perspectives in practice from Method 1 and then details the key HDEP session findings from Method 2 that are the focus of this paper.

Findings

Typology of value perspectives (Method 1 findings)

As a result of the analysis, a typology of multi-stakeholder value perspectives is developed. Earlier papers in this research (Ang & Killen 2016; Ang, Killen & Sankaran 2015; Ang, Sankaran & Killen 2016) propose a typology of eight multi-stakeholder perspectives of value in PPM. Figure 3 illustrates the typology.

Figure 3: The typology of eight multi-stakeholder value perspectives



The typology illustrates many ways that value in project portfolios is viewed to exist drawing from the data in the case studies. The typology demonstrates that there are many ways that stakeholders express PPM value (Ang & Killen 2016; Ang, Sankaran & Killen 2016). The value spectrum forms an overarching perspective that exists within each of the seven other perspectives. Each perspective (transactional, generative, transformational, networks &

relationships, preventative, personal rewards and retrospective-future oriented value perspectives) is briefly explained below to provide context for Method 2 of the study.

The *transactional value* perspective describes value in terms of singular exchanges of payment for labor, goods or services. An example in this realm is a simple contractual project. The *generative value* perspective describes projects that act as enablers and generate value for the other projects and programs in the portfolio and organization, and hence potential long-term value. *Transformational* value tends to come from projects that contribute to change management, systems or breakthrough innovations. Some examples include disruptive technologies or medical interventions that transform a patient's (and their family's) way of life.

The *reflective-future orientated* perspective looks at both retrospective and future orientated elements in a project utilizing a back-and-forth '*rolling hindsight*' (Weick 1995), for example project learnings contributing to the overall portfolio that are only realized upon reflection in the present. Future value through the anticipation of future project opportunities fall under this perspective.

Preventative value is one that is often invisible to the general public and employees, and taken for granted, for example maintenance projects. Certain stakeholders may not realize the value of certain research and development or operational projects that are based on prevention or maintenance. While some stakeholders find value in these projects, others may not be aware of the perspective this value undertakes, in order to appreciate it.

The *value networks and relationships* perspective relates to the opportunity to build and use alliances and partnerships that add value to the portfolio. Finally, the *Personal Rewards* perspective also represents what stakeholders consider as "what's in it for me?" Examples include stakeholders placing value on promotions or personal and team satisfaction from the projects. 'Personal rewards' is a particularly strong value perspective in the non-profit sector because of the acts of altruism and self-satisfaction evident from the projects in the portfolio. This value perspective, whilst evident in the other sectors, is not as openly discussed.

We expect that portfolio managers need to make sense of what is perceived as valuable by their various stakeholders in their portfolios. To enrich our understanding, a subsequent question seeking feedback on practice is asked, 'How might having a view of multiple stakeholder perspectives of value help managers in practice?' and 'How do practitioners

make sense of and integrate the typology of value perspectives for decision-making in practice?’

In Method 2, the expert panels were consulted to test the typology and discuss further ideas regarding the range of ways value is expressed and identified in practice. Below we overview the findings from three HDEP sessions, concentrating on the findings from the third HDEP.

In HDEP1, the typology was said to be able to assist practitioners (e.g. consultants) in seeing things from a different perspective, hence they are able to ask different types of questions to ensure that they are covering value from different bases. They commented that value requirements may not always be clear from the beginning, and should not be assumed. For instance, when a consultant meets a client for the first few times and receives a ‘brief’, they may not always grasp what is valuable to the client upfront. It is important to seek to understand value and what the projects can actually deliver, and what the client expectations are. From the comments, it appears that value maximization might stem from understanding stakeholder (customer) value expectations and engaging with stakeholders. It is when managers seek to fulfil and deliver on value expectations that they then ultimately fulfil their goal of value maximization in the portfolio.

HDEP 2 explored how managers might engage with stakeholders to make sense of their value expectations. Questions suggested to engage with stakeholders included themes about stakeholder purpose, priorities and the stakeholders’ definitions of success and progress. Stakeholder expectations to be gauged include the areas of improvements and benefits, processes, controls and communications. Some ways that managers suggested as ways to determine if they have delivered on stakeholder value include observations of their key stakeholders, individual assessments, following up and measuring the expected changes with surveys, interviews and feedback sessions. HDEP 2 concluded that to engage with stakeholders more powerfully, managers needed to ‘speak the language’ of the stakeholder.

HDEP discussions about the value spectrum

The questioning in the third and final HDEP drew upon the questions that were addressed individually in an anonymous paper-based pre-session survey to add a further layer of understanding to the discussions around making sense of value in practice. Sixteen panelists responded to the survey. In response to the open-ended questions, ‘*What are some effective ways to recognize, communicate and measure intangible value?*’, one respondent remarked that, “*We currently assess value very subjectively and I have tried (and failed) to make this*

more objective and quantified". Many of the responses confirmed that the way practitioners identified and communicated intangible value suggested a 'spectrum' between tangible and intangible value (Figure 4).

Figure 4: the value spectrum (adapted from (Ang & Killen 2016; Ang, Killen & Sankaran 2015))



In practice, participants initially commented that business case approvals required a focus on the 'right side' of the spectrum (tangible, quantifiable), and stated that *'the left side doesn't really come into play'*. However, others commented that, *'It's presented as that (tangible) when it's actually that (intangible).'* In the session, the conversations around value concepts oscillated across the spectrum and decision making was said to be based on plausible outcomes and *'gut feelings'*.

Portfolio decision making is often portrayed by rational concepts like maturity models, PMOs, KPIs, balanced scorecards, gateways and business cases. In reality, as one participant admits, *'It looks really nice on the paper, but it just doesn't happen... at the end of the day it is all gut feel'*. This comment resonated with other members of the expert panel as they agreed that decisions were not always made based on definitive metrics and prioritization frameworks. In other situations, decisions were said to have already been made by the senior executives, overriding the rational guidance of PPM tools and frameworks. Furthermore, in reality, metrics and business cases are not as likely to get tracked or scrutinized in some organizations, as expressed by a panelist, *"If you want to know the reality, they will not get tracked. People move, the teams get restructured, and when you have a three to five year return on investment, no organization has the same structure and the same people in the team for five years. The people are gone. This case, no one looks into it, no one wants to look at it."*

These discussions about the value spectrum and the project portfolio managers' gut feelings about portfolio value and decision making practice lead into the following section about the

panels' responses to the various stakeholder perspectives of value that could be applied in practice.

Practitioner feedback and validation of typology

The typology of eight perspectives of value was presented in the form of info-graphics (see previous Figure 3). General audience feedback indicated that presenting complex information in the form of simple visuals like infographics helped them grasp, recall and recognize new concepts like the value perspectives typology more easily.

What works ('the typology will work because...')

The categorizations are said to help raise awareness about value in order to make better decisions, organize and provide a logical thought process, as stated below:

"Raising awareness of 'value' will lead to better decision making."

"The categorisations of value perspective will enable a focused logical thought process. A bit like the parallel thinking Edward De Bono and his 6 Hats of Thinking create momentum around the subject."

"I like the typology - helps organize thinking."

"It helps to classify values and think from different perspectives when practitioners are looking to discover their values."

In considering its usefulness, the typology was remarked to help users gain more precision about value (*"It helps people have more precision about what value means."*). Furthermore, the value spectrum might be useful in assisting with value quantification as the value is gradually shifted from the unknown, qualitative end of the spectrum to the known and quantitative end of the spectrum (*"The breakdown of value through the value spectrum. This method could make it easier to quantify value."*).

Barriers and ways to overcome them when using the typology

There were also statements expressing a dislike of being constrained by categories and rigid boxes as expressed, *"People like to think without constraints / structure", "It will seem rigid to people to categorize their ideas about project value", "people are encouraged to use these categories as a starting point rather than rigid boxes they need to fit within."*

In contrast, others struggled with the overlapping perspectives (lack of rigidity) and that the perspectives were not mutually exclusive. Further comments mentioned that since the definitions of value are so diverse and different, it would be hard to arrive at any meaningful conclusions and that it would be difficult to accurately quantify values based on the typology.

Nevertheless, feedback also acknowledged that such a typology could be used as a starting point to generate discussion and thinking about value in the workplace. Barriers to usage could be overcome through getting a deeper understanding and appreciation for the typology, as suggested, *'gaining an appreciation of the differences and getting skilled in using the framework.'*, *'Perhaps I just need to understand it more deeply.'*, *'people are encouraged to use these categories as a starting point'*, and for *'employees and management understand that value is created through all of the 8 values.'*

In comments about relevance to their own work, panelists mentioned that *'all eight values are relevant but the degree of relevance varies significantly in portfolios.'* They commented that they needed time to learn about how and what perspectives apply and do not apply to their own organizational contexts, and that it would also be relevant when one needed to think about ordering projects for example whether the value would be commercial, or long term, or intangible.

Panelists raised the point that value is a key aspect to decision making, and yet it is a very difficult concept to define. They acknowledged that it seems obvious that value appears as a continuum or spectrum and that there are the tangible and intangible aspects of value. However, from the discussion and comments, what is also interesting is the comment that *'there is nothing definitive about future numbers. Everything is a 'gut feel'.'* They suggest that in reality there is little in portfolio management practice that links projects by strategic objectives where their individual value can be seen as a contribution.

Overall, the expert panel responded positively towards the typology of perspectives both in their verbal (discussions) and written (questionnaire) responses. Aspects of usefulness, relevance and likelihood to use were also discussed in the face-to-face group session. Overall, panelists stated that they were likely to use the typology at work, particularly the *reflective-future orientated*, *preventative* value and *transformational* perspectives, with only one or two stating that they were less likely to use the typology as they could not see it fitting in with the context of their work environment. This could be due to the overall typology being a very new concept to them and they have not been given the opportunity to fully conceptualize and

grasp its application clearly in practice, nor to ‘sell’ the ideas to senior management and their respective decision making teams.

From the earlier discussions and comments, it could be deduced that capturing retrospective or reflective and future value that is likely to be emergent, unplanned and unknown is not easily ‘sold’ to senior executives who demand clear metrics and measures in a business case followed by regular quantitative reviews of portfolio value. There is potential in encouraging practitioners to consider how they might be able to harness retrospective and emergent properties of value in the portfolio, as these types of projects could generate future opportunities in the portfolio. We have highlighted the *retrospective-future orientated* value perspective in this section because the data also noted that this perspective was most likely to be used in the panelists’ workplace, or at least, the panelists are very likely to attempt to apply this new perspective when thinking about value in their portfolios. In a similar light, *transformational* and *preventative* value perspectives are more likely to be used at work now that they are aware of these new ways of thinking about value.

In sum, the findings indicate that the typology might be relevant to most project portfolio practitioners and thus likely to be used to help them make sense of value in practice. These results add a further depth of understanding around how managers make sense of, interpret and integrate value perspectives in practice. One of the panelists commented after the session, *“It is quite remarkable that your work all of a sudden became really valuable to my current challenge of how ‘innovation’ and the complexities this brings could help us categorize essential projects that collectively will build our manufacturing capability for the future.... very valuable tool for delivering clarity...this was a path to getting clarity across our project ‘wish list’, something we both had not seen before – so thank you.”*

While the typology is new and generally well received by the expert panel, we envisage that the challenge would be in having a clearer and deeper understanding of the ways that the perspectives might be adapted, applied and translated into practice alongside engaging other stakeholders with the typology in the various contexts.

Discussion

Sensemaking (Dervin 1999; Savolainen 1993; Weick 1995) supports the dynamic, interwoven and emergent nature of reality and the nature of knowing that comes with using a sensemaking paradigm in exploring value concepts. Picking up from Dervin’s research

(1999), we acknowledge that there is no single linear order of presentation about value that works best. In fact, what is grasped is the ‘fragments of what sensemaking assumes is the complex, analogic, elusive lived human condition’ (Dervin 1999, p. 730). We take on this view from sensemaking to discuss the HDEP session outcomes.

Time dimensions

The past, present, future and longer term horizons

Value construction has been found not to be a linear process although it is often presented and discussed as such in formal documents to provide clarity and aid thinking, communication, negotiation and decision making. Practitioners may think of value as linear processes, but can only make sense of these linearities from a reflective viewpoint. We found that attempts to rationalize and evaluate what is valuable in the portfolio, often resulted in retrospective terms and was used to position future opportunities within the portfolio. In other words, we can only look backwards in time from the present to construct the logic behind what happened from Point A to Point B. The future is often foggy and uncertain and hence practitioners state that it is difficult to predict what outcomes will be achieved after a 1-2 year period.

The reflective-future orientated perspective of value is a concept that could be used to clarify and identify past value from a present standing point, and identify future opportunities to derive more value for the portfolio. The anticipation of future value through generative value perspectives in the project mix is likely to help managers make sense of value that emerges in the longer term horizons in the portfolio.

Space dimensions

Value comes in a vertical and horizontal spectrum of degrees, magnitudes and levels

What is valuable would depend on opportunities, stakeholders, the policies and regulations, competitive environment and a myriad combination of complex factors that cannot always be captured and computed through an algorithmic formula or prioritization tool. The typology acts as a starting point to explore, discuss, negotiate, make sense of and appreciate the magnitudes of value expected by different stakeholders at different levels or points in the projects and portfolios.

Practices not persons: How, not who

Dervin (1998) implies that socially, sensemaking occurs with and in relation to other people inside and outside the organization. People create or enact a part of the very environment they face and implant their own reality when they share their sentiments. These shared sentiments then enable people to agree on decisions and actions to be able to coordinate their actions. Weick (1995) and Allard-Poesi (2005) imply that what is achieved is the shared equivalent inter-subjective meanings that are built through discussion, conversation, plausibility and trial and error.

Less formalized features of decision making involving the human aspects of sensemaking might be easily overlooked as these are passing, emergent and unstructured. Value identification and decision making tend to focus on structured and formalized processes, and as a result, may contain little leeway for flexibility and less tangible considerations. A well-designed project portfolio management framework is one that is a developmental, adaptable, flexible, responsive and active in how it recognizes, incorporates and measures value in projects and programs in order to enhance the value of the overall portfolio.

In order to balance a portfolio, other important considerations include a mix of long (strategic) and short term (operational) projects, high and low risk projects, project diversity (these include for example projects for innovation, market survival-growth (Sommer 1999), change management, organizational (internal) development, new IT systems, R&D, asset management, infrastructure and capital investment) and synergies. In theory, having a project prioritization and selection tool based on the organization's strategic intents and goals seems like a logical, rational and fair way to support the selection process yet in practice, the value of the diverse projects in the portfolio are not always easily computed, quantitatively measured and prioritized. In reality, managers are more likely to 'make do' with a set of guiding principles and procedures about valuing projects and programs in the portfolio combining quantitative and qualitative indicators to help with their judgments and decisions, particularly when considering long term value amidst limited resources. As confirmed in the findings, Andersen (2008) state that organizations are likely to apply intuition and preferences rather than economic estimates in certain situations, for example project decisions that may not fit within a common selection benchmark but may have a significant impact on the organization.

Popular in decision making circles is the need for tangible value. Furthermore, there needs to be a means to measure the outcomes to ensure that the promised value propositions are indeed achieved and delivered. In practice, most are pragmatically persuaded into accepting the ‘bottom-line’ as the key value deliverable and satisfying shareholder interests when reviewing their portfolios. Business cases and portfolio plans form the rational part of the PPM toolkit for planning, reporting, monitoring and controlling. We observed that PPM management tools (rationalistic) are used in practice, but they are used to fulfil the requirements of ‘senior management’ and documentation, and used to clarify and provide direction to project managers and facilitate negotiations, similar to a study conducted by Hallgren and Soderholm (2011).

Beyond the rationalistic tools and mindsets, the typology could be adopted in practice to help managers view value through the different stakeholder lenses to inquire, clarify, direct thoughts and focus, and negotiate the various angles of value. The heightened awareness of the different perspectives could enable managers to engage with stakeholders more effectively about value expectations by asking different types of questions based on different perspectives in the typology. From a comment about Edward de Bono’s ‘Six thinking hats’ (De Bono 1989), this suggests that executives could use the typology to tap into the multiple stakeholders’ collective wisdom to build a shared vision of value in order to enhance the creation of a wide spectrum of values across the portfolio.

Dervin (1998) states that sensemaking is contextual in nature and situated in time and space. While it may be useful to draw on different cases and exemplary scenarios to inform and contribute to a framework for decision-making, the complexity woven into sensemaking and the resulting outcomes and conclusions may not always apply to different contexts. Yet, the typology can be said to be sufficiently abstract and open that most contexts could fit when considered within the open conceptions of space and time.

From the discussion, we can conclude that sensemaking is a precondition of decision strategies (Weick 1995) and hence important for project portfolio managers. It is not a prescribed set of tools, processes or a ‘silver bullet’ that resolves the value maximization question. It is an innovative way of rethinking and reimagining value constructs and engaging with multiple stakeholders in project portfolios.

Research limitations

The questionnaire responses are based on expert panel responses through HDEP sessions. Due to small sample sizes, we acknowledge the limitations that the results are indicative and not statistical in nature. A quantitative focus was not the scope of this research, as the purpose of the case studies and HDEPs were to test and provide an in-depth discussion of the propositions around value in PPM and its potential in practice. This research provides the opportunity for future research contributions in the quantitative realms. There is also scope to test the implementation and use of the typology in organizations. Several organizations could be engaged and partnered with, and participatory approaches like action research could be used to test, refine and validate the typology in the field.

Conclusions

These findings provide a fresh lens into how project portfolios might be best managed to enhance value. Using a sensemaking-inspired approach, the qualitative research design and methodology incorporated case studies and HDEPs to allow for multiple iterations to test and verify a proposed typology of value perspectives stemming from the analysis throughout the research. This research is significant as the insights are informed by practitioner knowledge that have an impact not only in theory but in practice, with implications and innovative project portfolio management concepts that can be applied by practitioners. The sensemaking concepts incorporated in the typology could be flexibly applied across different industries and sectors.

In practice, there are different stakeholder perspectives beyond financial value that managers need to look out for when determining portfolio value. These multiple constructs of meaning or outliers are often overlooked by decision-making and prioritization tools and processes that focus on logical and rational factors. Having an awareness of the various perspectives can provide managers with the momentum in thinking about and discussing value constructs including how the value will be propositioned, captured, delivered and reviewed for both the short and long term.

Contribution to research: This study contributes to PPM research by highlighting the multi-stakeholder perspectives of value in PPM and addressing aspects of multiplicity and complexity that come with subjective value constructs. The methodology provides an openly

iterative, yet structured approach to qualitative research incorporating sensemaking elements to explore the concepts.

We contribute to sensemaking by integrating this perspective with the field of PPM, thus extending its relevance and application in research methods and practice.

Contribution to practice: These findings contribute to practice by raising the awareness of managers about the various value perspectives that will provide further checks and balances to enable them to enhance the way they engage and negotiate with the various stakeholders. By using sensemaking, this study offers managers with a fresh way of seeking subjective, complex and often emergent information about project portfolio value among their multiple stakeholder groups. The perspectives in the typology incorporate dimensions of time, space and distances.

The typology could be used to assist with engagement and negotiation by encouraging collaboration and communication through engaging with different types of questions to make sense of and understand the various stakeholders' points of view. Practices to unravel different value expressions can be embedded into project documentation, cases and at various stages of a project lifecycle and portfolio review and reporting templates to capture the different aspects of value and adapted to one's own context and environment.

The sensemaking practices encouraged through the typology could therefore help managers to synthesize and reconcile apparent differences and contradictions that may arise when dealing with multiple stakeholders. In line with sensemaking principles, the typology contains intertwining aspects that constitute perceptions of value in PPM. The typology can prompt the capture of subjective nuances and provide checks and balances for a more holistic and integrated dialogue about tangible and intangible values in project portfolios as managers can anticipate, prompt and influence decision making by incorporating a fuller range of stakeholder values to support communication and stakeholder management in PPM.

Contribution to theory: Theoretically, this study links to other recent value-based studies in the project portfolio field (Killen, du Plessis & Young 2012; Kopmann 2013; Martinsuo & Killen 2014; Thiry 2001, 2002) by extending the knowledge on the dimensions of value and multi-stakeholder management in project portfolio decision-making. The typology offers some resolution and direction over how managers might identify and integrate multi-stakeholder demands utilizing a sensemaking approach (Basu & Palazzo 2008; Thiry 2001) to

determine tangible and intangible value dimensions in their portfolios. Sensemaking also helps to illustrate how value can also be based on time, and is dynamic in nature and space with regards to direction and its non-linearity. Theoretical development in the PPM discipline through integrating sensemaking and practice-based perspectives of value and stakeholder management informed the development of this typology that could be further tested and verified.

This is the first in-depth qualitative study to compare different project portfolio cases across the public, private (profit) and non-profit sectors to draw out exemplary cases and learning insights from cases and expert panels faced with the subjective realities of value and the solutions undertaken in actuality to provide fresh perspectives that are beneficial to all.

Contribution to methodology: In terms of contributions to methodology, the study provides qualitative researchers with an alternative empirical multi-methods approach that incorporates verification strategies in exploring complex and multi-faceted topics through the use of sensemaking in the research methodology, as well as the inquiry and observation of sensemaking practices among project portfolio members and stakeholders. This type of approach engages well with practitioners while offering rigorous and robust insights and real contributions in theory and practice. The concurrent and reflexive application of HDEPs at the start, middle and end of qualitative case studies used to gauge understanding, co-create research outcomes and build concepts that are practice-oriented provides a way where in-depth exploratory studies and insights can be progressively tested and verified in a structured and orderly yet open research process. The HDEPs were found to be an effective means to challenge, discuss and evaluate insights to further identify elements that are relevant, usable and easy to apply in practice.

This research provides an in-depth baseline upon which future researchers can choose to quantify to measure the extent in which these dimensions occur or to map out value networks in project portfolios that are critical to portfolio decision-making across different sectors and stakeholder groups.

In changing the mindsets, culture and behaviors in the workplace about value concepts, the typology assists organizations to build capabilities in thinking more holistically about stakeholder value and the use of a relevant value 'lens' and 'language' in the various contexts. These mindsets could be embedded into the culture and practices of the organization.

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