The current state of project management knowledge: A misunderstanding

Project management is a field that is very proud of its practical knowledge and *knowing-in-action*. However, as a field of study it is unsure about the validity of its underlying theoretical knowledge, or even if there is such a thing. Project management has attracted interest from a variety of scholars and researcher, and has therefore produced a diverse body of project management theories. With such variety and diversity comes confusion and ambiguity in terms of which theories are right or wrong, and better or worse. This paper will reflect on the current state of the field and propose a solution to the aforementioned struggle by suggesting that existing theoretical knowledge should be treated as working theories. The concept of working theories essentially describes – similar to working hypothesis –a provisionally accepted truth that serves as a starting point for inquiry with the aim to produce a satisfactory outcome.

Keywords: theories, working theories, knowledge, projects, pluralism

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Introduction

Project management as a field of study is – still – unsure about the validity of its underlying theoretical corpus, or even if there is such a thing. Since project management has attracted interest from scholars and researchers, the field has evolved through many different eras from scientific management over critical management and the information technology age to more practice-oriented studies (Blomquist, et al., 2012, Lalonde, et al., 2010). Throughout this evolution project management has developed different bodies of knowledge (e.g. APM, 2012, PMI, 2013) that attempt to conceptualise and integrate the multiple approaches of the field of projects and project management. As such project management can currently be seen as a cross-disciplinary and broad field of studies that has been influenced by many discipline, such as psychology, pedagogy, operations management, organization theory, industrial engineering and sociology (e.g Clegg, et al., 2002, Koskela & Howell, 2002, Söderlund, 2004). With variety and breadths comes however confusion and ambiguity in terms of which theories are right or wrong and better or worse.

These struggles are not unique to the field of project management. In fact, most scientific fields experience similar dilemmas as Kuhn (2012) has pointed out in his infamous and ground-breaking book *The Structures of Scientific* revolutions, in which he argues that scientific fields are subject to periodic 'paradigm shifts' rather than solely progressing in a linear and continuous way as Karl Popper has famously stated (Söderlund, 2011). In project management, such paradigm shifts represent new approaches to understanding projects and project management. These paradigms cannot be established solely by objective criteria but are defined by a consensus of a scientific community (Bredillet, 2010). Currently numerous paradigms or schools of thought exist, some of which are comparable, complimentary or even conflicting This pluralist nature is however a major concern for the field, as it hinders the field's ability to find a specific paradigm and to specifically improve the existing knowledge base which causes the so-called "*fragmentation trap*" (Knudsen, 2003, p. 263).

Establishing consensus in form of developing a single project management theory is something that the project management community aims for, but has trouble with (Sage, et al., 2014). Multiple authors have attempted to define schools of thoughts that describe the field of project management. However, the number of such schools of thoughts still increasing which means that the field is still evolving in regards to the range of topics and methods discussed. While pluralism can be detrimental to the development and discovery of a field it can also be healthy since "*fields with too little pluralism run the risk of being caught in a specialization trap"* (Knudsen, 2003, p. 263). The field of project management must therefore find a balance between *"exploration and exploitation, between unification and focus and pluralism, diversity and openness"* (March, 1996, in Söderlund, 2011, p. 153). Hence, the objective of this paper is to review the different schools of thought that have influenced project management knowledge and propose a pragmatic solution to the pluralistic nature of project management knowledge that helps transcend micro-level debates and emphasises the bigger picture of project management knowledge.

This paper will reflect on the current state of the field of project management in regards to its underlying theoretical corpus and the existing discussions, challenges and ambiguities around project management theory. More precisely, this paper will propose a solution to the aforementioned struggle between exploration and exploitation by suggesting that existing theories, schools of thought or project management knowledge in general should be treated as working theories. The concept of working theories essentially describes – similar to working hypothesis –a provisionally accepted truth that serves as a starting point for inquiry (or further research) with the aim to produce a more rigorous theory. Although working theories might ultimately fail to lead to the expected results they are part of the reflective process of inquiry that every scientific field goes through when establishing a workable knowledge base. In other words, a working theory, albeit not entirely accurate, provides us with a starting point for actions, but we are aware that the theory is subject to changes depending on the nature and context of the specific project that we are undertaking.

The remainder of the paper is structured as follows: The paper will first provide an overview of the current discussions around project management theory, including the main arguments and problems. The paper will then give an overview of the notion of working theories as the proposed solution to the problem before linking it the idea of a reflective practitioner, a term that has been widely used to describe the ideal project manager (Cicmil, et al., 2006, Crawford, et al., 2006). The paper will then conclude highlighting the benefits of the proposed solution.

Current discussion in project management theory

Despite its ancient roots and use in industries since the World War 2 era, project management is still a relatively young discipline in academic terms. With help from related disciplines, such as strategic management, operations management and engineering and IT, project management has however rapidly evolved into an academic field of diversity and debate with the aim to improve our understanding of projects and ultimately their performance (Bredillet, 2010).

Is project management theory too broad?

Over the last two decades the number of publications on projects and project management has increased dramatically, which suggests a growing body of knowledge and understanding of projects and project management. Multiple authors have attempted to conceptualise the bigger picture of project management knowledge and theories, with different ways of dissecting the field (e.g. Blomquist, et al., 2012, Lalonde, et al., 2010, Winter, et al., 2006). This growing body of knowledge has been influenced by different disciplines and led to the emergence of different schools of thought. Schools of thoughts are defined as: "*A group of researchers investigating and developing common methods, tools and techniques (for practitioners to use), often with one or more lead researchers providing the vision in that area"* (Bredillet, 2010, p. 7). As such schools of thought are an infant versions of a scientific paradigm, in which some consensus and compatible exist between researchers about the nature of projects and project management.

Multiple schools of thought models have been proposed over the years from leading authors in the field of project management research (Anbari, 1985, Bredillet, 2007, 2008a, 2008b, 2008c, Kwak & Anbari, 2008, Söderlund, 2002, Söderlund, 2004, 2011). While the models differ to a certain degree, especially in regards to the number of schools proposed (e.g. in 2002 Söderlund proposes 5 schools while in 2011 the author extends it to 9; Bredillet proposes 9 schools of thought and Anbari started with 5 schools of thought in 1985 before he and his co-author increased the number of schools to 7 in 2008), most of them are compatible, complimentary, and consistent, as they build on each other. The aim of developing such schools of thought is to *"gain insight into current and potential research, within a manageable number of research themes without oversimplification of the richness of the underlying thought"* (Bredillet, 2010, p. 7). Table 1 provides on overview and comparison of the different schools of thought models proposed over the years, which shows the fields' diversity and pluralistic nature.

Table 1: Overview of different schools of thought models

Anbari (1985)	Söderlund (2002)	Kwak and Anbari (2008)	Bredillet (2007-2008)	Söderlund (2011)
Management Science School	Optimisation School	Operations Research	Optimisation School	Optimisation School
(Management Science School)		Performance/ Quality Management	Modelling School	
Functional School	Transaction Cost School	Engineering/ Contracts Legal	Governance School	Governance School
Behaviour School	Behavioural School	Organisational Behaviour and Human Resource Management	Behavioural School	Behaviour School
Systems School		Technology/ Innovation	Process School	
Contingency School	Contingency School		Contingency School	Contingency School
	Critical Success Factor School	Strategy	Success School	Factor School
(Management Science School)	Decision School	IT/IS	Decision School	Decision School
	Marketing School		Marketing School	Relationship School

The underlying message put forward by many researchers and scholars is that the field of project management has to accept the existing diversity and pluralism of the field and use it as an advantage (Aubry, et al., 2011, Söderlund & Maylor, 2012). Different schools of thought or theoretical models represent different perspectives of projects and project management and different solutions to existing problems. Pluralism is therefore not necessarily negative, but much rather an opportunity to apply a range of methods, tools, and techniques to a problem and increase the chance of finding a workable solution (Sage, et al., 2014). This means focusing on commonalities rather than differences and. In addition, *"the existence of contrasting versions and definitions of projects are positive signs that are to be welcomed, and which, in the end, might facilitate the progress of research to the level of complexity almost matching that of projects themselves"* (Söderlund, 2011, p. 168). However, the extent of schools of thought and the inherent differences make it difficult to establish consensus and to progress towards developing a single theory of project management.

... or too narrow?

Despite the rapid expansion of the field of project management in recent years and the growing recognition by leading project management researchers and scholars of its diversity, development, and richness, there is still a large number of people who argue that the theoretical development of the field of project management is still too narrow or even obsolete altogether (Koskela & Howell, 2002, Lundin & Söderholm, 1998, Shenhar, 1998). The references used to support this particular view of the state of the development of project management theory might be somewhat old and out-dated. Anecdotal evidence from recent journal submissions however reiterated that these voices and opinions still exist. A reviewer in 2015 stated the following: *"What in this paper is meant by "theory"? To me, there is no such thing as project management theory. There is plenty of earlier research and knowledge on project management - conceptual, empirical and very diverse altogether - but not a single theory, or a traditional theory, or even competing theories."* Hence, I argue that there are still a large number of researchers, scholars, and even practitioners that perceive the field of project management as theoretically poorly developed (Morris, 1994, Packendorff, 1995).

The majority of those critics proclaim that the field of project management, as a theoretical and academic field, is too narrow. Packendorff (1995) for instance argues that project management research is not sufficiently supported with empirical evidence, and primarily proposes processes, methods, tools, and techniques rather than actual theoretical insights. Shenhar and Dvir (1996) go even one step further and propose that project management *"suffers from a scanty theoretical basis and lack of concepts"*. In 2000, Kloppenborg & Opfer (2000) found no evidence of a particular project management theory when analysing 40 years of project management research. Koskela and Howell (2002) argue that the underlying theory of project management is obsolete due to the fact that the lack of explicit theoretical development hinders the professional development of the field. The implicit nature of project management theory, that seems to merely exist in the minds of the practitioners led Jugdev (2004) to conclude that project management is mainly driven by practitioners' opinions (often captured with surveys) and anecdotes (i.e. normative statements), rather than empirically grounded research (Meredith, 2002). It is therefore not surprising that Bygstad & Lanestedt (2009) find that project management theories, and the underlying methods, tools, and techniques, are hardly used as prescribed, which supports the existing argument that project management theory is too narrow to use in practice and thus meaningless in the complex and turbulent environment in which projects operate.

In summary, two opposing arguments are either implicitly or explicitly put forward in academic discussions around project management theory. The first camp states that there is no project management theory, only frameworks that are too narrow (e.g. too specific, simply based on normative opinions, no empirical evidence) and therefore not suitable to perceive project management theory as a well-developed academic and theoretical field (Koskela & Howell, 2002, Lundin & Söderholm, 1998, Shenhar, 1998, Shenhar & Dvir, 1996, Turner & Keegan, 1999). The other camp argues that there is a multiplicity of project management schools of thought or theories that might be in fact too diverse and rich, and fails to produce a unified theoretical understanding of project management, since the proposed models are often contradictory and

competing (Anbari, 1985, Bredillet, 2007, 2008a, 2008b, 2008c, Kwak & Anbari, 2008, Söderlund, 2004, 2011).

Problem

What is the essence of the above-described current dilemma? Essentially, both camps have a problem with the fact that there is not one distinct theory project management. While several researchers and academics (e.g. Turner, 2006a, 2006b) have attempted to formulate such an unifying theory and others have argued that such a theory is necessary as a basis for rigorous research and to establish the field or project management academically and theoretically (Sauer & Reich, 2007), there is still a lack of an all-encompassing theory of project management.

But what is a theory? What are the characteristics of a theory and how is it different to schools of thought or paradigms? In order to answer these questions, it is necessary to briefly define the term *theory* before progressing in this paper.

A theory is a set of principles or assumptions that describes the relationships between concepts (Whetten, 1989). Theories are therefore able to show how and why particular phenomena occur (Gioia & Pitre, 1990), as they provide explanations of observed behaviour. This also enables theories to predict future outcomes of certain actions, because a theory shows how actions contribute to the set goals (Koskela & Howell, 2002). Due to the ability of theories to predict the future, it is possible to develop tools that help practitioners analyse, control and manage their work based on the relationship proposed in a particular theory (Koskela, 2000). According to Whetten (1989), four elements have to be present to make a theory complete: first, theories must contain concepts in forms of variables, factors, or constructs that logically explain a particular phenomenon; second, theories must be clear about the relationship between such concepts; third, theories must identify the contextual factors (e.g. psychological, economical, social) and how these impact the relationships between the concepts; and lastly, theories must clearly state what they do and do not address, and thus establish the theoretical limitations and boundaries of the described relationships. These points make theories clearly testable with hypotheses, which contribute to the greater understanding of the scientific knowledge base of a particular field.

Theories – as to be seen from the paragraph above – are quite clearly defined concepts that must possess certain characteristics and must provide certain functions in order to classify as a theory.

However, academic theories are frequently described as abstract or too conceptual in nature (Cornelissen, 2000), which makes me wonder whether the actual definition of theory is the core problem when trying to establish a “theory” in a practical and diverse field such as project management. More precisely, the current business environment has been frequently described as volatile, turbulent, and dynamic (Bredillet, 2010, Feldman & Orlikowski, 2011, Flyvbjerg, 2014). How can we then expect a theory to predict the future? No one can predict the future with a large degree of confidence or certainty when the context in which we operate is highly uncertain, ambiguous, or even pluralistic. This is especially the case when we think about the increasing complexity of projects that we are encountering in regards to issues such as

stakeholders management, value creation, staff turnover and political pressures (Flyvbjerg, 2014, Hellström, et al., 2013).

In addition, the pluralism of project management schools of thought, with multiple pre-paradigmatic assumptions and the complexity of projects makes it difficult to establish a context to apply and reliably test the proposed methods, tools, and techniques. In fact, the constantly changing context of every project or even within the course of one particular, as stakeholders, objectives and personnel (partly) change throughout the stages of the project lifecycle makes this endeavour impossible or at least exponentially difficult. Thus, stating that a theory must (or even can) encompass all social, economical, and psychological factors is simply impossible in project management (Klein, et al., 2014).

Hence, in this paper I argue that the purpose of theories is to provide us with a set of principles or assumption that help us to get started or guide our actions. These theories are particularly useful when we have no personal experiences to draw on. As other research has highlighted before (e.g. (Bygstad & Lanestedt, 2009, Cornelissen, 2000, 2006), theoretical knowledge is rarely used unaltered in practice, simply because it is impossible to incorporate all contextual and situational factors into one set of principles or assumptions (i.e. theory) and create a grand, unified or all-encompassing theory of project management. What is needed in that case are contextual theories, theories that work in a particular situation; a situation that is likely to be unique to a greater or lesser extent.

Solution and Discussion

I argue that one project management theory is not wanted or needed. The solution must be to re-conceptualise our understanding of what good theory is and how we can use the term to produce practical knowledge and theories that helps the field of project management in its evolutionary process (Cornelissen, 2006, Hällgren, 2012), and ultimately practitioners to deliver successful projects. The diversity of projects and the underlying problems that are faced at different organizational levels means that we should embrace different trends and influences from other discipline that contribute to the existing pluralism in project management. It enables us to address the contextual nature of project management as different problems call for different solutions and the more solutions there are available the more prepared we are to make sense of the situation and ultimately solve the problems satisfactory.

For this to take place, we have to accept that the current state of project management theories (i.e. schools of thought) might not live up to the traditional criteria of a theory. However, I propose that rather than focusing on developing a single project management theory, we should use the existing knowledge as working theories, which will help us move the field forward.

The concept of working theories

Working theories are provisionally accepted truths in the form of assumptions or principles that serve as a starting point for our actions with the aim to provide enough certainty (not prediction) for us to act meaningfully towards solving a problems, while being aware that the theory and underlying assumptions might change due to the

contextual and turbulent nature of the work. Put simply, working theories might ultimately fail to lead to the expected results, and we must be prepared to revise working theories if necessary. Revision is part of the reflective process of inquiry that both practitioners go through when managing a project and trying to find workable solutions, or researchers go through when trying to develop a scientific theory.

The process of inquiry

This process of inquiry perfectly describes the pragmatic method, described by William James and other classical pragmatists (Dewey, 1938, James, 1907, Shields, 1999). In the pragmatic process of inquiry theories are less a solution than a guide for actions that essentially determine our perception of what works and what does not (James, 1905). In other words, theories are instruments, tools, or mere starting points for our actions and behaviours and not definite answers to problems. In the following, I further explain the process of inquiry in more detail (see also Figure 1):

The Process of Inquiry:

Step 1: Define the problem
Step 2: Establish your working theory and evaluation criteria
Step 3: Establish evaluation criteria and test working theory (gather information)
Step 4: Reflect on working theory (and alter if necessary) and redefine working theory
Step 5: Use newly established working theory and add to the knowledge base if deemed successful.

Figure 1: Skeleton of the reflective process of inquiry

The pragmatic method or process of inquiry starts with a problematic situation that needs to be solved. In the context of project management, the identified problem could, for example, be a project that needs to be delivered on time and within budget.

To solve a particular problem, in the second step, the project manager starts with certain assumptions or underlying principles (i.e. working theories), which stem from different forms of knowledge, such as personal experiences, practical knowledge, or academic theories (Lalonde, et al., 2010). During this process, the project manager shapes the context and makes himself a part of it (Schön, 1983). The undertaken actions are based on the chosen principles and assumptions from the working theory. The project manager however accepts that the assumptions are provisional and might not lead to the expected outcome. In this paper, the term situation "*is not a single object or event or set of objects and events. For we never experience nor form judgments about objects and events in isolation, but only in connection with a contextual whole. This latter is what is called a 'situation'"* (Dewey, 1938, p. 66). So, for instance, the project manager assumes that rigorous planning and a detailed work breakdown structure lead to a successful completion of the project within time and budget, and he acts in accordance to those assumptions (see Optimisation School).

Once the working theory is articulated and clear, the project manager has to establish evaluation criteria based on which the working theory can be tested. In our example, this would be to see whether the project is still within the initially planned budget and

timeframe, and whether there is a clear correlation between the time invested in creating the plan and the fact that the project is or is not meeting the stated success criteria. Part of this step is therefore to gather information that enable the project manager to test the evaluation criteria in particular and the working theory in general. In a project, you might find that after 6 months of doing the work as planned, you are actually way behind schedule and you have spent the planned amount of money already. This gives the project manager a good indication that something is not quite right with the initial assumptions of how to manage the project.

The fourth step is therefore to reflect on the practices and actions undertaken, which were based on the initially established principles, assumption, and evaluation criteria. This part of the process of inquiry is what Schön (1983) calls reflection-in-action where the practitioner reflects on practice while in the midst of it. In this situation the project manager might reflect on tacit practices that were applied during the project, the underlying principles of the chosen theory or whether the current project has been similar to previous experiences. During this process the project manager critically examines his *"initial understanding of the phenomenon, constructs a new description of it, and test the new description by an on-the-spot experiment"* (Schön, 1983, p. 63), which then leads to a new working theory. In our example, the project manager might reflect on the work being done and – since they are behind schedule – realises that he has not spend enough time with the clients, to make them understand the process and win over their trust. Instead, too much time was spent on planning the work, breaking it down into smaller tasks and activities, and updating the schedule. Hence, the project manager would reconsider his original approach and use a new working theory that focuses more on managing stakeholder relationships, rather than excessive planning (see Behavioural School).

When redefining the working theory, the process of inquiry essentially jumps back to Step 2 of the process. When practitioners face *"new or unique problems which do not fit known categories [or theories], their inquiry is not a threefold mapping [...] but a design process artistic in nature and fundamentally similar in structure to the reflective conversations"* (Schön, 1983, p. 170). Moreover, the process of inquiry is a reflective learning cycle that constantly evolves the understanding of what needs to be done in the particular project to achieve a successful outcome, or more precisely, to solve the particular problem at hand. The outlined sequence is however merely a skeleton and might vary slightly depending on the situation. Once the reflective learning cycle, or process of inquiry has produced a working theory that helps project managers to get deliver a satisfactory outcome, the newly established working theory is used to complete the project and added to the existing knowledge based of project management (if it is different to existing theories or experiences). This step concludes the process of inquiry.

At this stage it is however also important to highlight that sometimes the problem definition needs to be evaluated (the reflective cycle then starts again with Step 1), as it is not always the practices that lead to a unsuccessful completion of the project, it can also be that the requirements (i.e. problem) are poorly or wrongly defined and thus lead to project failure.

Schools of thought as working theories

Seeing schools of thought or project management theories as working theories for project management practice means adopting a reflective and critical stance towards existing theories, underlying assumptions and essentially practices (Lalonde, et al., 2012). Reflective learning and sensemaking play is however exactly what is required in an uncertain and turbulent environment, such as the project environment (Perminova, et al., 2008). The required testing and validation requires a good understanding of professional practice as well as time and patience for and from the reflective project manager to accomplish the reflective process of inquiry in the particular situation (Cicmil, et al., 2006, Crawford, et al., 2006).

The need for reflection-in-action (i.e. reflecting during the project) has previously been discussed in the light of developing project managers from trained technicians – that are able to correctly apply project management methodologies – to reflective practitioner that are able to be effective in demanding, diverse and complex environments through the above-described process of inquiry (Cicmil, et al., 2006, Schön, 1983). Research has suggested that experienced practitioners can significantly improve their skills and thus the performance of a project *"through processes of reflective practice and experiential learning"* (Crawford, et al., 2006, p. 728). However, reflection-in-action does not refer to passive monitor and controlling of the project, as suggested by the PMBOK, where the planed data are simply compared to the actual data. Reflection-in-action much rather describes how practitioners actually think about the issues they encounter (Crawford, et al., 2006), what actions they undertake when identifying the need to change existing practices (Klein, et al., 2014), and how they connect their daily practices with best solutions and newest theories (Cornelissen, 2000).

While a lot of project management schools of thoughts are based on prescriptive models that are to be followed strictly to achieve the best possible project outcome (Lalonde, et al., 2010), the reflective practitioner applies a more translational approach (Cornelissen, 2000). A translational approach of using project management theories perceives scientific knowledge as a source of knowledge that can positively assist or influence actions or behaviours. In other words, theoretical knowledge is discretely chosen, selectively applied, and reflectively shaped in a way that it reflects a solution to the particular problem, not a universal cure for any situation. This stands in stark contrast to using theories in an abstract or context-independent fashion, as promoted by many existing project management theories (Cicmil, et al., 2006). The reflective practitioner understands that theoretical knowledge is rarely used unaltered in practice. This means that transformation of knowledge is a constant rather than a sign of a poor or underdeveloped theoretical basis of a particular field. In other words, theories are *"not a matter of a passive reception of knowledge for practical purposes, but rather an active process of interpretation and reframing by practitioners within the context of professional understanding"* (Cornelissen, 2000, p. 321).

Translating existing theories and applying them to practical situations and problems requires the concepts of working theories, where transformation of existing knowledge or theories is accepted or even expected in the course of the process of inquiry (Schön, 1983). The earlier described process of inquiry provides the skeleton for a reflective process of project management practices, in which the project management practitioner can use existing knowledge in a context dependent fashion

to solve the defined problem. Good or successful project managers arguably apply existing knowledge in such a fashion already (Cicmil, 2005), and act on the basis of experience and intuition in combination with relevant knowledge acquired in other parts of their life. However, young or new project managers – that might not have the industry experience or practical knowledge – must be given the trust and opportunity to translate their existing experiences or knowledge reflectively in action to get the job done successfully, because of the potential benefits that it creates for the field of project management, the organisation, the project and the individual.

Benefits and Conclusion

There are important and practically relevant benefits to introducing the concept of working theories to the field of project management. Firstly, working theories can be contextually applied and are therefore more practically useful for practitioners and project management scholars. Following the recent turn to practice-oriented studies in the field of management and project management it makes sense to see how the existing theoretical models enable or facilitate actual practices. Cicmil, et al. (2006) therefore called for a focus on the actuality of project management that is predominantly concerned with the underlying practices. But where do these practices come from? Usually they derive from existing knowledge (either developed through practical experience or theoretical abstraction. However, regardless of where they come from using existing knowledge – whether theoretical or practical – in form of a working theory enables the creation of contextually relevant practices and theories about practice.

The concept of working theories is therefore also a starting point for a theory development process that enables practitioners as well as researchers to engage in contextual sensemaking activities (Cornelissen, 2006), using their reflection-in-action approach to identify what works, what does not work, and the underlying reasons for their findings. Going through this process of inquiry and experiencing the workability of working theories produces an extensive amount of tacit knowledge of the specific situation and is thus is the predecessor for actually codifying knowledge about projects and project management. Codifying knowledge leads to developing a formal body of knowledge or theoretical conceptualisation based on actual practices that can be added to the overall knowledge base of the field (Argyris & Schön, 1974). This process has strong resemblance with the action research process put forward by Argyris & Schön (1989). Moreover, detailed reflection-in-action process in which working theories are used as starting points for a particular project is quite similar to a single qualitative case study approach. Case studies – even single case studies – have been proven to deliver relevant and unique academic theories, and are thus a legitimate way of developing an academic field (Eisenhardt, 1989, Flyvbjerg, 2006).

Creating new contextual theories, and thus knowledge, through case studies means that the theoretical foundation of project management grows steadily. This steady growth means that our theoretical understanding of the variety of different working solutions to different project management improves our overall knowledge. In other words, more and newer working theories mean more starting points for our process of inquiry, and thus more potential solutions to occurring problems. Due to the increasing variety of working theories produced through the process of inquiry, accuracy of such working theories might also improve since certain situations might

occur more frequently than initially expected. A higher degree of similarity between different situation leads to less iterations during the process of inquiry, and means a more effective completion of the project. Overall, the more theories (or knowledge) there are the greater is the overall understanding of project management, despite those theories not providing universal solutions to particular project management problems.

In conclusion, the paper reflects on the current state of project management theory, how it is described and applied. The main challenge is that theories and practical knowledge are perceived as universal solutions, despite the existing pluralism in form of different schools of thoughts. As many researchers highlight and practitioners have experienced, there is no such thing as a universal solution to project management problems. What is needed is a culture of accepting change and theoretical pluralism. Hence, I argue in this paper that project management knowledge should be perceived as working theories that provide us with a set of assumptions, principles, processes or tools to start our process of inquiry. The working theory is however constantly revised and reflected upon, based on its ability to successfully solve the particular problem at hand; a process is described as reflection-in-action (Schön, 1983). This process creates new and more contextual knowledge that can be added to the knowledge base of project management and ultimately leads to a greater understanding of project management.

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