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A Qualitative Study of Project Managers in Sopra Steria

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Abstract

With the introduction of the fourth industrial revolution, projects are progressively becoming more complex in the software industry. The old fundamental building blocks of modern project management make traditional project management less suitable as the field of project management is dealing with an increasing amount of change. Agile methodologies offer new ways of embracing complexity and change. These approaches offer two conflicting choices. Consequently, there is a need for a midway, but is there a silver bullet?

The ambition of this thesis is to study how Sopra Steria balances the discipline from the exploitative traditional approach and the flexibility of the explorative agile approach. This thesis aims to study how relevant experiences and practical examples from the informants combined with previous research can be used to explore a solution to the problem statement: *How are project managers in Sopra Steria balancing both traditional and agile methods in the same project?*

To achieve the purpose and aim of this thesis, a literature review and a qualitative research method through semi-structured interviews were conducted. Based on relevant theory from the literature review, three predefined categories were established. The study further conducted eleven interviews with project managers from Norway's leading consulting company, Sopra Steria. The study performed a thematic analysis where 14 interesting findings were categorized within the three predefined themes: 1) *the project management approach in Sopra Steria*, 2) *Ambidexterity*, and 3) *Leadership*. The findings further revealed one emerging theme from the interviews, 4) *Obstacles with the agile approach in Sopra Steria*. Thus, four themes in total were analyzed in order to give a holistic presentation of the problem statement.

The findings revealed that Sopra Steria uses a non-formal hybrid ambidextrous model where project managers can develop the ability to manage a combination of leadership styles and dynamics i.e., combine exploration and exploitation. Finally, the thesis presents four focus areas to consider for future research: *challenges with the implementation of agile approaches in Sopra Steria*, *implementation of a hybrid framework*, *ambidextrous leadership*, and *the future role of project managers in the software industry*.

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1. Introduction

This chapter aims to provide the reader with an overview of the thesis's broad topic as well as the field of research. It will begin with a discussion of the background for why the project was initiated, thereafter, research needs, and gaps will be presented. Finally, the purpose and aim will result in a formulation of the problem statement with clarified and guiding research questions.

1.1 Topic relevance

In the past decade, many tasks once performed by people are now being done by machines, and the world has been introduced to a fourth industrial revolution (Oztemel & Gursev, 2018). Automation has given us more time for complex tasks, but demands a workforce capable of building, programming, and innovating. Consequently, there are core and management skills that cannot be replaced by technology.

The transformation of organizations and teams is a combination of focus, patience and persistence, and the most successful enterprises are continually working to see what works and does not (O'Reilly, 2017). Proper utilization of project management skills and the discipline of project management methods often determine how a project is planned and executed. Consequently, these factors are also cited among the top reasons for project success (Grushka-Cockayne, Holzmann, Weisz, & Zitter, 2015). However, due to innovations and shifting customer demands, what works today may be obsolete tomorrow. The discipline of project managers has morphed into a new state, and Wysocki (2019) argues that effective project managers must think more than routinely react (Wysocki, 2019). High-performance project managers focus on shortening feedback loops, measuring progress based on outcomes rather than outputs, clarifying goals and meeting customer needs and demands (O'Reilly, 2017). Managers and companies need to have the capability to continually adjust, adapt and innovate.

Digitalization has become a strong ally for businesses, and technology has entered the center stage now more than ever (Pedro, Oza, Pincot, Mancini, & Chiwera, 2022). The software development environment is fast-paced, innovative and complex. Companies need to adapt to the continuously shifting business demands and changing requirements faster than ever to stay competitive. Organizations with a high degree of agility know that today's global marketplace needs both technical and soft skills to support long-range strategic objectives (Bohem & Turner, 2004), and one such company is Sopra Steria.

1.1.1 Sopra Steria

Sopra Steria is a European Tech leader in software development, digital services, and consulting. The business supports clients to obtain sustainable and tangible benefits through digital transformation (Sopra Steria, 2022). By providing end-to-end solutions in combination with in-depth expertise for a wide range of business sectors the company makes large organizations more competitive. As of 2021, Sopra Steria has 47,000 employees in 30 countries whereas 2400 employees are located in Norway (Sopra Steria, 2022).

The company has identified a need for more methods since pure agile and traditional models are not sufficient, and more hybrid projects are expected. There have been several agile initiatives and businesses within the organization, however, few hybrid initiatives have been carried out. Thus, this thesis was initiated by Sopra Steria, with the purpose of studying what project management approaches are applied in the company and how the project managers are adapting.

1.2 Research needs and gaps

The previous chapter exposed how software development processes are affected by uncertainty and change. Hence, there is a need for more agile strategies. Kahn et al. (2012) argue that there is a failure in meeting time, cost and quality requirements as innovation ranks higher than ever (Kahn, Barczak, Nicholas, Ledwith, & Perks, 2012). Moreover, Shenhar (2007) argues that nearly two-thirds of software development projects experience budget and cost overruns (Shenhar, 2007). Further, a study conducted by Faraj & Sambamurthy (2006) claims over a quarter of projects are never completed (Faraj & Sambamurthy, 2006).

The Standish Group research presented a CHAOS report (1994) from the last 10 years, where over 10 000 project managers concluded that agile project management methodologies` success rate is three times better than traditional methods (The Standish Group International Inc., 1994). Nevertheless, 20 percent of all software projects have the characteristics of traditional projects (Jabar, Ali, Jusoh, Abdullah, & Mohanarajah, 2019). Finally, the initial report stated hybrid agile methodologies increased productivity by 16 percent (Jabar, Ali, Jusoh, Abdullah, & Mohanarajah, 2019). In a newer report from 2015, the Standish group argued that neither agile nor traditional methodologies work perfectly (The Standish Group International, Inc., 2015).

There has been an endless trend of combining agile and traditional project management practices in technology-based product and service development. The previous chapter mentioned that due to the increased importance of agility in software development several studies on agile and hybrid methods have been conducted. Analysis such as European Business Review (Tavva, 2021), project-management.com (Morlan, 2021), and several project management conferences of 2022 (Dickerson, 2022) show that projects are leaning towards a hybrid direction. Furthermore, another report claims that nearly 60 percent of 600 project management professionals said that they use either a hybrid of waterfall and agile or many styles within a single project. However, 17 percent reported they used no formal methodology at all (Buma, 2022). In a sense, the latter managers apply several practices rather than only using a traditional or an agile method.

There is extensive research on theoretical and comparative analysis of cascading hybrid approaches. Jabar et al. (2019) argued that the use of adaptive and dynamic features needs to be further clarified as it has been unconvincing as a robust tool. Thus, further research is needed to design an exploratory and formative approach that clarifies the definition and scope of hybrid methods (Jabar, Ali, Jusoh, Abdullah, & Mohanarajah, 2019).

Jamous et al. (2019) performed a literature review where five existing hybrid methods and frameworks were compared and combined. The conclusion suggested that the combination of the preferred characteristics of traditional and agile approaches into a new hybrid method may facilitate the management of complex projects (Jamous, Staegemann, Garttan, & Volk, 2021). Despite the increasing focus on hybrid models, there is a lack of empirical studies showing how to combine traditional and agile methods. Further, few studies describe the impact of adopting this approach in an organization (Batra, Xia, Vander Meetr, & Dutta, 2010). Consequently, guidance on the selection of the most appropriate project management approach has remained largely theoretical.

As agile and hybrid approaches are more embraced in organizations, questions about the project manager's role arise. Adaption and implementation of new business strategies and technologies are major organizational challenges, and the project manager needs to be more flexible without sacrificing

efficiency (O'Reilly, 2017). How can the project manager use these hybrid practices to ensure growth and success within the company?

To address this research gap, this study presents findings from interviews with project leaders and managers in Sopra Steria. This thesis raises questions on how project managers execute projects, their evolving role and how to adapt and balance two different methods in one project to ensure project success and growth.

1.3 Problem Statement and Research Questions

The purpose of this thesis is to investigate how Sopra Steria balance the discipline from the exploitative traditional approach, and the flexibility of the explorative agile approach. This thesis aims to combine current practices and existing literature to create a suggested solution for a combination of the two most frequently used project management approaches, thus the problem statement of the thesis is:

How are project managers in Sopra Steria balancing both traditional and agile methods within the same project?

To elucidate this problem statement, it is relevant to answer the following research questions:

- 1. What current practices and challenges are the project managers experiencing related to the planning and execution of projects?*
- 2. What leadership behaviors are necessary to balance two different project management methods?*

2. Method

This chapter will describe this thesis' methodology and how the study will answer the problem statement and research questions in the best possible way. The research design will first be presented, followed by a literature review to gain a more holistic understanding of the topic. Then the interviews are presented to uncover the thoughts, values, and experiences of the project managers. Further, a thematic analysis with codes and themes will be established, and lastly, the research quality and method criticism are discussed.

2.1 Research design

The methodical process of gathering and analyzing data in this thesis was done through a qualitative approach with semi-structured interviews. To achieve a more comprehensive understanding of the case, the approach adopted is an explanatory theory-building case. This means that existing theory is used to explain the data and somewhat nuanced existing theory (Shenton, 2004). Eisenhardt's (Eisenhardt, 1989) methodological recommendations describe how to apply cases to develop theories in research:

- 1) Anchor problem definition and initial construct specification in the existing literature
- 2) Crafting data collection instruments and protocols based on this literature by using thematic analysis
- 3) Following a deductive pattern

In this thesis, this was done by an iterative process and several revisions allowing adjustments to theory content, discussion, conclusion, and solution. It is important to mention that the presented research is based on previous knowledge, while the thesis will try to answer the research objectives about future solutions and concepts.

Eisenhardt (1989) argues that case selection is an important aspect as it lays the foundation for what theory is being developed (Eisenhardt, 1989). The case chosen for this thesis is Sopra Steria - a European tech leader in software development, digital services, and consulting. Interviews were used to portray how project managers implement methods in their projects by mapping the following:

- The current practice among project managers
- How project managers behave in different situations
- Challenges being faced by project managers

Eisenhardt (1989) argued that it is important to be well prepared and have a narrow focus when proceeding to the literature research phase to know what literature is relevant for the case study (Eisenhardt, 1989). The focus of this study is to study how project managers are combining agile and traditional methods.

2.2 Literature review

The literature research was performed between January and June 2022. The aim was to gather previous research to get a broader understanding of this study's topic. A bibliographic analysis of scientific publications combined with systematic content analysis was conducted to review the literature. This data is presented in Chapter 3. Theoretical background.

A systematic review allowed for identification, evaluation, and interpretation of available research relevant to the problem statement and research questions. The search engine "Scopus" was used to examine a broad range of relevant literature. Scopus was chosen due to its advanced search engine for finding papers with high relevancy, and because of its wide acceptance among researchers (Elsevier, 2022).

This chapter presents the results of a systematic literature review based on the focus area and research needs and gap presented in Chapter 1.2. Based on this and the request by the industry, the topic was narrowed down. Thus, five search fields are defined to guide the inclusion and exclusion decisions: *traditional project management*, *agile project management*, *hybrid project management*, *exploration and exploitation*, and *the project manager*.

Keyword-based database searches are established to identify potentially relevant sources. Next, filters were entered manually, and independently into the search results. To be categorized as relevant the facet had to be in English or Norwegian and the range of it. Furthermore, individual selection was performed to narrow down the search field. The selection was based on the title, abstract and keyword followed by the subject area and document type. This literature review only provided an overview of the relevant topic and presented in Table 1. Literature sent by the intern supervisor was also used to answer the problem statement and research questions of the thesis. From this extensive literature review three themes were developed to answer the problem statement and research question: *Project management approaches*, *ambidexterity* and *leadership*.

Table 1: Number of hits with keywords combination with filters (Searched as of 27th of April 2022).

Key word search with filters in Scopus	Number of hits	Relevant hits	Comments
1. Traditional Project management			
(TITLE-ABS-KEY (traditional AND project AND management) AND TITLE-ABS-KEY (software AND development))	1,353	-	There are too many potential candidates, thus further selection must be included.
(TITLE (traditional AND project AND management) AND TITLE-ABS-KEY (software AND development))	9	5	Articles and books of traditional project management approaches. Journals about the relevance of the approach today.

Key word search with filters in Scopus	Number of hits	Relevant hits	Comments
2. Agile project management			
(TITLE-ABS-KEY (agile AND project AND management) AND TITLE-ABS-KEY (software AND development))	2,076	-	There are too many potential candidates, thus further selection must be included.
(TITLE (agile AND project AND management) AND TITLE-ABS-KEY (software AND development))	155	-	There are too many potential candidates, thus further selection must be included.
(TITLE (agile AND project AND management) AND TITLE-ABS-KEY (software AND development)) AND (LIMIT-TO (SUBJAREA , "COMP")) AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "bk"))	32	16	Books and journals about agile project management in the software industry. Implementation, characteristics, design, issues, benefits and challenges.
3. Hybrid project management			
(TITLE-ABS-KEY (hybrid AND project AND management) AND TITLE-ABS-KEY (software AND development))	126	-	There are too many potential candidates, thus further selection must be included.
(TITLE (project AND manager) AND TITLE-ABS-KEY (software AND development)) AND (LIMIT-TO (SUBJAREA , "COMP")) AND (LIMIT-TO (EXACTKEYWORD , "Project Managers"))	28	1	One article was selected as it was difficult to gain access to some articles, and others were not in the relevant search field. The main objective of the article was to improve and evaluate existing hybrid models.
(TITLE (hybrid AND project AND management) AND ABS (software AND industry))	3	2	The journal provides an overview of hybrid models and how to further enhance software delivery project success.
4. Exploration and exploitation			
(TITLE-ABS-KEY (exploration AND exploitation) AND TITLE-ABS-KEY (software AND development))	178	-	The search field provides to many potential candidates, thus further selection must be included.

Key word search with filters in Scopus	Number of hits	Relevant hits	Comments
(TITLE (exploration AND exploitation) AND TITLE-ABS-KEY (software AND development))	12	6	Balance of exploration and exploitation in the software industry.
5. Project Manager			
(TITLE-ABS-KEY (project AND manager) AND TITLE-ABS-KEY (software AND development)) and (TITLE-ABS-KEY (project AND manager) AND TITLE-ABS-KEY (software AND development))	3,386 79	- -	There are too many potential candidates, thus further selection must be included.
(TITLE (project AND manager) AND TITLE-ABS-KEY (software AND development)) AND (LIMIT-TO (SUBJAREA , "COMP")) AND (LIMIT-TO (EXACTKEYWORD , "Project Managers")) AND (LIMIT-TO (DOCTYPE , "ar"))	8	4	Articles about project managers in the software industry in the context of Industry 4.0, agile software development, and project success.

2.2.1 Limitations and evaluation of sources

The literature review was depending on the availability of the published material. Further, the authors' own biases and selection of how to narrow down the search field to an appropriate amount of research for the given timeframe, must also be considered as a limitation in this study. Moreover, this thesis` was initiated by Sopra Steria, with the purpose of studying what project management approaches are applied in the company and how the project managers are adapting. Thus, the external supervisor addressed the problem area. This can contribute to exclusion of relevant scope and search fields in the literature review, as the problem area already will be narrowed down beforehand.

To ensure trustworthiness in this study all information collected need to be evaluated. Criteria to evaluate include credibility, accuracy, relevance/scope, currency, bias and quality (The University of Texas at Arlington, 2022). This literature review aimed to use secondary sources such as ranked journals, articles, reviews, and academic books. It is important to examine who the publisher is and distinguish between the different publications. The sources used in this thesis have been evaluated by the assessment for literature review described in Table 2.

Table 2: Criteria for evaluating sources.

Criteria	Purpose
Credibility	Check for the criteria below, are the authors knowledgeable, reliable and truthful
Accuracy	The reliability as sources, evidence and truthfulness of the information
Relevance/ Scope	Compare with variety of sources
Currency	The publication date of the information, recent updates of old sources and data
Bias	Objectivity, dramatic language and one-sided argumentation
Quality	Examine the format of the information and source, who is the editor?

2.3 Interviews

The literature review provided three predefined themes, which in alignment with the problem statement and research questions were the foundation for developing the interview guide. The drafted questions and affiliated answers should allow for an understanding of a complex topic, and to gather relevant experiences and practical examples from the informants. The interview guide was only used as a guide during the interviews, and questions was added, removed, and changed. Information about the authors, background for the interview, the goal of the interviews, topic keywords and general, ethical, and technical information was stated beforehand. The finalized interview guide is included in Appendix A.

Eisenhardt (1989) argues that there are two key benefits to interviewing several respondents. First, it provides empirical data with multiple layers as it increases the creative potential because the interview objects have complementary knowledge and insight. Thus, the probability to discover new insights and relevant perspectives in the dataset increases (Eisenhardt, 1989). Second, more interview objects increase the validity of the data set. Further, Eisenhardt (1989) argues that there is no ideal number of respondents, but somewhere between four and ten respondents usually works well (Eisenhardt, 1989). Due to this thesis' complex topic, it was decided to interview at least four project managers. Finally, eleven project managers were carefully chosen to replicate or extend the emergent theory and still balance to cope with the complexity and volume of the data in this thesis.

2.3.1 Selecting respondents and arranging interviews

As mentioned in Chapter 1, this thesis studied the case of Sopra Steria. The project managers were situated in offices located in Oslo, Bergen, Trondheim, and Stavanger. These are their four biggest offices in Norway, where most of the business is conducted. As such, it is pertinent to do a study of the discipline of project management methods in a fast-paced, innovative, and complex software development environment.

The project managers that were interviewed represented different levels of experience, location, seniority, age, profession, gender, and background. Thus, the interview objects provided complementary insights which added to the richness of the data. Different perspectives and combined insights should increase the probability of capitalizing on any novel insights that might be found in the data and give a wide perspective concerning current challenges and project management methods.

The interviews aimed to be open and informal, and the respondents should not be restricted. To be credible, the interviewers was thoroughly prepared for the predetermined questions. The interviewers introduced themselves and then started with the simpler questions, before moving over to the more complex ones. The interviewers aimed to be professional during the interview to not affect the respondents.

2.3.2 Drafting questions and interview guide

The interview objects were notified that the interviews would be anonymous and recorded both on the computer and on phones. Recordings on the computer will make a direct transcription in the computer program Microsoft Word (Microsoft 365, 2022). Later transcriptions were created. The transcripts were sent to the interview objects for approval/not approval.

The interviews were semi-structured in order to explore the interviewees' experience and knowledge of this study's topic. The variations and follow-up questions aimed to result in substantial differences between participants (Miles & Gilbert, 2005). This flexibility makes it well suited for asking reflecting questions, which again results in an increased understanding of the research questions.

The interviews were a work in progress, where the aim was to gain a more in-depth analysis. Open-ended questions were asked regarding the aspect of project management approaches in the organization. Adjustments to the questions was done after the interviews.

2.3.3 Limitations

It is important to emphasize the weaknesses of the thesis. Ideally, the study would include triangulation, in form of observation or a workshop, as this would provide greater credibility in form of diversity and obtaining a variety of perspectives to get a more objective and stable view (Guba, 1981). This was not conducted due to time limitations and economic limitations. Further, direct contact through face-to-face interviews could reduce equivocality and uncertainty through discussion and the exchange of viewpoints. It is important to mention that appearance or behavior of the researcher may have created bias by influencing the answers. The interviews were executed both on Microsoft Teams and in person. It would have been beneficial to conduct all interviews face-to-face as this allows for easier persuasion, enhances conflict resolution, provides clarity to the conversation, and enables more trust. Further, since both the interviewers and the interviewees are Norwegian, the interviews were held in the native language. Thus, the limitation due to translation must also be considered when discussing the raw data materials. Finally, the selection of the interview objects was performed by the extern supervisor, therefore, one should consider that there might be bias in the sense that the collection was chosen to portray the organization in a good light.

2.4 Data Analysis

Thematic analysis was used to analyze the qualitative data. A close examination of the data identified common themes, topics, patterns, and ideas of meaning that repeatedly appeared. Further, when analyzing the data collection, both deductive (theoretical) and inductive methods were used. As mentioned in Chapter 2.2, the systematic literature review provided five search fields. These search fields further resulted in three predefined themes, in a deductive matter. Moreover, the inductive approach to coding resulted in one emerging theme. Only relevant data for the problem statement and research questions are coded. Braun and Clarke's six-phase framework presented in Table 3 was used during this thesis' thematic analysis (Braun & Clarke, 2006).

Table 3: Stepwise description of the thematic approach.

Phases	Description / Execution
Phase 1: Become familiar with the data	<p>The first step in Phase 1 was to transcribe the data and read the interview transcripts to get familiar with the collected data. An overview of the recorded audio and transcripts was necessary before starting to analyze the individual transcripts. The qualitative data in Phase 1 consist of eleven raw transcripts from Microsoft Word and eleven audio recordings.</p>
Phase 2: Generate initial codes/keywords	<p>In Phase 2, after reviewing the initial impressions and analyzing the data from multiple perspectives, the data was systematically organized to describe the content, where the theoretical data was separated from any emerging data.</p> <p>For the theoretical data, overlapping data content was coded and labeled with different keywords in accordance with the theoretical topics most relevant in according to the problem statement and research questions. Further, each keyword was related to different criteria considered describing or relatable, to ensure the data was coded correctly. The criteria could be a type of action, characteristics, index entry, or cues. These criteria were used as searching words in the "navigation function" in Microsoft Word, where related content got highlighted if it was considered interesting in terms of the connected keyword. The keywords and the following coding criteria were organized in a table continuously. See Table 7 in Chapter 4 for an overview of theoretical keywords with the following criteria.</p> <p>A similar process was used for any emerging data, except the following keywords were not pre-coded but developed during the coding process after analyzing their relevance and importance. After developing the emerging keywords, criteria were given on the same terms as for the theoretical data. See Table 8 in Chapter 4 for an overview of emerging keywords with the following criteria.</p>

	<p>Both inductive and deductive coding was used. The former is great in exploratory research when you want to explore new ideas, concepts, or theories, due to its bottom-up coding approach where the theory emerges from the collected data itself (Maguire & Delahunt, 2017). In other words, the codes were developed and modified as working through the coding process. The latter is a top-down coding approach where pre-set codes are based on existing research theory. Collected data that matches these codes were gathered.</p> <p>The criteria were discussed and compared consecutively and could be changed or deleted from the two tables with the criteria.</p>
Phase 3: Search for themes	<p>In Phase 3 the generated keywords were analyzed in order to identify patterns and underlying similarities to generalize the data into different themes. A theme is a pattern that captures something interesting or important about the problem statement or the data collection (Maguire & Delahunt, 2017). After re-focusing the analysis at a broader level by verifying the keywords, all allocated and relevant data were identified into one theme. At this point, relations between keywords and themes were established. However, if keywords were considered irrelevant or too vague, they got discarded during this phase.</p>
Phase 4: Review themes	<p>In Phase 4 the deductive findings were evaluated, compared, and discussed according to the existing literature on the subject, and the inductive findings were evaluated in accordance with the thesis' problem statement to ensure accurate and relevant data. Thus, the identified themes were modified, reviewed, and reflected on the following questions:</p> <ul style="list-style-type: none"> • Do the themes make sense according to the problem statement? • Does the data and keywords related to these specific themes fit and support the research question? • Are there other themes within the data? <p>As for the keywords and the following criteria, themes were separated into two tables, predefined themes, and emerging themes. See Table 9 in Chapter 4 for an overview of the predefined theme findings and Table 10 for emerging theme findings.</p>
Phase 5: Defining and naming themes	<p>Phase 5 included the final refinement of the themes, ensuring clear definitions and correct conceptual names (Maguire & Delahunt, 2017). Consequently, tables 9 and 10 were refined until satisfaction. The purpose was to identify the essence of what each theme is about and ensure they were relatable to the problem statement. According to Braun and Clarke</p>

	<p>(2006), it is important that the theme is not too complex and that the content of the data extract is not just paraphrased but identified with what is of interest and why (Braun & Clarke, 2006). Finally, each theme was compared against the existing literature to see whether they coincide or not.</p>
<p>Phase 6: Write-up</p>	<p>The last phase was the final analysis and write-up of the results, which is presented in Chapter 4. Phase 6 is meant to provide merit and validity of the results based on the complicated data (Braun & Clarke, 2006). Tables were made to organize the findings in a readable and understanding structure. Further, the findings and keywords were divided into tables after given themes and the data was translated from Norwegian to English.</p> <p>Parallel with the write-up, a flexible pattern matching approach was used, allowing continuous iteration between extant theories with empirical evidence from qualitative data while maintaining space for theory development (Bouncken, Qiu, & Garcia, 2021). Pattern matching made it possible to draw parallels and catch patterns of relevant existing research theory with the qualitative data collection in this thesis. The keywords and themes presented in Chapter 4 were compared with theory and labeled 'Matching', 'Partially matching' or, 'Not matching' accordingly. Through pattern matching attention was drawn to the interplay between empirical and theoretical themes. The theory could be developed through the breakdown and (in)consistency from the comparison between parts of empirical and theoretical patterns (Bouncken, Qiu, & Garcia, 2021). Furthermore, this approach could participate in revealing social, practical, and technological change and challenges, while simultaneously detecting emerging themes.</p> <p>At the end of this phase, the theoretical and emerging findings are presented in Chapter 4.</p>

2.4.1 Limitations

In qualitative research, thematic analysis is considered a relevant data analysis method, yet there is a lack of guides on how researchers can conduct a rigorous thematic analysis (Nowell, Norris, White, & Moules, 2017). The same source argued that it is vital to conduct qualitative research in a methodically and rigorously manner to yield useful and meaningful results. Further, this source claims that the thematic analysis provides disadvantages due to a lack of substantial literature and it includes a high degree of flexibility which allows inconsistencies. However, there is a lack of tools which is considered available and sophisticated for conducting a relevant and rigorous thematic analysis. To create trustworthiness, the study needs to prove that the data analysis is conducted in a consistent, precise, and thorough manner by systemizing, recording, and revealing the analysis method with sufficient detail to enable the readers to determine whether the procedure is credible (Nowell, Norris, White, &

Moules, 2017). Moreover, Lincoln and Guba (1985) have introduced criteria to fulfill to achieve trustworthiness, which are credibility, transferability, dependability, and confirmability to parallel the conventional quantitative assessment criteria of validity and reliability (Lincoln & Guba, 1985) (Nowell, Norris, White, & Moules, 2017). These trustworthiness criteria are presented in Chapter 2.5 with a thorough description.

The problem area and research need were presented by Sopra Steria. Therefore, as mentioned in Chapter 2.2.1, predefined themes can have contributed to excluding essential topics of the relevant search fields, which could be important in order to cover all theoretical areas to address the problem statement and research questions.

2.5 Trustworthiness in qualitative research

Qualitative research uses a naturalistic approach which means that findings have been collected in real-world settings (Golafshani, 2003). This methodology is less controlled and more interpretive, thus our participation, perception, and position as researchers need to be considered as this might have influenced the results. To establish meaningful results, qualitative research should be conducted in a rigorous manner (Nowell, Norris, White, & Moules, 2017).

To achieve trustworthiness in the research, several aspects are to be considered. The concepts of *validity* and *reliability* are treated differently in quantitative and qualitative studies; thus, they cannot be addressed the same way in a naturalistic approach (Shenton, 2004). Therefore, the trustworthiness of this thesis is ensured by precise and consistent data gathering through disclosure of methods, recording, and systematizing. According to Guba (1981), four criteria contribute to a trustworthy study in qualitative research and are therefore pursued in this thesis: *credibility*, *transferability*, *dependability*, and *confirmability* (Guba, 1981).

2.5.1 Credibility

Credibility represents the fit between the respondents' views and the researcher's representation of them, and according to Guba (1981), ensuring credibility is one of the most important factors in establishing trustworthiness in qualitative research (Guba, 1981). Guba lists several techniques to ensure credibility in qualitative research. For example, during the interview, there are tactics to help ensure honesty in informants when contributing data were used (Guba, 1981). For instance, every interview started with the interview objects confirming that recording was allowed as well as the opportunity to withdraw from the interview at any time. Further, the participants were ensured anonymity, thus they would be encouraged to be frank from the outset and contribute ideas and talk of their experiences. This will attempt to ensure that the data collection process will only involve those who are genuinely willing to take part.

Within credibility, the concept of internal validity appears, and it refers to what extent the claimed findings are valid for the case and issues examined (Guba, 1981). In this case, the internal validity was based on existing theory and multiple perspectives provided by the interview objects. Therefore, the literature was carefully selected to enable a nuanced suggestion to the problem statement. Furthermore, the credibility was somewhat weakened as random sampling was not used to gather informants and the researcher's biases might have influenced the selection. However, there is reason to believe that the informants have answered truthfully and to their best ability since the research might have a positive impact on the organization.

Eisenhardt(1989) argues that credibility is harmed if the conflicting theory is ignored (Eisenhardt, 1989). Therefore, the analyzed data will be compared in accordance with the following question to include contradicting literature: *what it resembles, what does it mean and why*. Contradicting literature can further represent an opportunity as it enlightens several perspectives and creative solutions are appearing (Eisenhardt, 1989). This thesis also provided credibility through member checks (Guba, 1981). The interview objects were asked to read through the transcripts in which they will participate and confirm that their words match what they intend. Thus, credibility was operationalized through testing the findings and interpretations with the participants.

2.5.2 Transferability

Transferability refers to what degree the results of the qualitative research can be generalized and applied to other contexts and studies (Shenton, 2004). In semi-structured interviews the conversations easily diverge in several directions, hence they are particularly hard to repeat. In this thesis, the study was influenced by how the recipient perceives the questions. Therefore, attempts were made to prevent misinterpretation by confidentiality, consent, a thorough description of the purpose of the study, explaining any ambiguity on the matter, and a common understanding of the topics. Further, follow-up questions were asked, and interviews were recorded, transcribed, and sent to interview objects in case of misinterpretations. This would help ensure that the informants spoke freely and gave honest answers, which would strengthen the reliability and transparency of the thesis. Moreover, Shenton describes additional information and boundaries that must be considered when transference is made (Shenton, 2004). These variables were carefully described in the method section and listed in Table 4.

Table 4 Conditions to preserve transferability.

How many organizations are involved in the study	One, Sopra Steria
Restrictions in form of the people who contributed to the data	The interview objects were informed of the purpose of the study, they were granted anonymity and they were asked to approve the written transcripts and quotes used.
Number of interview objects;	Eleven project managers
Data collection methods	Interviews: semi-structured
Number and length of the data collection sessions	30-90 minutes
The time period over which the data was collected	March-May 2022

Finally, the external validity in this thesis is very narrow as the results were based on a specific case environment. Also, since random sampling was not generated, other informants with different perceptions could lead to different conclusions. Further, anonymity ensured that information about the interview objects were preserved, thus resemblance between informants and findings will be impossible to recreate. The suggested solution might be transferable to other IT companies; however, the study might function more as an inspiration for further research.

2.5.3 Dependability

Dependability refers to what degree similar results would be obtained if the work were repeated in the same context with the same methods and participants (Shenton, 2004). In order to enable a thorough understanding for the reader, the method section of this thesis is devoted to gaining an in-depth coverage of which proper research practices will be followed. First, we described what was

planned and executed on a strategic level in the research design section, then addressed the minutiae of what was done in the field through operational detail of data gathering were described, and finally reflective appraisal of the project with an evaluation of the process of inquiry undertaken. Thus, a thorough and systematic description of primary and secondary data collection was described to achieve dependability.

2.5.4 Confirmability

Shenton (2004) refers to confirmability as *“the concept of confirmability is the qualitative investigator’s comparable concern to objectivity”* (Shenton, 2004). Shenton further discusses the difficulty of enabling confirmability and ensuring real objectivity since the intrusion of the researchers’ biases is inevitable (Shenton, 2004). The provisions made to achieve confirmability in this thesis was done by 1) underpinning the decisions made, 2) an in-depth methodological description in order to allow the integrity of research results to be scrutinized, and 3) explaining the weaknesses and limitations of the methods and their potential effects in this thesis.

2.6 Methodology limitations

Secondary data is divided into non-numeric and numeric data (Smith, 2008). Qualitative secondary data, which is of type non-numeric, is data retrieved second-hand from among other things, documents, interviews, ethnographic accounts or conversations (Smith, 2008). A request for secondary data was sent to Sopra Steria, but due to confidentiality the request was denied, consequently, the data collection was limited. The purpose of collecting written documentation, meeting minutes and project reports was to supplement the interviews. Further, the interviews were held in Norwegian, which again will result in Norwegian transcripts. The coded data was therefore translated to English to keep the entire thesis readable for the public with English acknowledge, thus misinterpretation could have been made.

During the translation process, errors or deviations might occur. Further, there might be difficulties regarding the lack of possibilities to directly translate expressions and sayings from the transcripts(/informants). This limits a formality in addition to the fact that equivalent words in the target language do not always exist. Negligible words and oral words will be removed in the sense that the meaning and content will be preserved. The translation may also affect the validity and reliability of the findings, but minimal changes will be made to the sentence structure and thorough review of translated data to minimize the limitation and weakening of validity and reliability.

3. Theoretical background

This chapter presents the theoretical foundation used in this study. It outlines themes and concepts within the existing literature of project management within the software industry. First, the chapter will present and explain areas of importance in the existing literature. Thereafter, the chapter will describe each of these topics in more detail and discuss the key takeaways and conclusions from conducted research.

3.1 Literature review of traditional project management

Traditional project management has been the fundamental building block of modern project management as it is known today (Wysocki, 2014). It is a linear approach whereas scope, plan, launch, monitor and control, and closure are the five elementary phases (Bohem & Turner, 2004). This means that the project is completed in a predictable sequence, and when one stage is completed, it will not be revisited (Cooper, 2016). It plays a vital role in a project's success and with its specific rules and guidelines it aims to offer a smooth flow of the process (Boehm, 2002).

3.1.1 Characteristics

Traditional project management is known for being well-defined, thorough planned and with strict command and control (Wysocki, 2014). It is often referred to as a classical, simple, linear, plan-driven, predictable, and structured approach (Wysocki, 2019). The approach assumes that projects have completely clear goals, solutions, needs, functions, and features which enables detailed planning and not much re-planning. Therefore, few scope changes are required. The client is often involved at the beginning of the project because of their requirements and specifications, and less involved in the process (Wysocki, 2014). The success of a traditional project is measured by time, cost, and scope; thus, the project plan includes a compilation of the defined project deliveries and activities to meet these constraints (Awad, 2005). Finally, traditional projects often have low complexity and risk (Conforto & Amaral, 2015).

3.1.2 Strengths

Because of its predetermined structure, the traditional project management approach has several benefits. The strengths associated with traditional projects are their robustness, predictability and standardization which makes them easily applicable to other projects (Wysocki, 2014). Further, since the projects are planned up front, the importance of defining requirements is emphasized and budgetary concerns are smaller as the detailed planning of tasks and controlling of implementation are conducted (Wysocki, 2014). Finally, the most skilled resources will not be required for these projects as the specific processes are clearly defined in advance, thus key personnel will not necessarily doom the project if not allocated (Wysocki, 2014).

3.1.3 Weaknesses and challenges

Some of the strengths associated with traditional project management are also its weaknesses. If the planning becomes the focus with a mechanical checklist and delivery within time and budget, the product (customer) might have less priority (Wysocki, 2014). Moreover, the arguments of robustness and the applicability of traditional approaches on similar projects is a weakness as projects are progressively becoming more complex. An article by Sommer et al. (2015) states that linear product development processes, i.e., traditional methods, cannot support the iterative cycles and external collaboration that drives the product development efforts of today (Sommer, Hedegaard, Dukovska-Popovska, & Steger-Jensen, 2015). Thus, the hierarchical and linear task conditions are unsuitable in the increasing complexity and dynamics of modern projects. As traditional projects are intolerant to changes, cost and time overruns are consequences of re-planning, thus, the approach lacks flexibility

due to its reliance on heavy front-end planning (Wysocki, 2014). Wysocki (2014) claims that due to the critics associated with traditional project management and its ability to adapt to the constantly changing environment, traditional projects occur less frequently (Wysocki, 2019).

3.2 Literature review of agile project management

Agile project management was first presented by Fowler and Highsmith in 2001 through *The Agile Manifesto* (Wysocki, 2014). Unique challenges and risks in complex software development projects have driven the agile movement and the popularity of software development has increased ever since (Cobb, 2015). The cornerstone for understanding agile approaches is the agile manifesto. The agile manifesto condensed the earlier agile methodologies and presented clearly defined values and principles, that are still valid today. The agile manifesto consists of four values and 12 principles, which aim to improve the software development process and find new ways to uncover valuable strategies for software development (Cobb, 2015):

- *Individuals and interactions over process and tools*
- *working software over comprehensive documentation*
- *Customer collaboration over contract negotiation*
- *responding to change over following the plan*

3.2.1 Characteristics

Agile project management, in contrast to traditional project management, is used when the goal is clearly specified but the solution is not (Wysocki, 2019). For traditional project management change is the exception, while in agile project management change is the norm. Agile software development aims to be incremental, cooperative, straightforward, and adaptive (Waja, Shah, & Nanavati, 2021). The approach is often used when there are small, self-organizing-cross-functional teams and collocated project teams, unknown tasks, incomprehensible task times, unknown task dependencies and resource availability and unclear requirements (Boehm, 2002). Thus, rapid cycles, close communication, and frequently adapting to changes for efficiency are important (Cobb, 2015).

3.2.2 Strengths

Agile project management allows software developers to contribute to rapid adaptability to changes, early delivery and continuous improvement through feedback, various iterations, and increments (Waja, Shah, & Nanavati, 2021). Further, change requests can be discovered through and between increments. Agile methods are also fundamentally people-centric and focus on identifying the value of team members and their competence, knowledge, and skill (Cobb, 2015). Hence, one can empower the right people with the appropriate skill for the right decision-making. This increases the diversity and variety of the teams and contributes to the best collective action. Diverse skills and perspectives trigger more efficient solutions to conquer challenging problems which describe the foundation for good agile practices (Boehm, 2002). Thus, agile project management produces business value faster and has a stronger focus on customer value compared to the traditional approaches.

3.2.3 Weaknesses and challenges

Some of the weaknesses with the agile project management approach are the difficulties with defining function and feature dependencies, and that heavier customer involvement is required. Even though agile approaches have been widely employed in the software industry, the methodology was originally designed for small, single-team projects, thus it has some challenges related to large-scale agile implementations (Dingsøy, Moe, Fægri, & Seim, 2017). Dikert et al. (2016) argue that there has been a general resistance to the transformation to agile methods (Dikert, Paasivaara, & Lassenius, 2016). He further described 35 challenges for large-scale transformation, among them were Skepticism and distrust that arose from misconceptions and the fact that people are not willing to change unless they understand the change is perceived as easy enough (Dikert, Paasivaara, & Lassenius, 2016).

Moreover, there have been some challenges for manufacturers adopting agile approaches. A common challenge is the difficulty of implementing an agile mindset. If the values and framework are not understood, agile practices can be conducted without understanding the purpose (Dikert, Paasivaara, & Lassenius, 2016). Further, a by-the-book implementation is not feasible and there is not a formal framework for agile, thus attempts to tailor the agile method to suit the organizations' needs must be made (Conforto & Amaral, 2015) (Dikert, Paasivaara, & Lassenius, 2016). Skipping practices or ignoring core elements can lead to problems, and Dikert et al. (2016) argues that if there are challenges in the transformation, people can revert to the old ways of working (Dikert, Paasivaara, & Lassenius, 2016). Thus, there are misconceptions as implementing agile practices does not necessarily mean abandoning traditional project management (Cooper & Sommer, 2016).

Regarding agile strengths such as early delivery and fast business value production, the conference paper *"The Manager Perspective on Requirements Impact on Automotive Systems Development Speed"* from the 26th International Requirements Engineering Conference states that fast collaboration is hindered by requirements-based contracts. To emphasize this, they say: *"now we specify in detail what [the suppliers] should do, and then wait for them to implement it, and send it back, it's not a fast way to solve problems."* (Ågren & Knauss, 2018). In other words, they might find contracts as a hinder to utilizing the benefits of agile approaches. Finally, it is mentioned that *"there is not much guidance for defining contracts for agility or continuous software engineering"*.

3.2.4 Scrum

There are several Agile software development models available. All models have a unique approach, but they share the same values and visions defined in the agile manifesto. Mutual for all methods are that they involve permanent communication, testing, feedback, planning, and integration. They contribute to the development of good software as they encourage collaboration and make good and fast common decisions (Stoica, Mircea, & Ghilic-Micu, 2013).

The most popular project management approach is Scrum (Wysocki, 2014). Scrum is one process that is both iterative and incremental and is used to respond quickly to changes, thus it is best suited for small and self-organizing teams to enable teamwork, effective communication, close collaboration, and fast feedback (Wysocki, 2014). In the early 1990s, Ken Schwaber and Jeff Sutherland developed the methodology and in 2010 they wrote the Scrum Guide which has been updated frequently since then (Fowler, 2019).

Product owner, Scrum master and the development team are the three defined roles in Agile Scrum. Keeping the project on track, managing stakeholders and the overall responsibility of the project are assigned to the Product owner. Whereas the Scrum Master, is responsible for the daily activities in the development team, ensuring the agile methods are performed by the team and ensure they understand both the practical and theoretical sides of Scrum and solving problems that might prevent the development team from doing their actual work (Cooper & Sommer, 2016). With these defined roles, Cooper and Sommer (2016) bring up an unanswered research question regarding the project manager and how the traditional concept of this role will fit in and evolve.

3.3 Literature review of hybrid project management

A hybrid methodology combines two distinct or opposite concepts of project management philosophies, and ideally takes the best of both concepts to create a robust methodology with minimal tailoring (Jabar, Ali, Jusoh, Abdullah, & Mohanarajah, 2019). As mentioned in Chapter 2.2, there are several articles, journals, and reports about hybrid project management. Despite countless publications over 20 years, academics and practitioners are still arguing that hybrid approaches are still at an early stage. Research suggests that important contributors to this are related to a deficient definition and empirical research aimed at understanding the benefits and limitations of combining the two distinct approaches. In the absence of a clear and distinct definition, several contributors have made different interpretations and in order to answer the problem statement of this thesis, a handful of the methodologies have been picked and presented below. The three articles from Chapter 2.2 provide the foundation for the presented methodologies (Jabar, Ali, Jusoh, Abdullah, & Mohanarajah, 2019) (Jamous, Staegemann, Garttan, & Volk, 2021) (Zasa, Patrucco, & Pellizzoni, 2021):

- Vinekar (2006) recommends a hybrid approach that maintains the benefits of both agile and traditional project management models through an ambidextrous organizational culture and further chooses a pure approach depending on the project organization, client, characteristics and culture (Vinekar, 2006).
- Batra et al. (2010) studied how one can balance traditional techniques with agile techniques where the traditional aspects underachieve, thus integrating project management practices from both agile and traditional approaches in the same project (Batra, Xia, Vander Meetr, & Dutta, 2010).
- Cooper (2016) tried to stay relevant in the paradigm shift by improving his linear plan-driven model to adopt agile approaches, thus the agile-state-gate model was developed. The model had an iterative development, where traditional project management tools such as Gant charts, critical paths and milestones were replaced with agile practices (Cooper, 2016). He also argues that the reason one should use a hybrid model is that one model works better than the other in certain circumstances, thus one approach might not be sufficient alone (Cooper & Sommer, 2016).
- Similar to Cooper, Conforto and Amaral (2015) wish to evolve the classical stage-gate model with an iterative development to balance discipline and flexibility in the dynamical and innovative project environment (Conforto & Amaral, 2015).
- Boehm & Turner (2004) discuss the contrast between agile and plan-driven approaches in their book and demonstrates with successful cases that the two models have been integrated into the IT industry. Further, Bohem argues that Stage-gate is a comprehensive idea-to-launch system that is a macro planning process, while agile models are more suitable in micro-planning processes. Finally, they claim that future projects vary in size, business value, business case, culture, risk and complexity, thus they need both agility and discipline, and the approach should be adapted accordingly (Bohem & Turner, 2004).
- Wysocki (2014) developed the Agile project Framework in 2014 which is a framework that combines both traditional and extreme project management (Wysocki, 2014). However, in

2019, Wysocki argues that hybrid approaches do not exist in literature are each approach should be adapted uniquely to the specific project (Wysocki, 2019).

Based on the literature review on hybrid approaches there are primarily two theories that currently dominate the research field. Firstly, Cooper and Sommer's -State-gate-model, as this model provides most of the evidence that the two approaches are compatible in the software industry (Cooper & Sommer, 2016). And secondly, Wysocki argues that hybrid is not an approach but a framework, he also argues that hybrid is "new to the body of knowledge", and instead of using commercial project management models one should design unique approaches based on the physical and behavioral properties, organization culture and environment and the dynamic conditions in the supply and demand marked (Wysocki, 2019). Despite these theories, there is a lack of a formal approach or model, this undermines the need for more research and empirical studies on the subject.

3.4 Literature review of exploration and exploitation

According to Rosing, most theoretical models of innovation distinguish between two types of innovation processes: idea generation (or creativity) and idea implementation (Rosing, 2011). These are two opposing processes that are linked to both exploration and exploitation through very different activities and requirements (Rosing, 2011). Further, innovation is a non-linear and complex process, resulting in an ever-changing cycle of exploitation and exploration requirements. March first described exploration and exploitation as two types of organizational learning (March, 1991). The relationship between the exploration of new possibilities and the exploitation of existing certainties is a major topic of adaptive process research (Rosing, 2011).

Exploitation is often linked to alignment, choice, production, efficiency, selection, implementation execution and refinement. Consequently, idea implementation is linked to exploitative activities because of requirements such as goal orientation, routine execution, and efficiency (March, 1991). These are typically routine or administrative tasks dealing with employees, records keeping and, valuing core competencies also associated with traditional project management (Gibson & Birkinshaw, 2004). Exploitation is closely linked to alignment activities and often involves a convergent way of thinking whereas risk avoidance and reducing variance are in focus. These activities are geared toward improving performance in the short term (Gibson & Birkinshaw, 2004).

Exploration is often described by terms such as experimentation, flexibility, discovery innovation, adaptability, search, and variation. It is associated with agile project management through extracting learning from failure, striving for step changes in innovation and valuing adaptability (March, 1991). Further, creativity is closely linked to explorative activities because it is deviating from routines, common assumptions, and experimentation in addition to thinking “outside the box” (March, 1991). Exploration needs divergent thinking because through developing new ideas and identifying new solutions, the context of decision-making will be broadened, thereby increasing the searching for alternatives, increasing variance, and taking more risks (Brem, 2017).

Businesses make both explicit and implicit choices between exploration and exploitation (March, 1991). The choice between exploration and exploitation in evolutionary models of organizational forms and technologies is framed in terms of balancing the twin processes of variation and selection. Any endeavor to improve organizational performance and strengthen competitive advantage should include learning, analysis, imitation, regeneration, and technology change (March, 1991). Each one requires adaptation and a precise balance of exploration and exploitation. The present arguments are that the settings of distribution costs and benefits, as well as ecological interaction, influence these trade-offs.

Even though exploitation is more closely linked to implementation and creativity to exploration, both exploration and exploitation are important for implementation and creativity (Rosing, 2011). Organizations require both exploitation and exploration, however, they compete for scarce resources companies. The difficulty of balancing exploration and exploitation is demonstrated in previous organizational learning studies by distinctions made between improvement of existing technology and invention of a new one (March, 1991). It has been revealed that exploration of new options slows the rate at which existing skills are developed. It has also displayed that when one's proficiency with existing processes improves, experimenting with others becomes less appealing (March, 1991). Further, the fact that the same difficulties arise at several levels of a nested system—individual,

organizational, and social levels—makes finding an optimal balance much more challenging (March, 1991).

3.4.1 Ambidexterity

Innovation processes are complicated and nonlinear, resulting in an ever-changing cycle of exploration and exploitation requirements. This points to the conclusion that inventive performance necessitates ambidexterity (Rosing, 2011). Ambidextrous organizations are both exploiting the present and exploring the future (O'Reilly & Tushman, 2004). They manage organizational separation by separating the exploratory units from the traditional ones, which allows for different structures, cultures and processes and meanwhile maintaining a tight link across the senior executive level (O'Reilly & Tushman, 2004). Easily explained, an ambidextrous organization values the current core businesses with the right hand and takes care of innovation with the left hand, thus ambidexterity refers to the project manager's ability to use both hands with equal skill.

The benefits of an ambidextrous organization are the forward-looking executives seeking to develop radical innovations while at the same time protecting their traditional business. The idea behind ambidexterity is that there are conflicting tasks in the organization's environments, for example, if they should invest in current versus future projects, thus there is always a trade-off to be made (Gibson & Birkinshaw, 2004). The most successful companies acknowledge these trade-offs to a large degree and therefore enhance their competitiveness in a long term. Further, there are three concepts in the ambidexterity theory, *contextual ambidexterity*, *structural ambidexterity* and *punctuated equilibrium* (Gibson & Birkinshaw, 2004).

3.4.2 Structural ambidexterity

Structural ambidexterity lies in a firm's structure, where dual structures are created, and certain groups can focus on alignment while others on adaption (Gibson & Birkinshaw, 2004). Structural ambidexterity separates the exploitative and explorative units with unlike processes, structures, competencies, and cultures. At the same time, they are being well integrated under a senior management team with structures loosely coupled with each other (O'Reilly & Tushman, 2004). According to O'Reilly and Tushman (2004) in order to become structurally ambidextrous, one needs to have senior teams that are willing and committed to implementing ambidexterity, have the ability to both sense and understand business needs, in addition to both communicate and allow explorative and exploitative new product developments to existing (O'Reilly & Tushman, 2004). In other words, the organization's capability to have separate business units focusing on operation activities and adaption. Researchers that support this viewpoint argue exploration and exploitation are two different activities that require unique incentives, approaches, and structures to be successful (O'Reilly & Tushman, 2004). However, one of the pitfalls with structural ambidextrous companies is that the exploration and exploitation units are so separate that they do not benefit from one another. Consequently, the truly transformative idea does not survive since the collaborations, resource and knowledge sharing is not properly established (O'Reilly & Tushman, 2004).

3.4.3 Temporal ambidexterity

Temporal ambidexterity, or punctuated equilibrium is another way of ambidexterity, where there is a temporal separation between exploitation and exploration (O'Reilly & Tushman, 2004). Easily explained, one can imagine a pendulum swinging back and forth between explore and exploit. There are usually two common scenarios for sequential ambidexterity the first one is the start-up matures. For instance, some tend to emphasize growth at the beginning of a project at the expense of operational discipline. This is when companies are at the beginning of the new product phase trying to figure out what the product is, the market, and what services they want to offer - the core explore the territory. However, when that is established, companies need to build internal efficiencies - the exploit capabilities. Thus, the pendulum swings from the exploration phase with trying things out, failing, learning, iterating, etc. to the exploitation phase with execution, streamlining, and putting in rules and procedures. The second scenario is that established companies spend their daily business in the exploitation phase by making money by squeezing the margins, optimizing routines, and getting better and better in their daily businesses. It is characterized by long periods of stability and equilibrium, this is where the basic configuration of elements as the deep structures are maintained, as well as the systems, remain stable and adaptive to their environment. This is punctuated by radical changes where revolutionary change disturbs the systems, the deep structure is disbanded, and the fundamentals for a new deep structure occur (O'Reilly & Tushman, 2004).

3.4.4 Contextual ambidexterity

Contextual ambidexterity differs from Structural ambidexterity as processes or systems are built where individuals make their judgments on how to divide their time between conflicting demands alignment and adaptability (Gibson & Birkinshaw, 2004). The concept of contextual ambidexterity begins when the focus shift to a more simultaneously balanced and the attention changes from trade-off (either/or) to paradoxical (both/and), this means without separating explorative and exploitative activities. It is contextual because it arises from features of its organizational context (Gibson & Birkinshaw, 2004). Further contextual ambidexterity describes the behavioral capacity to establish both adaptabilities across an entire business and demonstrate alignment simultaneously. In this context adaptability refers to the capacity one has to reconfigure activities, and quickly meet the changing demands in the task environment. Alignment refers to the coherence among patterns and activities in the business unit (Gibson & Birkinshaw, 2004). Further contextual ambidexterity supports that a firm's superior performance is more likely achieved through simultaneously performing exploration and exploitation than through favoring one over the other (O'Reilly & Tushman, 2004).

Although structural and contextual ambidexterity differs from one another, it is essential to view them together. For instance, contextual ambidexterity manages the incongruence with the collective behavioral ability of individuals, structural ambidexterity manages the incongruences between exploitative and explorative within separate business units (O'Reilly & Tushman, 2004). Further, contextual ambidexterity provides long-term benefits while structural provides short-term benefits for the firm. Thus, these two types of ambidexterity provide balance in a firm due to exploitative and explorative product development and should therefore acquire equal attention (O'Reilly & Tushman, 2004). However, studies and research all state that further research and empirical work need to be done.

3.5 Literature review of project manager

There exist many different project management styles and behaviors due to different project landscapes that contain dissimilar project goals and ways to achieve the goal solution. Projects either have or do not have clear goals and solutions, which makes a foundation for the choice of the most suited leader behaviors for a specific project (Wysocki, 2014). Choosing the right style of leadership can lead to more effective project management but has never been easy due to the uniqueness of each project with different variables and criteria (Wysocki, 2014).

Technological and competitive pressure raises the spotlight on the project managers and their ability to adapt their actions and leadership behavior in alignment with the requirements and demands (Wysocki, 2014). Wysocki (2011) mentions that *“To be an effective project manager means that you must be a chef (able to build recipes) and not just a cook (routinely follow recipes)”* (Wysocki, 2014). A project manager’s behavioral orientation is central if they want to achieve a combination of both exploration and exploitation in one period. In such a scenario they must deal with creative related work and operating actions of implementation at the same time, which forces them to look at the situation and flexibly switch between the two diverse types of activities accordingly.

3.5.1 Transformational leadership

In theory, leadership effectiveness has been discussed, where *Transformational* and *Transactional* leadership theories are the most prominent (Odumeru, 2013). Theories of charismatic and transformational leadership have since the late 1980s been increasing, and various theorists have proposed diverse kinds of transformational leadership (Odumeru, 2013).

Rosing (2011) defines transformational leadership as *“moving the follower beyond immediate self-interests through idealized influence (charisma), inspiration, intellectual stimulation, or individualized consideration”* (Rosing, 2011). This leadership style has mostly been related to innovation for reaching high performance through motivating followers. Transformational leadership might inspire followers to challenge the status quo by enhancing motivation, thus, raising the hypothesis of a positive relationship between innovation and this leadership style. Further, this leadership style fosters individual decision-making, creativity, and innovative thinking in the independent workplace.

Finally, four components of this leadership style elaborate on Rosing’s (2011) definition, which is referred to as the four “I’s” (Abidine & Berraies, 2019):

- *Idealized Influence*: Works as a role model for how they expect the team to behave individually
- *Individual Consideration*: Mentoring and supporting the professional development of the individual team members
- *Inspirational Motivation*: Expressing a clear and inspiring vision for the individual team members which they can embody.
- *Intellectual Stimulation*: inspiring the individual team members to welcome new mindsets and experiences

3.5.2 Transactional leadership

A transactional leadership style applies to a managerial philosophy and rewards the employees when they achieve established set goals (Abidine & Berraies, 2019). This leadership style focuses on performance, supervision and organization and is most common in a self-motivated team that does not need or search for a manager's inspiration. Furthermore, meeting specific objectives or goals is emphasized and most applicable in established firms where employees are expected to reach a target within a time constraint. Punishment and rewards are awarded in accordance with the employees' compliance with the management framework (Abidine & Berraies, 2019). In situations when maximizing operational efficiency is the main goal, transactional might be the most suited approach. On the other hand, when the development of employees and long-term creation of strategy or innovation is involved, this leadership style might disappoint (Abidine & Berraies, 2019).

3.5.3 Opening Leader behaviors

Rosing (2011) defines opening leader behaviors as a set of leader behaviors that includes encouraging doing things differently and experimenting, giving room for independent thinking and acting, and supporting attempts to challenge established approaches (Rosing, 2011). Typically, when creativity and exploration are needed characteristics of the employees during innovation, the project manager must use opening leader behaviors, which foster exploration. Rosing (2011) also states a proposition that follower explorative activities and opening leader behaviors are positively related (Rosing, 2011). See Table 5 for Rosing's examples of Opening Leader behaviors.

3.5.4 Closing Leader behaviors

Rosing (2011) defines Closing leader behavior as a set of leadership behaviors that includes taking corrective action, setting specific guidelines, and monitoring goal achievement (Rosing, 2011). Closing leader behavior fosters exploitation, due to the exploitation core mainly consisting of reducing variance and "Closing" figuratively outlines narrowing down and simplification that is required in variance reduction. In situations where the employees' innovational tasks contain implementation, the project manager must use closing leader behaviors, which foster exploitation. Rosing's (2011) second proposition is that following exploitative activities and closing leader behaviors are positively related (Rosing, 2011). See Table 5 for Rosing's examples of Closing Leader behaviors.

Table 5: Examples of opening and closing leader behaviors (Rosing, 2011)

Opening Leader behaviors	Closing Leader behaviors
<ul style="list-style-type: none">• Allowing different ways of accomplishing a task.• Encourage exploration with different ideas.• Motivating to take risks	<ul style="list-style-type: none">• Monitoring and controlling goal attainment• Establish routines• Taking corrective actions

<ul style="list-style-type: none"> • Giving possibilities for independent thinking and acting • Giving room for own ideas. • Allowing errors • Encouraging error learning 	<ul style="list-style-type: none"> • Controlling adherence to rules • Pay attention to uniform task accomplishment • Sanctioning errors • Sticking to the plans
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3.5.5 Ambidextrous leadership

Katrin Rosing (2011) claims that ambidexterity has not been elaborated on a behavioral level for individuals, project managers, or teams in the existing literature. Originally, ambidexterity was conceptually developed for a higher organizational level (Rosing, 2011), hence ambidextrous organizations are not new in the research literature. Rosing (2011) has studied the leadership of individuals and teams in terms of expanding the concept of ambidexterity, due to complementary processes are necessary for innovation and must be handled properly to be a good leader (Rosing, 2011). Rosing defines ambidextrous leadership as *“the ability to foster both explorative and exploitative behaviors in followers by increasing or reducing variance in their behavior and flexibly switching between those behaviors”* (Rosing, 2011).

Opening and closing leader behaviors foster exploration and exploitation, respectively, in teams and individuals, and are proposed as the complementary sets of leadership behaviors by the new research theory of ambidextrous leadership (Rosing, 2011). These leader behaviors are utilized and switched between to promote ambidextrous leadership. Usage of various leadership styles itself is not enough to create ambidexterity. There is also necessary to adjust leadership behaviors flexibly in accordance with the current situation and integrate this flexible change of these behaviors into the overall current leadership style (Rosing, 2011). In Rosing’s study of Ambidextrous Leadership, transformational and transactional leadership styles are used as examples, since the former is closely related to explorative activities and needs to be complemented by exploitative behaviors. Likewise, the latter is closely related to exploitative activities and needs to be complemented by explorative leadership behaviors (Rosing, 2011).

Rosing (2011) has introduced a matrix that shows that both transformational leadership behaviors and transactional leadership behaviors can be both opening and closing leadership behaviors (Rosing, 2011). Table 6 illustrated the matrix which is a categorization of transformational and transactional leadership behaviors as opening and closing leadership behaviors with bullet points of the overlapping characteristics and behaviors.

Table 6: Categorization of transformational and transactional leadership behaviors as opening and closing leadership behaviors (Rosing, 2011)

	<i>Opening Leader behaviors</i>	<i>Closing Leader behaviors</i>
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Transformational leadership	<ul style="list-style-type: none"> • A Vision that motivates exploratory behavior • Stimulation of thought in very new directions • Communications of the values of openness and tolerance 	<ul style="list-style-type: none"> • A Vision that motivates confirmatory behavior • Stimulation of small improvements and enhancement of efficiency • Communication of the values of conscientiousness and rules adherence
Transactional leadership	<ul style="list-style-type: none"> • Rewarding experimentation • Focus on errors to learn from errors • Setting and monitoring exploration goals 	<ul style="list-style-type: none"> • Rewarding efficiency • Focus on errors to avoid errors • Setting and monitoring exploitation goals

4. Data collection and results

This chapter represents the data from the interviews that were performed as a part of this case study, to map the practice of how project managers in Sopra Steria work and behave. Firstly, the chapter will present an overview of the predefined theoretical themes and the emerging theme from the qualitative data. Afterward, each theme will be presented with supplementary keywords, findings, theory, and whether they match or not.

4.1 Data collection

The literature review and interviews made it possible to gain an overview of project management concepts in order to answer the problem statement and research questions.

4.1.1 Literature review

After the literature review, the interview guide was developed. In total, three drafts of the interview guide were made after corrections, discussions and meetings with the intern and extern supervisor. The interview guide focused on answering the research questions and problem statement as mentioned in Chapter 2.3.2. There were three predefined themes as mentioned in Chapter 2.4 with supplementary questions which were based on the literature review: *the project management approach*, *ambidexterity* and *leadership*. The specific set of questions can be seen in appendix A.

4.1.2 Interviews

The selection of interview objects was done by our supervisor, Truls, from Sopra Steria. He provided the selection of appropriate project managers that would help us define the limits for generalizing the findings, thus the sample was not random but reflected the selection of specific cases to extend the emergent theory. Finally, there were collected eleven project managers from Sopra Steria.

The interviews were conducted between March and May 2022. Five interviews were conducted on-site, two in Stavanger and three in Oslo, and seven were conducted over the digital platform Teams. The interviews lasted between 30-90 minutes and were performed by both authors. All interviews were recorded in alignment with the interviewees in order to enable post-interview transcriptions. The interview recordings were transcribed by using the dictation function in word, as well as a voice recording app from both the authors' phones. The interviews often diverged to pursue the topic in more detail.

4.2. Thematic analysis and results

The collected data from the interviews were analyzed through thematic analysis and pattern matching. The results of the data analysis are presented further in this chapter in accordance with the six phases included in the thematic analysis. See Chapter 2.4 for the procedural description of the thematic analysis.

4.2.1 Phase 1 and Phase 2

After Phase 1 in the thematic analysis, the transcripts were carefully read through in order to get familiar with the data. Phase 2 resulted in two new tables where theoretical and emerging data were separated in tables 7 and 8, respectively, after the coded data were labeled with different keywords in accordance with topics considered most relevant to the problem statement. Also, the tables show the keywords' coding criteria. E.g., 'Agile' is one keyword with among other things 'cyclic' and 'iteration' as characteristics. If these characteristics were found in the transcript, the related content would be coded under 'Agile'.

Theoretical keywords with the following criteria are given in Table 7.

Table 7: Overview of theoretical keywords with the following criteria

Keyword	Criteria
Traditional	<ul style="list-style-type: none"> • Plan driven projects • Predictable with few scope changes • Low client involvement • Low complexity and risk
Agile	<ul style="list-style-type: none"> • Cyclic and iterative processes • Rapid adaptability to changes • High client involvement • Continuous improvement, testing and feedback
Hybrid	<ul style="list-style-type: none"> • Balance/ combination of traditional and agile practices • Several project methodologies/approaches
Structural	<ul style="list-style-type: none"> • Organizational separation business units • Dual structures
Temporal	<ul style="list-style-type: none"> • Divided in time

	<ul style="list-style-type: none"> • Exploration in the beginning • Exploitation phase with execution • Long periods of stability and equilibrium, punctuated by radical change
Contextual	<ul style="list-style-type: none"> • Switching project management characteristics due to Context • Divide their time between conflicting demands • Balanced attention (both/and), without separation of explorative and exploitative tendencies
Transformational leadership	<ul style="list-style-type: none"> • A Vision that motivates exploratory or confirmatory behavior • Stimulation of: <ul style="list-style-type: none"> ○ Thought in very new directions ○ Small improvements and enhancement of efficiency • Communications of the values of: <ul style="list-style-type: none"> ○ Openness ○ Tolerance ○ Conscientiousness ○ Rules adherence
Transactional leadership	<ul style="list-style-type: none"> • Rewarding experimentation or efficiency • Focus on errors to: <ul style="list-style-type: none"> ○ Learn from errors ○ avoid errors • Setting and monitoring exploration or exploitation goals
Opening Leader behaviors	<ul style="list-style-type: none"> • Allowing: <ul style="list-style-type: none"> ○ Different ways of accomplishing a task ○ Errors • Encourage: <ul style="list-style-type: none"> ○ Exploration with different ideas ○ Error learning

	<ul style="list-style-type: none"> • Motivating to take risks • Giving: <ul style="list-style-type: none"> ○ Possibilities for independent thinking and acting ○ Room for own ideas.
Closing Leader behaviors	<ul style="list-style-type: none"> • Monitoring and controlling goal attainment • Establish routines • Taking corrective actions • Controlling adherence to rules • Pay attention to uniform task accomplishment • Sanctioning errors • Sticking to the plans

Emerging keywords with the following criteria are given in Table 8.

Table 8: Overview of emerging keywords with the following criteria

Keyword	Criteria
Contract	<ul style="list-style-type: none"> • Limited by deadlines and outdated requirements • Hindering project management approaches, i.e., agility
Steering group	<ul style="list-style-type: none"> • Rigid control, hindering agility • Traditional progress measurements, i.e., reporting on the economy
Customer	<ul style="list-style-type: none"> • Old fashioned thinking • Outdated methodologies and technology
Religion	<ul style="list-style-type: none"> • “Evangelists” toward agile approaches • “Agile fever” • Not adapting to the project requirements

4.2.2 Phase 3, Phase 4 and Phase 5

Phase 3 in the thematic analysis resulted in an analysis of the keywords to identify similarities and patterns in order to generalize the data into different themes. E.g., the keywords Opening and Closing leader behaviors were organized into a broader theme, named 'Leadership'. Followed by Phase 4 which involved modifying, reviewing, and reflecting on the identified themes, e.g., the previous theme names 'Traditional approach' and 'Agile approach' were renamed to 'Project management approaches'. Furthermore, Phase 5 resulted in defining and naming the themes, consequently, 'Project management approaches', 'Ambidexterity', 'Leadership', and 'Obstacles with the agile approach in Sopra Steria'.

4.2.3 Phase 6 and Pattern-matching

The last phase in the thematic analysis resulted in a write-up of the findings. There are in total four themes that form the basis for answering the problem statement and are exclusively linked to the findings considered the most relevant and central. At first, each theme was linked to what type of finding it belongs to, with options 'emerging' or 'theoretical' finding, where themes x and y were considered both. Afterward, a decision was made to split the theoretical and emerging themes into two different tables to make a more organized structure. Theme four is considered an emerging finding due to interesting findings that appeared along the way about obstacles with an agile approach, as well as a new perspective of agility. Table 9 provides an overview of the three predefined themes, with given theme names and related keywords, whereas all are studied in the theory chapter. Also, Table 10 presents Theme 4 which is an emerging theme.

A consistent table structure is recurring during the presentation of the four themes with a total of 14 keywords. The keywords will be described in detail and corresponding examples from the informants will be given. Supplementary, color codes have been given to each keyword in accordance with the outcome of the pattern matching. Theory and findings that mismatch has the color code red while matching theory and findings have color code green. Partly matching theory and findings are marked yellow. The results are presented in tables 11-16, where each table presents a theme with the following keywords and will be found in the next sub-chapters of Chapter 4.

Table 9: Overview of the predefined themes

Theme	Theme Name	Keyword
1	Project management approaches	Traditional
		Agile
		Hybrid
2	Ambidexterity	Contextual

		Structural
		Temporal
3	Leadership	Transformational leadership
		Transactional leadership
		Opening Leader behaviors
		Closing Leader behaviors

Table 10: Emerging theme findings

Theme	Theme Name	Keyword
4	Obstacles with the agile approach in Sopra Steria	Contract
		Steering group
		Customer
		Religion

4.3 Theme 1 – Project Management approaches

Table 11 presents key findings related to Project Management approaches.

Table 11: Overview of Key findings related to the project management approaches

Keyword	Findings	Theory	Matching?
Traditional	<p>Project managers argue that traditional project management is outdated and not suitable in a software engineering industry such as Sopra Steria.</p> <p>There is a need to preserve the economic aspect, thus traditional reporting methods are being used.</p> <p>In projects with great uncertainty and risk, a traditional approach is not suitable</p>	<p>The study has succeeded in finding theories which directly confirm the findings related to traditional methods</p> <p>Wysocki states that in the complex world, traditional project management will not work as either the goal or solution is well known, and traditional projects appear more infrequently now than before (Wysocki, Effective Project Management, 2014) Further, Sommer et al. states that pure traditional methods cannot support the iterative cycles and external collaboration that drives the product development efforts of today (Sommer, Hedegaard, Dukovska-Popovska, & Steger-Jensen, 2015).</p> <p>The success of a traditional project is measured by time, cost, and scope; thus, the project plan includes a compilation of the defined project deliveries and activities to meet these constraints (Awad, 2005). As a result, detailed planning of tasks and then controlling the implementation of the projects in relation to former assumptions are used to prevent budgetary concerns (Wysocki, 2014).</p> <p>Wysocki argues that as traditional projects are intolerant to changes, and cost and time overruns are consequences of re-planning, thus, the approach lacks flexibility due to its reliance on heavy front-end planning (Wysocki, 2014).</p>	Yes
<p>Examples that support findings</p> <p><u>Agreement</u></p>			

Project managers argue that traditional project management is outdated and not suitable for a software

«In my industry, there are almost no projects where it is suitable to think exclusively traditionally. It must be if you know exactly what to make and there is no room to be innovative. In those cases, I don't think you can call it a project, but more of a production mode. I have several certifications and have held a lot of courses in traditional project management, and I cannot say that the waterfall approach is particularly good or benefits this industry. » (3)

«The concept of idea phase, concept phase, development phase etc. is very old-fashioned thinking. » (5)

«If you know exactly what to make, a traditional approach is suitable, but in the IT industry we rarely know exactly how things will become. » (10)

There is a need to preserve the economic aspect, thus traditional reporting methods are being used.

«Even if you work agile, you still need to look at budgets and the more traditional project manager tasks such as resources, agreements, contracts and schedule. In other words, the typical traditional project manager tasks do not disappear even if you have an agile project. » (1)

«In traditional projects, you have releases according to the milestones that allow you to check and control in terms of time and money.» (2)

«Even though we are talking about measuring effect, out-put, through-put and things like that, I see that it often boils down to a question about what it will cost and when it will be finished. » (7)

In projects with great uncertainty and risk, a traditional approach is not suitable

«They are one of the world's largest companies thus, the contract, project and the entire framework should be agile and Scrum-based, and it should be planned in sprints. I think it worked incredibly poorly, so one of the things I did was to implement a regular classic waterfall project. » (4)

«If there is something very predictable, say if you are going to do a job you have done many times before, then one can use waterfall. Because then you have very low uncertainty and risk associated with it (...) » (6)

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«They are one of the world's largest companies thus, the contract, project and the entire framework should be agile and Scrum-based, and it should be planned in sprints. I think it worked incredibly poorly, so one of the things I did was to implement a regular classic waterfall project.» (4)

<p>Agile</p>	<p>Feedback and continuous improvements are in focus to satisfy the customers.</p> <p>Experiencing difficulties with implementing an agile mindset.</p> <p>An agile approach must be adapted and customized to each unique project.</p>	<p>The study has succeeded in finding theories which directly confirm the findings related to agility and agile methods .</p> <p>Waja, Shah and Nanavati (2021) say Agile project management allows software developers to contribute to rapid adaptability to changes, early delivery and continuous improvement through feedback, various iterations and increments.</p> <p>Dikert, Paasivaara, & Lassenius (2016) say a common challenge is a difficulty of implementing an agile mindset. If the values and framework are not understood, agile practices can be conducted without understanding the purpose.</p> <p>A by-the-book implementation is not feasible and there is not a formal framework for agile, thus attempts to tailor the agile method to suit the organizations and the project's needs must be made (Conforto & Amaral, 2015) (Dikert, Paasivaara, & Lassenius, 2016).</p>	<p>Yes</p>
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Examples that support findings

Feedback and improvements are in focus to satisfy the customers

«I love change. That is why I like the agile approach, to handle change fast.» (2)

«You finish something peace by peace, test it and get feedback on it. This gives you much better control and continuous improvements until the customer is satisfied.» (3)

«It's often a user perspective that determines how one thing should change. When we create new functionality for the customer, it is user-tested, and we get feedback and consequently change requests. This contributes to a better result.» (10)

Experiencing difficulties with implementing an agile mindset

«Sopra Steria has an agile initiative, but they forget to have an agile mindset.» (2)

«The agile way of doing things has been popular in the developer environments for a long time, but with the consultants, management/project management and those who ran the

infrastructure, it took longer before agile was considered their first choice. Now everyone agrees on that. » (3)

«It's a mindset and tools. An agile mindset is a maturation process some people struggle with. » (7)

«The problem is not that the top management does not understand the difference between agile and traditional, it is about the fact that Sopra Steria is listed, thus we need that visibility in finance. It should be periodized and there are many systems there that may not be completely adapted to an agile world. So, some external influences make it a little harder to be agile, I think. Many of the projects that I am involved in are reported in the portfolio here. They are followed up by finances internally and then it is not very easy to get acceptance for 100% "agility" then. » (8)

«It took a lot of me to make them realize that this was not just a "fashion. » (11)

An agile approach must be adapted and customized to each unique project

«For me, agile is a lot about finding the best way to work.» (1)

«Agile is all about customizing, making the right choices, and facilitating the right processes inside every unique project. It's not about "are you agile or not", but it's about how much, how agile.» (5)

«It is not agile if you, whatever it takes, are going to follow every single bit of the agile manifesto. Agile is all about adapting the specific projects. » (6)

<p>Hybrid</p>	<p>One should use a hybrid model as one model works better than the other in certain circumstances.</p> <p>A formal hybrid approach does not exist, thus different methods and approaches are being used.</p>	<p>The study has not succeeded in finding theories which directly confirm the findings related to hybrid mindsets.</p> <p>Bohem and Turner claim that future projects vary in size, business value, business case, culture, risk and complexity, thus they need both agility and discipline, and the approach should be adapted accordingly (Bohem & Turner, 2004).</p> <p>In this thesis, there is found that the project managers use different approaches and frameworks as a clear and distinct definition is absent.</p>	<p>Partially</p>
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Examples that support findings

One should use a hybrid model as one model works better than the other in certain circumstances

«You have to imagine all the methodologies and all the frameworks and pick out the "best of breed", it is what you think are the most important components. » (4)

« (...) then that hybrid model is a great way to start. Start with simple tools in the agile catalogue, while you have a standardized environment around you, and then you develop from there. » (11)

A formal hybrid approach does not exist

«If you have that hybrid solution which I believe in, that combination, there will be a need for project management on one side and traditional reporting on the other. » (2)

«The first chapters in all available frameworks say that t this is only guiding, thus, the first thing you must do is to adapt this to the specific situation and the specific project. » (4)

«It is a comprehensive topic, but the anchor-point for running hybrid projects is that you have to understand a little where the customers are, how mature the customer is concerning an agile journey, so it's really about trying to start there and see a little what the need is. What task to solve. » (6)

4.4 Theme 2 – Ambidexterity

Table 12 presents key findings related to Ambidexterity.

Table 12: Overview of Key findings related to Ambidexterity

Keyword	Findings	Theory	Matching?
Structural	The exploitative and explorative tasks are separated into different teams or structures within Sopra Steria.	<p>The study has partially succeeded in finding a theory which directly confirms the findings related to structural ambidexterity.</p> <p>Structural ambidexterity lies in a firm’s structure, where dual structures are created, and certain groups can focus on alignment while others on adaption (Gibson & Birkinshaw, 2004).</p>	Partially
<p>Examples that support findings</p> <p>The exploitative and explorative tasks are separated into different teams or structures within Sopra Steria</p> <p>«Firstly, traditional activities with one team as infrastructure resources, and when they were ready, we started agile with the application we were to migrate. Thus, it was first the one then the other.» (1)</p> <p>«If you have that hybrid solution I believe in, the combination, then there will be a need for project management on one side and then hours will just report on the other.» (2)</p> <p>«They can work completely differently in the 2 teams. For example, change management does not work agile while all the technical teams work agile.» (5)</p> <p>«This means I must serve the customer, for example with reports and plans within their formats. I cannot ignore that the customers need insights into plans and economics, while down in the project I want my team to work as agile as possible. Thus, there are often periods where you become schizophrenic.» (3)</p>			
Temporal	There is a temporal separation between exploitation and exploration.	<p>The study has not succeeded in finding theories which directly confirm the findings related to temporal ambidexterity.</p> <p>There are usually two common scenarios for sequential ambidexterity.</p> <p>1) When companies are at the beginning of the new product phase trying to figure out what the product is, the market, and what services they want to offer- the core explores the territory. However, when that is established,</p>	No

		<p>companies need to build internal efficiencies- the exploit capabilities. Thus, the pendulum swings from the exploration phase with trying things out, failing, learning, iterating etc. to the exploitation phase with execution, streamlining, and putting in rules and procedures (O`Reilly & Tushman, 2004).</p> <p>2) The second scenario is that established companies spend their daily business in the exploitation phase by making money by squeezing the margins, optimizing routines, and getting better and better in their daily businesses. (O`Reilly & Tushman, 2004).</p>	
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Examples that support findings

There is a temporal separation between exploitation and exploration

«I have experienced cases where everyone focused on the same activities until you reached the decision point where you can decide whether or not you are going to move on to the next phase. Then everyone will have the same focus, which can be positive, however, someone can end up waiting because they are ready to start before the rest of the team is ready. Thus, there are positive and negative sides to both, but I would say that I notice that those phases with idea, concept, development etc.- that is, it is very old-fashioned thinking. Now there is more teamwork, one is divided into smaller teams with different responsibilities. » (5)

Examples that do not support findings

«I have never experienced that the same team have first worked traditionally then agile, or vice versa. Normally, I use agile methodologies with my teams from the beginning. » (1)

«No, I have not distributed traditional and agile activities to the same team, because then you have to change the mindset. I would not recommend it either, I think. I do not want those who have an agile mindset to switch to traditional project management, I want them to deliver isolated. It is important to isolate them. » (2)

Contextual	The project managers change tasks due to context.	<p>The study has succeeded in finding theories which directly confirm the findings related to contextual ambidexterity.</p> <p>The concept of contextual ambidexterity begins when the focus shift to a more simultaneously balance and the attention changes from trade-off (either/or) to paradoxical (both/and), this means without separating explorative and exploitative activities. It is contextual because</p>	Yes
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		it arises from features of its organizational context (Gibson & Birkinshaw, 2004).	
<p style="text-align: center;">Examples that support findings</p> <p><i>«It is my role to constantly adapt to the context, the project and the way we work with the project team, as best as I can so that they can be conducted in the best possible way. » (1)</i></p> <p><i>«You have this theory of mine then which is reflected in some methods, that you have orders for packages based on this so you will be able to have the same control functions. Thus, on one side, I am the project manager and on the other side, I am the product owner. So, my role will be twofold, it's I who change context. » (2)</i></p> <p><i>«I believe you have to be more open because there is no way that fits all contexts. I believe it is important to have more than one thought at a time. For example, one customer wants things done in a certain way, at the same time our steering group want things done differently with different templates. Then I do traditional project management work up to them, and more flexible work down in the project. Finally, somehow, we sew those stories together in the right way. Best for everyone. » (5)</i></p> <p><i>«We are in a pinch, a rather demanding split. » (9)</i></p>			

4.5 Theme 3 – Leadership

Table 13 presents key findings related to leadership.

Table 13: Overview of Key findings related to Leadership

Keyword	Findings	Theory	Matching?
Transformational leadership	<p>There are found characteristics that indicate that project managers to a large extent have a form of transformational leadership style.</p> <p>The informants express motivating visions, communication of innovative thoughts, improvements, openness, and trust.</p>	<p>There have been found theories in this study that define transformational leadership and its characteristics.</p> <p>Rosing (2011) defines transformational leadership as “moving the follower beyond immediate self-interests through idealized influence (charisma), inspiration, intellectual stimulation, or individualized consideration”. Further, in Table 6 he gives these examples of transformational leadership characteristics:</p> <ul style="list-style-type: none"> • A Vision that motivates exploratory behavior • Stimulation of thought in very new directions • Communications of the values of openness and tolerance • A Vision that motivates confirmatory behavior • Stimulation of small improvements and enhancement of efficiency • Communication of the values of conscientiousness and rules adherence 	Yes
<p>Examples that support findings</p> <p>Communications of the values of openness and tolerance</p> <p><i>«In projects, values such as openness and respect should be central. 10% of what you do is purely technical, while 90% deals with people in a project. People need well-being to deliver well-» (1)</i></p>			

«I think the most important values are openness, honesty, good collaboration, strong team feeling and helping each other. I try not to pull out the whip until I have to.» (8)

A Vision that motivates exploratory behavior

«I think motivation is a lot about thriving, having a good time together and daring to try. Through a vision, I want to promote such values.» (5)

A Vision that motivates confirmatory behavior

«I convey a vision that explains the purpose of what we do and what we want to achieve.» (3)

Stimulation of thought in very new directions

«I say my most important job as a leader is to take the bullet for everyone else. Hopefully, they will feel trusted and confident to allowing doing mistakes and think outside the box.» (7)

Stimulation of small improvements

«I want to improve the way we work and motivate the team to have the same mindset.» (1)

A Vision that motivates confirmatory behavior /Communication of the values of conscientiousness and rules adherence

«You have a vision and you set a goal. Hopefully, it's the same as the steering group. They want a goal in the project to be able to see the progress towards it... I start a project with a team canvas where rules, values and the desired working environment are established. In parallel, a vision is communicated clearly so the team can envision the result and which direction we are going.» (10)

A Vision that motivates exploratory behavior / Communication of the values of rules, adherence, openness and tolerance

«The focus is a motivating collaborative environment because it often results in a good product. Also sets clear expectations for dates, rules, loyalty, openness and honesty, but I also have to make them trust me back and dare to try.» (11)

<p>Transactional leadership</p>	<p>There are found characteristics that indicate that the project managers to some extents have a</p>	<p>The study has succeeded in finding a theory that defines transaction management and its characteristics. Rosing (2011) says “transactional leadership establishes an exchange-based relationship by clarifying goals,</p>	<p>Partially</p>
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	<p>form of transactional leadership style.</p> <p>Many informants set goals and monitor them, as well as being aware of errors. There are not directly mentioned rewards and sometimes not specified type of goals.</p>	<p>rewarding goal achievement, and by intervening only.</p> <p>when necessary". Further, in Table 6 he gives these examples of transactional leadership characteristics:</p> <ul style="list-style-type: none"> • Rewarding experimentation • Focus on errors to learn from errors • Setting and monitoring exploration goals • Rewarding efficiency • Focus on errors to avoid errors • Setting and monitoring exploitation goals 	
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Examples that support findings

“Rewarding” experimentation / Focus on errors to learn from errors

«It's OK to explore and make mistakes, but I want them to put everything on the table right away to learn from it. You have to trust the team since I don't have the opportunity to see those deep technical things are done right. » (1)

Setting and monitoring “exploration” goals

«We use measurement criteria and estimates differently in agile. Focus on efficiency, quality and performance, not crowns and cents. I think there is sufficient control, but difficult if you get measured at hourly cost and compare it. As long as you're in control and trust the team to do its best. » (2)

« Now I have 10 projects and 100 consultants. I could not monitor everyone's work, as the trust had been lost and the capacity it requires would not be sufficient. I'm not interested in micromanaging people... When I'm in charge of graduates, I keep them close, and they follow me. Then there is a lot of coaching and monitoring daily. » (4)

Setting and monitoring “exploitation” goals

«We use several metrics to continuously measure the product and the team according to the plan. » (7)

«I monitor to ensure there is progress according to goals. When you've been working together for a long time, you get a certain sense of whom must be monitored and not. I don't have to pay much

attention to my current project due to acquaintances. We use tools showing what is in progress and what is completed. » (10)

“Rewarding” experimentation / Focusing on errors to learn from errors / Setting and monitoring goals

«I encourage the team to try and test new stuff. I don't know how much they're experimenting, but they're allowed to... Most people do what they're supposed to do, while some need a reminder because they forget. Only a few people must be followed up because they don't do their work. The planner in teams is a good tool for setting up and monitoring tasks. » (5)

Focus on errors to avoid errors / Setting and monitoring goals

«I want to hear about potential problems right away in order to avoid mistakes before it occurs. If people withhold such information, it can escalate and become difficult to fix(...) Jira is used for logging and confirming tasks. In my projects, we always use stand up, where we talk about yesterday's and today's chores. It's a great way to control, monitor and quickly capture challenges. » (8)

<p>Opening Leader behaviors</p>	<p>There are found characteristics that indicate that project managers to a large extent have a form of Opening Leader behaviors.</p> <p>All the informants' express room for risk-taking, exploration and mistakes.</p>	<p>The study has succeeded in finding a theory that defines Opening Leader behavior and its characteristics.</p> <p>Rosing (2011) defines opening leader behaviors as a set of leader behaviors that includes encouraging doing things differently and experimenting, giving room for independent thinking, and acting, and supporting attempts to challenge established approaches. Further, in Table 5 he gives these examples of Opening Leader behaviors characteristics:</p> <ul style="list-style-type: none"> • Allowing different ways of accomplishing a task. • Encourage exploration with different ideas. • Motivating to take risks • Giving possibilities for independent thinking and acting • Giving room for own ideas. • Allowing errors • Encouraging error learning 	<p>Yes</p>
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Examples that support findings

Allowing different ways of accomplishing a task

«I have never carried out two projects exactly the same. It never works to do something new in the same way as something else has been done in the past, although it's often much the same. People can decide individually how they fulfil their tasks because they know best how to do their job.» (3)

Allowing errors

«It's OK to explore and make mistakes. » (1)

Allowing errors / Encouraging error learning

«For me, it's important to achieve the goal results, no matter what. Willing to take a risk and motivate the team to do the same. You have to push the team to take calculated risks to deliver and learn from mistakes. » (4)

Allowing errors / Encourage exploration with different ideas / Giving room for own ideas

«I always create an open and informal atmosphere with the team. Then they dare more and try more. » (5)

Motivating to take risks / Giving possibilities for independent thinking and acting

«I think maybe I'm a too little afraid of risk. I'm pushing. I say I take the bullet for everyone else and allow people to make mistakes. » (7)

Giving possibilities for independent thinking and acting / Giving room for own ideas

«Risk can be both opportunities and something we want to steer clear of, but I want to have room for it and invite to innovation(...) I'm hands-off if the team needs 'leeway', but I won't be completely hands-off either. That balance isn't always easy to achieve. » (10)

Encourage exploration with different ideas / Giving room for own ideas

«I am generally very positive about changes and improvements. You can always come up with new ideas, but you have to set up "pros and cons" as well because everything is not feasible. » (11)

Allowing errors / Motivating to take risks / Allowing different ways of accomplishing a task / Encourage exploration with different ideas / Giving room for own ideas

«I'm looking for new ways of working and motivating the team to have the same mindset. If you have an idea, don't be afraid to test it, because making mistakes is fine. Everyone makes mistakes, so there should be an openness regarding daring to take those risks. » (1)

<p>Closing Leader behaviors</p>	<p>There are found characteristics that indicate that the project managers to some extents have a form of Closing Leader behaviors.</p> <p>Many informants establish routines, do planning and indirectly monitor the team.</p> <p>There are not directly mentioned adherence to rules or consistent task performance.</p>	<p>The study has succeeded in finding a theory that defines Closing Leader behavior and its characteristics.</p> <p>Rosing (2011) defines Closing leader behavior as a set of leadership behaviors that includes taking corrective action, setting specific guidelines, and monitoring goal achievement. Further, in Table 5 he gives these examples of Closing Leader behaviors characteristics:</p> <ul style="list-style-type: none"> • Monitoring and controlling goal attainment • Establish routines • Taking corrective actions • Controlling adherence to rules • Pay attention to uniform task accomplishment • Sanctioning errors • Sticking to the plans 	<p>Partially</p>
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Examples that support findings

Establish routines

«Establishing good routines is important for dealing with emerging things, otherwise project or cost overrun might occur. Necessary to have established routines. » (1)

Taking corrective actions / Establish routines / Sticking to the plans

«I am structuring things up in my head to figure out how it can be done. It's routine and attitudes. We have plans and sometimes very fixed dates for what needs to be in place. » (3)

«At *CUSTOMER*, everything is very set. They are public customers and often have a pretty good idea of what they want to do and how(...) You get into a routine regardless of the method(...) I was

suddenly thrown into a project where I had to clean up and create structure and lots of lists and plans to get an overview and control. » (5)

Monitoring and controlling goal attainment

«Goal achievement is controlled through DORA, which has some metrics on which you measure things. » (7)

Taking corrective actions / Sanctioning errors

«I can take full control if there is some very bad timing and we start leaning in the wrong direction, I'll ask for input in hope of avoiding the mistake. » (8)

4.5.1 An Overview of ambidextrous leadership behaviors in Sopra Steria

In this study, findings indicate that project managers in Sopra Steria have characteristics that match Rosing’s (2011) categorization of leadership and leader behaviors shown in Table 6. To underline and prove this statement, a copy of this table structure with parameters has been made, where the table cells have been filled with findings which matches the content of the bullet points in Rosing’s table. See table 14 for the results.

The upper left corner is filled with findings that is common for Transformational leadership as Opening Leader behaviors, whereas the upper right corner represents content of Transformational leadership as Closing Leader behaviors. Furthermore, the lower-left corner is filled with findings that is common for Transactional leadership as Opening Leader behaviors, while the lower right corner is common content for Transactional leadership and Closing Leader behaviors.

Table 14: Findings of Ambidextrous leadership behaviors in Sopra (Rosing, 2011)

	<i>Opening Leader behaviors</i>	<i>Closing Leader behaviors</i>
Transformational leadership	<p>A Vision that motivates exploratory behavior</p> <p><i>«I think motivation is a lot about thriving, having a good time together and daring to try. Through a vision, I want to promote such values. » (5)</i></p> <p>Stimulation of thought in very new directions</p>	<p>A Vision that motivates confirmatory behavior</p> <p><i>«I want to improve the way we work and motivate the team to have the same mindset.» (1)</i></p> <p><i>«I convey a vision that explains the purpose of what we do and what we actually want to achieve. » (3)</i></p>

	<p><i>«I encourage and experience that we are very good at thinking new and creating sustainable solutions for the customer. » (5)</i></p> <p><i>« I say my most important job as a leader is to take the bullet for everyone else. Hopefully, they will feel trusted and confident to allowing doing mistakes and think outside the box. » (7)</i></p> <p>Communications of the values of openness and tolerance</p> <p><i>«I think the most important values are openness, honesty, good collaboration, strong team feeling and helping each other. I try not to pull out the whip until I have to. » (8)</i></p>	<p>Stimulation of small improvements and enhancement of efficiency</p> <p><i>«We constantly evaluate, check and improve what we do. » (4)</i></p> <p><i>«I am constantly talking about improvement points with my team. » (8)</i></p> <p>Communications of the values of conscientiousness and rules and adherence</p> <p><i>«I start a project with a team canvas where rules, values and the desired working environment are established. » (10)</i></p>
<p>Transactional leadership</p>	<p>Focus on errors to learn from errors</p> <p><i>«It's OK to explore and make mistakes, but I want them to put everything on the table right away to learn from it. You have to trust the team since I don't really have the opportunity to see that those deep technical things are done right. » (1)</i></p> <p>“Rewarding” experimentation</p> <p><i>«I encourage the team to try and test new stuff. I don't know how much they're experimenting, but they're allowed to. » (5)</i></p> <p>Setting and monitoring “exploration” goals</p> <p><i>«When I'm in charge of graduates, I keep them close, and they follow</i></p>	<p>“Rewarding” efficiency</p> <p><i>«We use measurement criteria and estimates differently in agile. Focus on efficiency, quality and performance, not crowns and cents. I think there is sufficient control, but difficult if you get measured at hourly cost and compare it. As long as you're in control and trust the team to do its best. » (2)</i></p> <p>Focus on errors to avoid errors</p> <p><i>«I want to hear about potential problems right away in order to avoid mistakes before it occurs. » (8)</i></p> <p>Setting and monitoring “exploitation” goals</p>

	<p><i>me. Then there is a lot of coaching and monitoring daily. The joy is that these become self-driven and very skilled often in just 6 months. After a year, they might be amazing. Then I feel like I've done my job. » (4)</i></p> <p><i>«In my projects, we always use stand up, where we talk about yesterday's and today's chores. It's a great way to control, monitor, quickly clarify and capture challenges. » (8)</i></p>	<p><i>«We use several metrics to continuously measure the product and the team according to the plan.» (7)</i></p> <p><i>«I monitor to ensure there is progress according to goals. When you've been working together for a long time, you get a certain sense of whom must be monitored and not. I don't have to pay much attention to my current project due to acquaintances. » (10)</i></p>
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4.6 Theme 4 – Obstacles with the agile approach in Sopra Steria

Table 15 presents emerging findings related to obstacles.

Table 15: Overview of emerging findings related to obstacles

Keyword	Findings	Theory	Matching?
Contract	Some informants feel the contract is a hinder to agility. The contracts are not agile.	The study has not succeeded in finding theories which directly confirm that non-agile contracts prevent agility in Sopra Steria. On the other hand, Ågren and Knauss (2018) state that requirements-based contracts are hindering fast collaboration (Ågren & Knauss, 2018), which is a characteristic of agile.	Partially
<p>Examples that support findings</p> <p><i>«Adopting an agile method does not work if your organization and contract aren't agile. Often, the contracts are not agile, as you must deliver within a deadline, but there is great uncertainty. Those who write the contract try to regulate the uncertainty, and all contracts try to shift the uncertainty onto the supplier instead of the customer. Therefore, the optimal is to have one agile part, e.g., during the analysis phase or in the development phase. Then have a waterfall for the rest, because then there is little uncertainty. » (2)</i></p> <p><i>«Contracts as we know them, are purely standardized. We have a delivery date that the supplier wants the system to be finished. Everything in the contract is standardized, but the supplier works agile. It's exciting because I have not worked that side myself and have been the one who has dealt with the standardized. We then try to contribute to the supplier so that they can run their sprints and that we get tested along the way. We have to act agile in certain forums with them, but in the other forums it is quite strict. » (11)</i></p>			
Steering group	Some informants feel the Steering group is a hinder to agility.	The study has not succeeded in finding theories which directly confirm that the Steering group is a limiting factor towards agility in Sopra Steria.	No
<p>Examples that support findings</p> <p><i>«I report upwards to the steering group, and this is interesting when talking about how agile we can be. Because I can be agile in my project group, while upwards there is as “waterfall” as one can get. » (2)</i></p>			

«You tend to have a steering group that makes decisions, sits on ideas and funding, and would like to have rigid plans, estimates and timelines. In contrast, the project team are very pleased with the agile way of working. It's possible to mix the methods, but it has its challenges (...) Against the steering group, it is a different world, where we constantly must report, give estimates, and show detailed plans. » (10)

Customer	Some informants feel the customers are a limiting factor towards agility.	The study has not succeeded in finding theories which directly confirm that the customer is a limiting factor toward agility.	No
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Examples that support findings

«There are challenges in the agile world when it comes to the customer. Because you remove time and cost from the customer, something they usually require or demand. » (2)

«With many customers, everything is very organized and not so open to new and different approaches. Perhaps it's because many of them are public customers. When we get to them, they often have a pretty good idea of what they want to do and how. The product owner is often one from the customer and the person who creates the tasks – for example, user stories. Sometimes we say that we want to do things differently but may encounter resistance to it. » (5)

«Whether you implement traditional or agile approaches depends on the assignment, The customer and the maturity of the customer. And how the sales have been conducted and what expectations the customers have had from the beginning. » (10)

Religion	Some forget that agile is a method, not a religion.	The study has not succeeded in finding theories which directly confirm that for some people agile has become a religion rather than a method.	No
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Examples that support findings

Some forget that agile is a method, not a religion

«Many of those who are very concerned about agile, they think everything should be constantly agile. For some, it has become a religion. » (5)

«It is typical IT spirit, that this is going to be a religion. Especially within agile, there are some who believe that if you do not implement a certain methodology, then you do not work agile. » (6)

«And I think that many of those who look at agile as a religion, they forget some of the elements in this. » (7)

«I often think the challenge may lie in the project group itself. That some are evangelists and just want to work agile, and do not require other ways of working. » (10)

5. Discussion

This chapter aims at discussing the findings from Chapter 4 considering the literature provided in Chapter 3. The same structure presented in Chapter 4 will be used throughout the discussion chapter. Firstly, a discussion of data collection and limitations will be presented, then an overall discussion of thematic analysis and coherence limitations. Thereafter the chapter will consider an overall discussion that is perceived as significant and relatable to a conclusion of how project managers in Sopra Steria are balancing both traditional and agile methods within the same project. Lastly, there will be discussed opportunities for further research.

The discussion chapter will not be presenting quotes from the specific informants to prevent repetition. The specific quotes have been elaborated systematically and thoroughly and are presented both in Chapter 4 and in Appendix B. Further, the thematic analysis of the data gathered from the interview and literature review identified 14 keywords relevant to the problem statement and research questions. These will be discussed below:

- Traditional project management
- Agile project management
- Hybrid project management
- Structural ambidexterity
- Temporal ambidexterity
- Contextual ambidexterity
- Transformational leadership
- Transactional leadership
- Opening leader behaviors
- Closing leader behaviors
- Contract
- Steering group
- Customer
- Agile as a religion

5.1 Discussion of data collection

This thesis is limited by the authors' capacity and available time within the given time frame January-June 2022. A constriction of an extensive research area may have contributed to an increased possibility of relevant data not being noticed. Thus, it cannot be excluded that other researchers might identify other findings and conclusions. Further, it cannot be neglected that the study incorrectly concludes with a relationship between factors, x and y, without knowing any third, determining factor z. Consequentially, the findings presented must not be treated as absolutes but as a guide for further research given the limits of this study.

Further, the concept of anonymity and confidentiality is important to emphasize when discussing these interviews. The interviewees are discussing how they implemented different approaches in different projects, but due to confidentiality the data collection was limited, and we do not know how successful the projects have been when discussing the different approaches and leadership styles. Thus, the benefit of triangulation was not provided in this thesis. Moreover, we know that there are geographically spread participants, thus there were gained multiple work perspectives, however, these could not be discussed due to anonymity.

The concept of participant bias must be mentioned. Since there is a lack of secondary data the interviews cannot show if the conclusion based on the findings appears to be correct. Thus, it is difficult to determine whether the participants' bias is even occurring and attempts to correct for it is ultimately hampered. However, one can assume that the participants want to present the best versions of themselves, and since there was no data to perform quality control on whether the projects were successful or not, it is important to emphasize the concept of social desirability as an influential factor when analyzing the results. Thereafter, this thesis was initiated by Sopra Steria, thus, the problem area was already narrowed down beforehand. This might have influenced the scope area when establishing the predefined themes for the interview guide.

5.2 Discussion of Thematic analysis

The themes, keywords, and characteristics developed from the data analysis were presented in Chapter 4. However, there are certain aspects of the thematic analysis which need to be considered. The results from the thematic analysis form the basis for how this study discusses and answer the problem statement. Although the thematic analysis is highly flexible and provides a detailed and rich, yet a complex amount of data (Nowell, Norris, White, & Moules, 2017), relevant search fields might have been neglected or overlooked in the research process. This could have influenced the holistic presentation of the problem statement. Consequently, the results from the thematic analysis can have a significant effect on this study's outcome. However, according to Nowell e al. (2017), through discussions and referring to existing literature, this thesis aims to build a valid argument for choosing the presented themes (Nowell, Norris, White, & Moules, 2017).

5.3 Discussion of Theme 1 – Project Management approaches

To get a broader understanding of how project managers in Sopra Steria balance traditional and agile methods, the interviewees were asked about how they implement project characteristics and aspects related to traditional, agile, and hybrid approaches.

5.3.1 Traditional

Most of the interview objects agreed with the theory that in the complex world a purely traditional approach is outdated and insufficient. This undermines Sommer et al.'s (2015) theory that traditional cannot support the iterative cycles that drives the software industry today, and that a purely traditional approach is outdated and not effective in Sopra Steria (Sommer, Hedegaard, Dukovska-Popovska, & Steger-Jensen, 2015). In addition to Wysocki's (2014) statement that the hierarchical and linear task conditions are unsuitable in the increasing complexity and dynamics of modern projects (Wysocki, 2014).

The success of a traditional project is measured in time, cost and quality, and several interviewees mentioned that the economic aspects need to be preserved (Wysocki, 2014). Although the interview objects agree that traditional project management is outdated, there is also agreement among them and Wysocki (2014) that traditional aspects are important when leading a project. Thus, there is agreement that aspects of the traditional project management approaches need to be preserved even though traditional projects appear more infrequently.

Finally, the informants mentioned that projects with great uncertainty and risks should not implement traditional approaches. This is supported by Wysocki (2014), who argues that traditional projects are intolerant to changes, and cost and time overruns are consequences of re-planning, thus, the approach lacks flexibility due to its reliance on heavy front-end planning (Wysocki, 2014). Several informants also mention that in sequential and repetitive projects traditional methods should be used because then there is low risk and uncertainty. Hence, there is agreement from both Sommer et al. (2015) and the informants that with today's rapid technological advances, and fluid marked demands, there is a need to quickly adapt and respond to the unanticipated changing plans, requirements, and scope (Sommer, Hedegaard, Dukovska-Popovska, & Steger-Jensen, 2015).

However, there are cases where traditional methods are being used even though it is not typically traditional characteristics. This is confirmed by some informants who mention that the traditional method was used at the beginning of a project to achieve control. This is interesting as the beginning of projects often involve more uncertainty. Perhaps traditional methods are not as outdated among project managers in Sopra Steria as one may think?

Dikert et al. (2016) argued in their article that if there are challenges in the transformation, people may revert to old ways of thinking (Dikert, Paasivaara, & Lassenius, 2016). Maybe the informants find it difficult to separate when a project needs to be handled traditionally and agile, and it might be easy to fall back on older habits. It may also be appropriate and useful to use inspiration from agile approaches to create a balance of how traditional activities should be performed. This will be further discussed in the next chapter where aspects of the agile approach are deliberated.

To summarize, there is agreement that traditional project management is outdated and not suitable for the software industry. Nevertheless, there is also a need to preserve some of the traditional aspects. Therefore, there was a common understanding that one should have knowledge of the

traditional approach. Consequently, findings concede with the theoretical aspects presented above and are labeled as matching.

5.3.2 Agile

Similar to traditional project management, the informants were asked about experiences related to the agile approach in projects. Firstly, agile methodologies have been widely employed in the software industry. And Bohem (2002) states that for traditional project management change is the exception, while in agile project management change is the norm (Boehm, 2002). The informants concede with Bohem (2002) that testing and feedback provide much great control which contributes to better results and more satisfied customers. Thus, the informants agree that agile is a more satisfactory way of working due to feedback and continuous change and improvements.

Secondly, even though agile is the preferred approach, there are some challenges associated and stated among the participants. Dikert et al. (2016) argues that one of the challenges with agility is problems with implementing an agile mindset (Dikert, Paasivaara, & Lassenius, 2016). This is confirmed by several of the informants where agile is cited as a “buzz-word” or “fashion- word”. The informants did not mention project managers as the decisive factor, therein, both the steering group and customers were mentioned as problematic factors in this challenge. It is interesting how Sopra Steria is Norway's leading consulting company in digitalization and still struggles with implementing an agile mindset within the organization. Moreover, some of the informants mentioned that the problem is not that the top management does not understand the difference between agile and traditional, they just need visibility in finance. Consequently, there seems to be an ambiguous opinion on the statement. Nevertheless, it is interesting that there are different perceptions and further research should be conducted to enlighten what difficulties with implementing an agile mindset are.

Thirdly, an agile approach must be adapted and customized to each unique project. Conforto and Amaral (2015) mentions that a by-the-book implementation is not feasible, further agile is not a formal framework, and thus one should attempt to tailor the agile method to suit the project's requirements (Conforto & Amaral, 2015). These theoretical aspects are confirmed by findings in the interviews. The previous chapter mentioned that there are situations where traditional project management needs to be preserved. From the interviews, there were especially four emerging aspects that were described as problematic. These obstacles will be discussed in Chapter 5.6. Further, it may be appropriate and useful to implement inspiration from agile approaches to create a balance of how traditional activities should be performed, whereas agility might be adapted according to the traditional project requirements. The next chapter will discuss how a combination of the two approaches is conducted in the organization.

To summarize, agile project management has been used in the software development industry for over a decade and there is agreement that this is a more satisfactory way of working. These interviews have displayed that there are aspects of the approach that is not sufficient. Consequently, the theory and findings are labeled as matching.

5.3.3 Hybrid

The interview objects were previously asked about their relationship to traditional and agile methodologies. Forthwith, they were asked how they combine or balance different elements of the two methods to get a broader understanding of the problem statement, and how a potential hybrid approach is implemented in the organization. There were primarily two findings from the interviews.

Firstly, the informants indicated that a hybrid approach should be used due to one model works better than the other in certain circumstances. This is somewhat similar to the agile mindset where one should adapt to the surrounding circumstances, only that instead of adapting the agile method (Conforto & Amaral, 2015) (Dikert, Paasivaara, & Lassenius, 2016), one should adapt the suitable method for the project`s requirement. Perhaps, the agile mindset makes it easier to implement a hybrid mindset?

Secondly, none of the informants mentioned a formal hybrid approach, this indicated that different methods and approaches are being used. Further, the informants acknowledge that most projects today use a hybrid or a mix of traditional and agile methods. Some informants mentioned that even though a traditional approach is used, standup and agile aspects are implemented with the teams. However, this is not a formal structure. Others mentioned Scrum with traditional aspects as a method, whereas some mentioned waterfall where the deliveries are divided into understandable pieces and delivered agile. Thus, it seems as if the informants evolve their hybrid approaches, which are compatible with theory as there is a lack of consensus and practices about hybrids and how to implement a hybrid method (Conforto & Amaral, 2015). This concedes with the fact that the informants elucidate the importance of hybrid elements, instead of concretizing how to achieve a hybrid method.

Wysocki (2019) argued that hybrid is not new in practice only “new to the body of knowledge”. While Cooper and Sommer tried to implement a hybrid-stage-gate model, Wysocki argued that a hybrid solution should be implemented at an organizational and management level (Wysocki, 2019). Even if there is to become a formal hybrid model, approach, or mindset the informants give the impression that it should not be followed slavishly. As mentioned initially this is more in alignment with the agile mindset where one should adapt to the circumstances. There seems to be little knowledge of how the organization handles and communicates different mindsets, perceptions, practices, frameworks, and techniques within the organization. One step in the right direction might be to gain knowledge of how these aspects are handled. Thus, the next chapter tries to emphasize how project managers balance several approaches in one project with the notion of ambidexterity.

To summarize, the informants do not directly mention that a formal hybrid model does not exist. However, they mention different approaches when executing different projects. And that each approach should be customized as one works better than the other in certain circumstances. This indirectly confirms that there is a lack of a clear and distinct definition, consequently, the theory and findings are labeled as partially matching.

5.4 Discussion of Theme 2 – Ambidexterity

Until now the informants were asked about how they implement or combine agile and traditional approaches. However, they did not point to an existence of a formal template. In Chapter 5.3.1. and 5.3.2 it seemed like a pattern emerged where the project managers primarily want to use agile methods, but traditional methods are used where agility is not sufficient. In Chapter 5.3.3, the informants argue that one should not use one method explicitly, and you should adapt the approach accordingly. As previously stated, there is a methodological gap regarding the adoption of hybrid strategies. Sopra Steria does not share a hybrid strategy, consequently, the focus changed the angle from how a hybrid strategy defines the value proposition of Sopra Steria, to how they deliver the value with efficiency (exploitation) and how to renew it effectively (exploration). To get a broader understanding of how the planned, exploitation-oriented, and emerging exploration-oriented issues of projects can be reconciled into a unique, ambidextrous perspective, the interviewees were asked how they take advantage of synergies across the agile and traditional approaches to achieve ambidexterity.

5.4.1 Structural

Structural ambidexterity lies in a firm's structure, where dual structures are created, and certain groups can focus on alignment while others on adaption (Gibson & Birkinshaw, 2004). This study tried to illustrate this in Figure 1. Findings from the data collection indicate that there is partial agreement with Gibson & Birkenshaw (2004) and O'Reilly & Tushman (2004) related to structural ambidexterity.

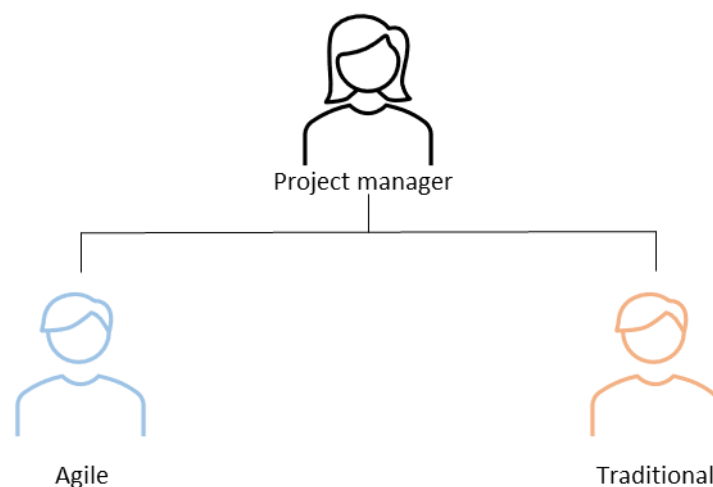


Figure 1: Structural ambidexterity

Findings expressed that agile and traditional activities were performed separately in different teams. When the informants were asked about how they balanced agile and traditional methods, there were mentioned that two teams are working with completely different characteristics. This indicates that there are findings where the project manager had to separate the exploitative and explorative unit with unlike processes, structures, competencies, and cultures.

The success of a traditional project is measured by time, cost, and scope; thus, the project plan includes a compilation of the defined project deliveries and activities to meet these constraints (Awad,

2005). The project managers mentioned that they must provide the status report in case the project gets out of hand so that one can easily restore balance to the system. Senior managers, customers, and those financially in charge of a project often are interested find out if everything is on schedule. Therefore, the informants indicated that much of the exploitative tendencies such as timetables, strategies, and reporting on the economy are performed and implemented upwards in the organization.

On the other side, it is known that Agile project management is often used when there are small, self-organizing-cross-functional teams and collocated project teams (Boehm, 2002). The informants mentioned that it is easier to work agile down in the projects, thus more explorative tasks are implemented with unstable environments and unpredictable requirements. This might indicate an organizational separation. Hence, the organizational structures are distinguishing the exploitative top-organizational units from the exploratory and smaller team units. This differs from the theory where the structure illustrates that they are being well integrated under a senior management team (O'Reilly & Tushman, 2004).

This thesis has developed Figure 2 to illustrate how the organization's structure is described based on the informants' explanations. Figure 1 differs from Figure 2 where the project manager is well integrated under the steering group and above the project team. However, this is only a hypothetical illustration to get an impression of the possible ambidextrous tendencies in the organization, and not a definite answer or solution to how the project managers are operating and executing projects. Consequently, the theory and findings are labeled as partially matching.

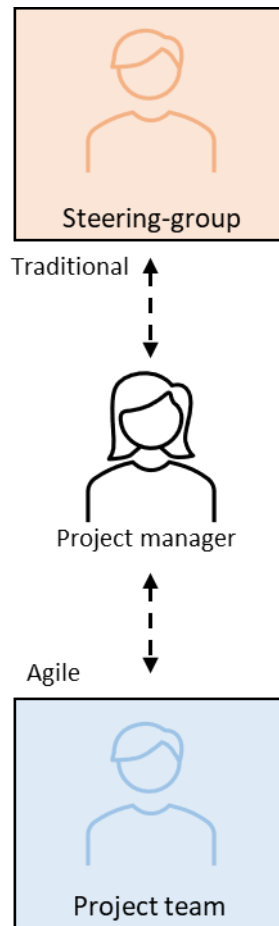


Figure 2: Structural ambidexterity in Sopra Steria

5.4.2 Temporal

The study has not succeeded in finding a theory that directly confirms the findings related to temporal ambidexterity. There is not found that the informants separate the two activities, where one alternates between exploitation and exploration.

As mentioned in Chapter 5.3.3, the informants indicated that some projects are performed with Waterfall at the beginning or in certain phases of the projects, while the testing happens continuously. This could indicate a somewhat temporal separation, where firstly traditional waterfall tasks are performed first, then agile with testing. However, Figure 3 is based on the descriptions from the theory where one can imagine a pendulum swinging back and forth between exploration and exploitation (Rosing, 2011).

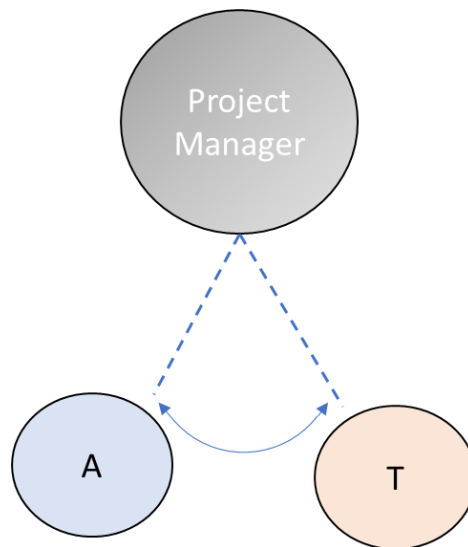


Figure 3: Temporal ambidexterity

O`Reilly and Tushman (2004) mentioned that there are two types of temporal ambidexterity (O`Reilly & Tushman, 2004). The first scenario is start-up matures. This is when projects tend to emphasize growth at the beginning of a project instead of operational discipline. From what the informants mentioned, it is performed quite opposite as they tried to implement discipline from the start, in the core explore the territory. Perhaps this is another way of temporal ambidexterity? However, from what the informants describe, there are little indications of the pendulum swings back to traditional tasks after the agile testing. Thus, there are few indications of the project managers operating with temporal ambidexterity.

The second scenario is when established companies spend their daily business in one phase, the exploitation phase, and is punctuated by radical changes, the exploration phase. There are no findings of project managers of Sopra Steria using this to balance both methods in one project. Nonetheless, some of the informants directly mentioned that they want to isolate the traditional and agile teams. Which is a direct saying that temporal ambidexterity is not used.

Consequently, it seems some of the informants agree that a distinct separation between explorative and exploitative activities is not suitable. Therefore, they do not permit the explore and exploit and the two inconsistent sub-strategies to thrive. Perhaps, temporal ambidexterity might be more suitable in a more stable environment, where one can focus on one thing at a time, and not in the dynamic and uncertain environment where conditions are rapidly changing all the time? Even though the informants do not mention or indicate that this is the scenario, it cannot be neglected that there is temporal ambidexterity in the organization. Only that it is not found in this study. Consequently, the theory and findings are labeled as not matching.

5.4.3 Contextual

The concept of contextual ambidexterity begins when the focus shift to more simultaneously balance and the attention changes from trade-off (either/or) to paradoxical (both/and), this means without

separating explorative and exploitative activities. This is illustrated in Figure 4. It is contextual because it arises from features of its organizational context (Gibson & Birkinshaw, 2004). The informants agree with Gibson and Birkenshaw (2004) that the project managers' role changes due to context. This directly confirms that the findings are related to contextual ambidexterity.

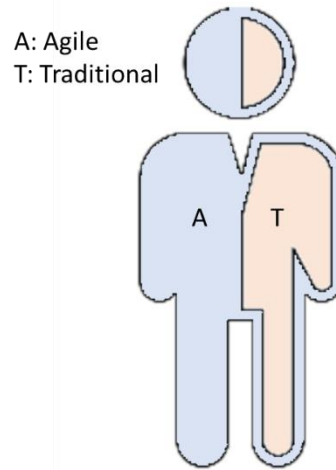


Figure 4: Contextual ambidexterity

Contextual ambidexterity differs from Structural ambidexterity as processes or systems are built where individuals make their judgments on how to divide their time between conflicting demands, alignment and adaptability (Gibson & Birkinshaw, 2004). The informants stated that they are the ones adapting to the context and changing their responsibilities. Further, they find this situation to be demanding, and informants mentioned that this is a rather demanding split. However, as discussed in Chapter 5.4.1, there are indications that Sopra Steria incorporates an ambidextrous structure. Figure 2 illustrates the incongruences between exploitative and explorative within separate business units. Nonetheless, it was discussed that this structure differs from theory as the separated structures are not being well integrated under a senior management team. Moreover, based on the sayings in this chapter, there might be an indication that the tasks are separated structurally, but it is the project managers that need to handle the paradox contextually. Thus, they take it upon themselves to take advantage of the synergies across the two worlds and handle the paradox.

This study presents a theoretical hybrid ambidextrous figure based on the informants' expressions. Figure 5 illustrates a combination of Figure 2 and Figure 4. It attempts to illustrate that the project manager must handle living in two completely different worlds and share resources and co-create both these worlds simultaneously. This is based on the findings that the tasks are separated structurally while the project manager must accommodate completely different cultures for the exploitative and explorative business through contextual ambidexterity. O'Reilly and Tushman (2004) mentioned that although structural and contextual ambidexterity differs from one another, it is essential to view them together as contextual ambidexterity provides long-term benefits while structural provides short-term benefits for the firm (O'Reilly & Tushman, 2004). Thus, these two types of ambidexterity might provide balance in a firm due to exploitative and explorative new product development and should therefore acquire equal attention. Consequently, as this study has revealed

that there are findings where the informants concede with O'Reilly & Tushman (2004) and Gibson & Birkenshaw (2004), theory and findings are labeled as matching.

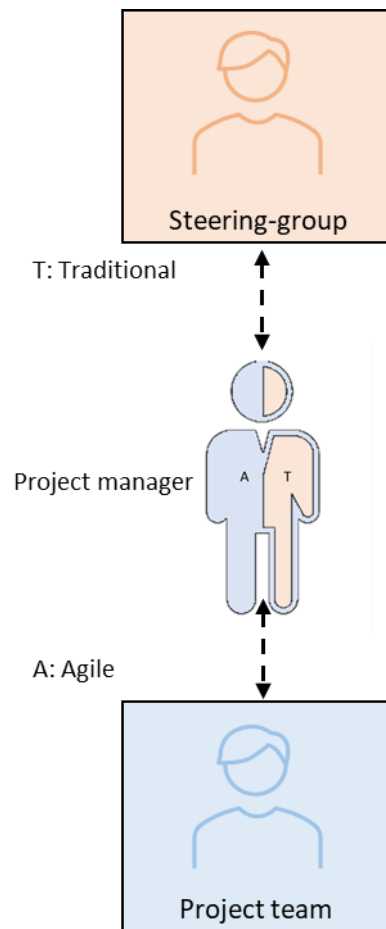


Figure 5: Hybrid ambidexterity in Sopra Steria

5.5 Discussion of Theme 3 – Leadership

Theme 3 addresses leadership styles and leader behaviors within the sample of project managers in Sopra Steria. During the interviews, the informants have been asked both indirect and direct questions related to their leadership style, behavior, values, and attitudes. This is because project managers have many responsibilities both in terms of the people in the project and the surrounding tasks. Although project managers perform overall the same tasks in every project, there are countless ways to solve them. Leadership style and leadership behavior are important topics to shed light on regarding how project managers can balance two methods in the same project. Findings indicate similarities among the project managers in Sopra Steria, where skills such as trust, communication, and well-being are frequently mentioned. Based on the informants' responses and comments, there are many indications of them having a leadership style and behavior that goes under several variants.

5.5.1 Transformational leadership

In order to discover similarities and differences between the project managers' leadership characteristics, the informants were asked about how they manage and execute projects. Consequently, their leadership characteristics might be seen as an affecting factor in how they can manage and cope with balancing two different methods within one project.

Transformational leadership is characterized by motivating a vision that promotes exploratory or confirmatory behavior according to Rosing (2011). The informants concede with Rosing (2011) that they motivate the team members by communicating a vision at the project start. Further, according to Rosing (2011), a project manager with a transformational leadership style communicates values such as openness, adherence, and rules. This is in alignment with the informants who mentioned that they are having a focus on a motivating collaborative environment, whereas expectations for a date, rules, loyalty, openness, and honesty are set, but also expressing a desire to make the team trust back and dare to try

Further, there are similarities between the project managers' expressions of their behavior and Rosing's definition of a transformational leadership style about characteristics such as stimulating innovative mindsets and improvements. This directly coincides with informants' expressions of a wish to improve the way they work and motivate the team to adopt the same mindset. In addition, other informants mentioned that the most important job as a leader is to take the bullet for everyone else, to make them feel trusted and confident in order to think outside the box.

There are enough findings to claim that the informants have a leadership style that can be categorized as transformational leadership. This can be justified by the fact that each informant has at least one behavioral characteristic that coincides with Rosing's (2011) given characteristics of this leadership style, among other things, communication of innovative thoughts, motivational visions, improvement, openness, and trust.

Consequently, the characteristics of the Transformational leadership style specified by Rosing (2011) match the informant's characteristics which have been caught through their expression of their style of managing. Thereby, theory and findings are labeled matching.

5.5.2 Transactional leadership

The informants' mindsets, attitudes, and reactions to different scenarios or from existing experiences were promoted during the interviews. Consequently, informants mention several examples which might give indications of a transactional leadership style based on Rosing's (2011) definition. Moreover, there are contradictions in the project managers' characteristics towards this leadership style, therefore, a discussion regarding the informants' degree in this leadership category is necessary.

Focus on errors to learn from errors and focus on errors to avoid errors are two different leadership attitudes Rosing (2011) states as characteristics of a transactional leadership style. The informants concede with Rosing (2011) as they mentioned that most of the project managers have a positive attitude towards error learning and experimentation. Further, they mentioned that errors that occur because of exploration will be accepted if openness and communication around these errors are treated by learning from them. This again concedes with Rosing's (2011) statement that focus on error to learn from errors is a characteristic of a transactional leadership style. On the other side, the informants also mentioned that you have to trust the project team due to a lack of technical skills, which makes it impossible to correct if technical tasks are done right. They further expressed the importance of trusting the team, due to their lack of technical knowledge to be able to ensure that the tasks have been done accurately enough. This concedes with Rosing's (2011) statement that one should focus on errors to avoid errors. Nevertheless, the findings indicate that the project managers are aware of errors, regardless of whether they want to avoid the mistakes or learn from them. Although the views and tolerances associated with it are slightly different among the informants, the emphasis still lies on the positivity of learning from mistakes rather than avoiding mistakes.

According to Rosing (2011), a transactional leadership style establishes an exchange-based relationship, which can be linked to the project manager's trust exchange with the project team. Trust is frequently mentioned as a common value in Sopra Steria according to the informants. However, there seemed to be contradicting opinions on the matter as some informants confirmed this by saying that trust must be given to get trust in return. While others are more critical independent of the scenario. Thus, it seems as if there is a disagreement between the project managers regarding control. While several claim they trust their employees, others are monitoring and controlling their team anyways.

Further Rosing (2011) mentioned that characteristics of transactional leadership are setting and monitoring exploitation or exploitation goals. Several of the informants mentioned that they both set and monitor goals, however, they are not specifying what kind of goals, whether it is team-based, personal, or project-based. Further, Rosing (2011) says rewarding experimentation is a characteristic of this leadership style (Rosing, 2011). However, none of the informants have mentioned giving rewards because of positive actions, attempts or behaviors. Consequently, findings indicate that some informants tend to have an open mind towards experimentation and encouragement towards experimentation, even though they don't promote rewards.

Finally, Rosing (2011) mentions rewarding efficiency as a characteristic of this leadership style (Rosing, 2011). However, there is a lack of findings regarding efficiency associated with rewards. However, trust was the most frequently mentioned value among the interviewees, and one reward might be considered as the project manager giving or showing the individual team members their full trust. Moreover, some findings highlight that the informants don't want to be hands-on, interrupt or

micromanage their team members until conflicts occur. This behavior can be labeled as intervening only, when necessary, which is a characteristic of transactional leadership according to Rosing (2011).

To summarize, there are several findings regarding the informant's leadership characteristics that coincide with Rosing's (2011) definition of transactional leadership style. However, the findings do not exemplify that the informants are establishing specific goals or rewarding according to the employee's compliance, thus the theory and findings are labeled as partially matching.

5.5.3 Opening Leader behaviors

Characteristics of Opening leader behaviors are defined by Rosing (2011) and seem to coincide with many of the informants' characteristics of how they behave and manage different situations. However, few findings indicate contradictions in the characteristics and might unfold questions regarding what extent the individual project managers have opening leader behaviors.

According to Rosing (2011) motivating risk-taking, encouraging exploration, and allowing errors are characteristics of opening leader behaviors. In Chapter 5.5.2 trust is mentioned as the most common value within Sopra Steria. Further, several informants express room for risk-taking, exploration, and mistakes, which might be a result of having an environment that is based on trust. This can be directly linked to Rosing's (2011) description of opening leader behaviors.

As mentioned, some findings might create skepticism related to what extent the characteristics coincide, although they convey the same message. Informants mentioned that risk can be both an opportunity and something they want to avoid but gives the project team 'leeway' to do their tasks. Furthermore, opening leader behaviors have other characteristics such as allowing different ways of accomplishing tasks and giving room for own ideas, and independent thinking and acting (Rosing, 2011). These characteristics are also in alignment with the informants who are positive towards new ideas, change, and improvements.

Finally, Rosing (2011) declares that encouraging error learning is a characteristic of this leader behavior, which is supported by some of the project managers who declares a high degree of risk tolerance to achieve the results no matter what. However, there was also uttered importance of learning from the mistakes that might occur during those risk-takings, which coincides with Rosing's (2011) characteristic.

Thus, when creativity is a needed characteristic of the employees during innovation, Rosing (2011) claims that the project manager must use opening leader behaviors, which foster exploration. The overall impression of the findings indicates that opening leader behaviors are mutual among the informants, as encouraging and motivating risk-taking, exploration and independency are consistent behavior. Consequently, theory and finding are labeled matching.

5.5.4 Closing Leader behaviors

Even though findings indicate characteristics of Opening leader behaviors in Sopra Steria, some findings point to characteristics of Closing Leader behaviors. In Chapter 5.3 informants mentioned a certain necessity of having a combination of both agile and traditional methods in one project.

Meanwhile, there are found behavioral characteristics that correspond to both opening and closing leader behaviors. This can be seen as a good sign in terms of how project managers are equipped or able to balance two methods in one project. In situations where the project teams' innovational tasks contain implementation, Rosing (2011) claims that the project manager must use closing leader behaviors, which foster exploitation (Rosing, 2011). A lot of Rosing's definitions of Closing leader behavior can be considered needed or beneficial under traditional project management due to the spotlight on exploitation, whereas Opening leader behaviors can be linked to agile project management due to the highlighting of exploration (Rosing, 2011).

Moreover, Rosing (2011) states that establishing routines and sticking to the plan are characteristics of closing leader behavior. Although informants express a high degree of positivity towards exploration and agility, they also feel confident with establishing routines and following a certain plan. This is supported by the project managers who mentioned the importance of establishing good routines and plans in order to avoid cost or project overruns. This indicates that even with such openness and encouragement around agility and explorative behavior, they still adhere to standard traditional project management tasks as well (Wysocki, 2014).

Further, characteristics of this leadership behavior are to monitor and control goal achievement (Rosing, 2011). In Chapter 5.5.2 there were mentioned that the informants monitor and control the project team. However, some of the informants directly concede with Rosing and mentioned that they directly monitor and control goal achievement. Otherwise, a specific goal type is not mentioned. Also, Rosing (2011) states that sanction errors and taking corrective actions are common closing leader behavior. This is supported by the informants who utter that sanction errors and taking corrective or drastic actions will be conducted if necessary. However, few informants have been involved in situations that have critically evolved.

Nevertheless, there are no findings that address some sort of consistent task performance and neither do any of the informants mention adherence to rules. Otherwise, there are several findings regarding the informant's behavioral characteristics which coincide with Rosing's (2011) definition of Closing leader behavior. Thus, theory and findings are labeled as partially matching.

5.5.5 An Overview of ambidextrous leadership behaviors in Sopra Steria

The informants acknowledged a lack of specification regarding what kind of goals the project managers referred to. Subsequently, there were emerging thoughts regarding some of the sub-facet within the leadership styles, which seemed to be in alignment with both opening and closing leader behavior. Several findings confirmed that the project managers convey a motivating vision during a project. This concedes with the Transformational Leadership's "vision" sub-facet (Rosing, 2011). Respectively, an exploratory vision is related to opening leader behaviors, while a confirmatory vision is related to closing leader behavior. For instance, when conveying an inspiring vision, the project group's behavioral variation can increase if the vision motivates them to think independently, which makes it belong to Opening leader behavior. In contrast, an inspiring version can have a reducing effect on the behavioral variance if the vision has an explicitly specified goal the team follows slavishly (Rosing, 2011). In this case, the vision sub-facet will be a Closing leader behavior. Consequently, these findings confirm Rosing (2011) who claims transformational and transactional leadership can be both opening and closing leadership behaviors (Rosing, 2011).

The informants mentioned that it is rarely wise to run a project completely agile or traditional, but rather a mixture of both agile and traditional activities. This coincides with Conforto et al. (2015) and Dikert et al. (2016) who say methodologies must be tailored to suit the project (Conforto & Amaral, 2015) (Dikert, Paasivaara, & Lassenius, 2016). Thus, the project manager must be able to handle a bit of both methods to achieve desired results (Gibson & Birkinshaw, 2004). Due to commonly linking Opening Leader Behavior to an agile approach and Closing leader behavior to a traditional approach (Rosing, 2011), Table 14 can be seen as an overview of ambidextrous leadership behaviors in Sopra Steria, which might be an indirect suggested answer to research question 2. To elaborate, you can column-wise imagine the matrix and think that the left column with Opening leader behavior corresponds to agile project management, and the Closing leader behavior column on the right correspond to traditional project management. Thus, the project managers can switch between agile and traditional project management by flexibly switching between the columns and their following behavioral content, consequently switching between Opening and Closing leader behaviors.

Still, Opening and Closing leader behaviors are seen as a complementary set of leadership behaviors due to specifically matching the requirements of exploration and exploitation (Rosing, 2011). Likewise, the Transformational appears positively related to explorational activities and therefore needs to be complemented by exploitative leader behaviors (Rosing, 2011). Conversely, Transactional leadership is more related to activities within exploitation and needs to be complemented by leadership behaviors. Consequently, achieving an equilibrium within an innovative environment requires more than one leadership style and behavior (Rosing, 2011).

5.6 Discussion of Theme 4 – Obstacles with the agile approach in Sopra Steria

In Chapter 5.3.1 it was argued that traditional methods are appearing more infrequently than before, but there is still needed to preserve some of the traditional aspects. Moreover, Chapter 5.3.2 enlightens that an agile approach should be adapted and customized to each unique project. There were also different opinions regarding whether an agile mindset is difficult to implement or not. Some emerging themes during the interview were complications regarding implementing an agile approach due to contracts, customer, the steering group and “agile fever”. These emerging aspects are further discussed in the section below.

5.6.1 Contract

This study has not succeeded in finding a theory that directly confirms that contracts prevent agility. However, agile methodology measures success in customer satisfaction, while traditional projects measure success in more a tangible way such as cost, time, and quality (Wysocki, 2014). Contracts are very rigid with low flexibility; hence, they can be perceived more in alignment with traditional approaches than agile approaches. Informants mention that the contracts decide *how* and *what* the project looks like, considering how one executes the project. The project managers further argue that it is difficult to implement agile practices in a fixed-price contract, thus they are slightly behind the development of the methodology. This is in alignment with Ågren and Knauss (2018) who argue that contracts are hindering fast collaboration which is a characteristic of agile.

As discussed in Chapter 5.3.1, there is a need to preserve some traditional aspects, and the contract includes a compilation of the defined project deliveries and activities to meet these constraints. Further, Chapter 5.4.1. discussed how exploitative and exploratory units were structurally separated in Sopra Steria. Perhaps a contract that allows for different structures, cultures, and processes and meanwhile maintaining a tight link across the senior executive level would prevent the contract to function at the expense of agility?

Further, some of the informants argue that contracts should develop, and perhaps have an agile part. Consequently, one part of the contract is traditional and strict, while the other is sprint-based and agile. Maybe a contract could be developed where conflicting pitfalls with agile and traditional methods can be combined and maintained? However, these are just assumptions and thoughts based on the informants' sayings. This thesis has not gained access to any contracts or seen how these have been followed up. Thus, it can only be assumed that this does not exist as contracts are frequently mentioned as an obstacle.

5.6.2 Steering Group

The study has not directly succeeded in finding theories that confirm that the role of the project manager will move slightly towards portfolio management.

This study has not succeeded in finding a theory that directly confirms that the steering group is a limiting factor towards agility in Sopra Steria. Nevertheless, in Chapter 5.3.2 it was mentioned that implementing an agile mindset is challenging. And from the interviews, the project managers point directly to the steering group and customers as an obstacle. The findings indicate that the steering

group occasionally fails to favor agility when it comes to reporting on traditional aspects. Moreover, there were some ambiguous opinions on the subject. This raises questions about what current practices and challenges the project managers are experiencing related to the planning and execution of projects towards the steering group. *Perhaps this is where one needs to work with an agile mindset? Another interesting aspect is the phenomena of structural inertia, perhaps Sopra Steria struggles with deviating from existing structural schemes upwards in their structure? Perhaps the steering group is manifested in traditional core features and new agile core features of the organization change more slowly than they acknowledge?*

Consequently, it seems as if there is a conflict between how the project managers try to balance both agile and traditional approaches and the steering group. Thus, it might be interesting to do more research on this area.

5.6.3 Customer

It is specified in theory that close interaction with the customer is important to ensure maximal value and project success, thus high client involvement is a critical factor in agile projects (Cooper, 2016). During the interviews, it emerged that several of the informants experienced that customer involvement was challenging and demanding when the projects tried to implement an agile approach. The project managers argued that it is problematic to implement an agile mindset if the customer is not used to this approach beforehand, as they often meet resistance in the organization. They further argue that it is a maturation process from the customer's side, and it is about making them understand the purpose and value of agile. This might indicate that the client does not understand their part, activities, and commitment to an agile approach. Thus, high client involvement with the customers makes the implementation of agile approaches somewhat difficult and incomplete.

The study has not succeeded in finding a theory that directly confirms that the customers are a limiting factor due to a lack of maturity and understanding of their part or commitment towards agile projects. However, Dikert et al. (2016) argue that skepticism and distrust arise from misconceptions about the implementation of agile approaches.

Further, informants mentioned that there are challenges with agility when you remove time and cost from the customer, which is something they usually require or demand. Once again, the importance of the traditional measurements appears. This might indicate that Sopra Steria is equipped to implement an agile mindset, but because of the different clients' needs, the traditional aspects need to be preserved. Perhaps, a hybrid approach might be more feasible to preserve the customers' needs. Nevertheless, the informants elucidate the problem, but they do not mention a solution or how they intended to solve the problem. Perhaps motivating each other to be productive, create a common understanding and establish distinct and clear expectations and thorough understanding of implementation is up to each project manager and not Sopra Steria as an organization?

5.6.4 Religion

According to Dikert et al. (2016), one challenge of implementing an agile approach is the difficulties of implementing an agile mindset (Dikert, Paasivaara, & Lassenius, 2016). Moreover, an interesting and rather contradicting "finding" that emerged from the interviews was that the project managers

experienced “agile fever” or the fact that some might begin to see agile as a “religion”. Informants argued that it is not sustainable to only implement aspects with one approach, because suddenly you become so agile that you are no longer agile, and then new problems will arise. The informants further mentioned that there are misinterpretations in the software industry. However, the study has not succeeded in finding research that directly confirm that for some people agile has become a “religion” rather than a method. Nonetheless, the informants agree that this is problematic.

As mentioned, a by-the-book implementation is not feasible and there is not a formal framework for agile, thus attempts to tailor the agile method to suit the organizations and the project's needs must be made (Conforto & Amaral, 2015). If participants and project managers do not manage to adapt and customize the approach, “agile fever” or “religion” might be the extreme on one side, and not being able to implement an agile mindset could be the extreme on the other side? Further, those who either cannot implement or lose an agile mindset might not understand the purpose of agile. These are contradicting opinions, but perhaps the same solution is necessary? Perhaps, if there were a formal and prescriptive model or approach these misunderstandings would not be as comprehensive? Or maybe this is another indication that agile is not the silver bullet, and other, possibly a hybrid, approaches are needed?

5.7 Overall discussion

The informants were asked how they combined agile and traditional methods in one project, and as discussed, four obstacles were elucidated where projects no longer could adapt an agile method. Therefore, traditional measurements were performed. In our opinion, it might seem like the three first obstacles, *contract*, *steering group* and *customer*, might branch from the same origin. That is, the need to preserve an economic aspect. The reason is that firstly, the contract is a legally binding agreement that the tenancy intended will be enforced by law. Moreover, the informants mentioned that this would not be needed in an agile approach if there were trust between the customer and the supplier. Thus, the contract is used to ensure that they are achieving the economic goals. Secondly, the informants mentioned that the customer desired to track a few different metrics to measure that the value agrees with the contract. Consequently, the contract is used as a binding agreement to preserve the economic aspect for the customer. Finally, the informants mentioned that upwards in the organization waterfall is much used. Seemingly, the steering group also desires to hold each party to the original agreement, thus they might feel the need to preserve the economic aspect with traditional project management features. Consequently, in our opinion, the three aspects insinuate to branch from the same origin. However, Dikert et al. (2016) mentioned 35 challenges with implementing agile, and this thesis has only elucidated four. Thus, it is likely that more aspects should be researched to get a more holistic representation.

There were some ambiguous opinions regarding the difficulties of implementing an agile mindset. Thus, the fourth obstacle mentioned by the informants was agility as a religion. This is interesting because one theory might be that those who experience the difficulties of implementing an agile mindset in Sopra Steria might be the same people that are perceived as those who have an agile fever? These are two contradicting perceptions, and it would be very interesting to see if there are any red threads or patterns here regarding these problems. However, there was agreement among the informants that each approach should be adapted according to tailor to different projects, in addition, there is a consensus that projects today usually use a hybrid of these two approaches. Hence, perhaps the “problems” about whether you are too agile or not agile enough is not as relevant anymore, since there is agreement that one should adopt or combine several approaches, methodologies, tools, and features.

Findings from the interviews indicate that there is no formal hybrid approach. Thus, the focus shift from how to achieve a mixed approach of strategy to how the performance linkage of the participants delivers this value, i.e., an ambidextrous focus. It was discussed if there were a possible new ambidextrous way of balancing traditional and agile methodologies in Sopra Steria, where a hybrid concept of structural and contextual ambidexterity appeared. Perhaps a solution to the problem statement is that project managers of Sopra are using structural and contextual approaches simultaneously to explore novel opportunities and exploit existing ones? It is however stated by several researchers such as March (1991), Tushman & O’Reilly (2004) and Gibson & Birkenshaw (2009) that to flourish over the long run, companies need to maintain both exploration and exploitation. So far, we know very little about what induces Sopra Steria to focus on structural or contextual, or the combination. There is only known that Sopra Steria does not have a formal framework, therefore, the approaches seem to be influenced by managers’ perceptions of capabilities and opportunities.

As a project manager in an innovative IT company like Sopra Steria, you should be able to change between leadership styles to adapt to the situation and people around you (O'Reilly, 2017). In addition, also through flexibly switching between leader behaviors within a complementary, set you might be able to promote ambidextrous leadership. In which you can use both the right and the left hand equally well to balance agile and traditional methods within the same project (Rosing, 2011). This applies if the characteristics interpreted from the findings are correct and applicable to most of the project managers in Sopra Steria. Nevertheless, an important aspect to mention from Chapter 5.5 is that this is based on the informants' expressions and self-score. Thus, there might be considered that the project team disagrees based on possible hidden characteristics of the project managers that are withheld, and the project managers' biases should be kept in mind.

Consequently, over the last decade, several articles have been published on the subject, perhaps one should aim to convey, clarify, and justify what measurements are needed to resolve these problems in Sopra Steria. The next chapter will describe suggestions for further research for the organization.

5.8 Further Research for Sopra Steria

Based on this thesis there are primarily four focus areas that should be analyzed for further research:

- Dikert et al. (2016) mentioned 35 challenges with implementing large-scale agile transformation, this thesis has only addressed four challenges: *contract*, *steering group*, *customer* and *agile as a religion*. Thus, it is likely that more sectors of Sopra Steria should be investigated to gain a more holistic representation of the problem statement regarding agile implementation.
- As mentioned in the overall discussion, that organizations need both exploration and exploitation, thus Sopra Steria might explore the thought of becoming an ambidextrous organization. It might be an idea to implement a hybrid framework of contextual and structural ambidexterity. However, these assumptions are only based on the interviews, thus more research is needed in this area to provide a precise, realistic and candid conclusion.
- Ambidextrous management and lower-level ambidexterity (team levels) are also topics that have not been researched enough in theory and practice. Katrin Rosing (2011) claims that ambidexterity has not been elaborated on a behavioral level for individuals, project managers, or teams in the existing literature. A suggestion will be to introduce this topic in Sopra Steria and propose further research regarding ambidextrous leadership concerning hybrid approaches.
- In an agile world, project managers lack a clearly defined role. Cooper and Sommer (2016) bring up the unanswered research question regarding the project manager and how the traditional concept of this role will adapt to survive. Several informants emphasize that the project manager's role is evolving, thus more research on the topic would be interesting regarding how the project manager adapt during these complex circumstances.

6. Conclusion

In this chapter, the research questions and problem statement will be answered based on the findings and corresponding analysis of the performed case study.

Research question 1: What current practices and challenges are the project managers experiencing related to the planning and execution of projects?

In order to answer the problem statement of how project managers are balancing both traditional and agile methods within the same project, this thesis tried to identify what current practices and challenges the project managers are experiencing.

Firstly, the challenges located enlightened that the organization knows traditional project management is outdated. However, some aspects of the traditional approach are preserved to maintain some economic aspects. The project managers further experience problems with implementing agile approaches. Even though this is far more complex than this thesis could cover, the identified findings confirm that the project managers in Sopra Steria are experiencing difficulties because of four obstacles; *the contract, the customer, the steering group and not adopting agile to the circumstances, i.e., religion.*

Secondly, the current practices the project managers use are ambiguous. Findings indicate that inspiration from agile methodologies are implemented to adapt the approach to the specific project requirements and challenges. This concedes with the fact that the informants elucidate the importance of hybrid elements, instead of concretizing how to achieve a hybrid method. Consequently, the informants agree that they are working hybrid, however, a formal hybrid approach does not exist.

Research question 2: What leadership behaviors are necessary to balance two different project management methods?

The project managers' leadership characteristics are essential in how they can manage to balance two different methods within one project. Given the current situation, people, and environment, as a project manager, you must be equipped to adapt your behavior accordingly. The informants' leadership characteristics have in this thesis been categorized as Transformational and Transactional leadership styles, and, Opening and Closing Leader behaviors. This study claims that by flexibly switching between these leadership behaviors, project managers can promote Ambidextrous Leadership in Sopra Steria. Consequently, ambidextrous leadership behaviors can be used to equally balance agile and traditional project management methods.

Problem statement: How are project managers in Sopra Steria balancing both traditional and agile methods within the same project?

To conclude, from our analysis the findings indicate that project managers of Sopra Steria use a non-formal hybrid ambidextrous model, where project managers are developing the ability to manage a

combination of leadership styles and dynamics i.e., combine exploration and exploitation. This thesis illustrated a hypothetical combination of structural and contextual ambidexterity, whereas the project manager must accommodate completely different aspects of the exploitative and explorative businesses through ambidextrous leadership. Consequently, the findings from this thesis indicate that a hybrid ambidextrous “model”, Figure 5, where the project managers necessitate ambidextrous leadership, is how project managers in Sopra Steria are balancing both traditional and agile methods within the same project.

However, as of today, we know very little about what indices Sopra Steria to focus on structural and contextual ambidexterity. The “model” is only one suggested scenario based on the project managers’ descriptions of how they are balancing the two approaches. Several aspects and factors need to be evaluated and more research should be done on how to combine the two approaches and provide a more holistic perspective to the problem statement.

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8. Appendix

Appendix A: Interview guide

Semistrukturert intervju

Intervjuere

Vi er to masterstudenter fra Universitetet i Stavanger som har påbegynt den avsluttende masteroppgaven. Vi går en to-årig master i Industriell Økonomi med prosjektledelse og kontraktstrategi som spesialisering, samt ingeniørbakgrunn som dataingeniør fra OsloMet og byggingeniør fra universitetet i Agder.

Bakgrunn for intervju

Dagens miljø for programvareutvikling er fartsfylt, innovativt og komplekst. Bedrifter må tilpasse seg de kontinuerlig skiftende forretningsetterspørslene og endrede krav raskere enn noen gang for å holde seg konkurransedyktige. Det er økt fokus på smidige prosjekter, spesielt for IT-selskaper som Sopra Steria. Analyser (European Business Review, project-management.com, Agile Management Office, Proofhub, PMI) viser imidlertid at prosjekter lener seg mot en hybrid retning, der prosjekter bruker flere metoder i stedet for å bare bruke en tradisjonell eller en smidig metode. Dette øker press og spørsmål tilknyttet utvikling av prosjektlederrollen, og hvordan den kan tilpasse seg og balansere to ulike metoder i ett prosjekt for å sikre prosjektsuksess og vekst. Tilpasning og implementering av nye forretningsstrategier og teknologier er en stor organisatorisk utfordring; Dermed må prosjektlederen være mer fleksibel uten å ofre effektiviteten

Overview of theoretical theme findings

Theme	Theme name
1	Project management approaches
2	Ambidexterity
3	Leadership

Dette har ledet oss til problemstillingen:

Hvordan prosjektledere i Sopra Steria balanserer tradisjonelle og smidige metoder i et og samme prosjekt?

Mål for oppgaven

Målet med intervjuet er å innhente data og erfaring tilknyttet problematikken og usikkerheten problemstillingen dekker, deretter å legge frem en konklusjon rundt problemstillingen.

Intervjuinformasjon

- Intervjuene vil ha en varighet på rundt 30-60 minutter
- Intervjuformen er spørsmålsbasert
- Lydopptak krever godkjenning av intervjuobjekt
- Lydopptak vil kun gjennomføres for å bedre kunne gi full oppmerksomhet under samtalen, og for å lette arbeidet vårt med transkribering og notering fra intervjuene i etterkant
- Lydopptakene vil slettes når vi er ferdige med å analysere dataene
- Innsamlet informasjon og data fra intervjuobjektene vil bli tilsendt innen 21 dager etter utført intervju for godkjenning.
- Intervjuobjekter vil ha sikret anonymitet gjennom hele oppgaven
- Intervjuobjektene har rett til å trekke seg fra intervjuet dersom de ønsker det

Stikkord for tema:

- Tradisjonell metodikk – (f.eks fossefall)
- Agil metodikk – (f.eks Scrum)
- Hybrid metodikk
- Exploration
- Exploitation
- Ambidexterity
- Prosjektlederrollen

Spørsmål til intervjuobjekter

Tema 1: Project management approaches

1. Omtrent hvor mange prosjekter har du ledet gjennom din karriere?
2. Hvilke erfaringer har du med tradisjonelle prosjekter?
3. Hvilke erfaringer har du med agile prosjekter?
 - 3.1. Hvilke kvaliteter/aktiviteter/ fokusområder bruker du ved agile prosjekter?
4. Hvilke type endringer kan dukke opp gjennom planlegging og utførelse, og hvordan håndterer du denne endringen?
5. Dersom du har opplevd å balansere to ulike metoder/tilnærminger i et og samme prosjekt:
 - 5.1. Ble tradisjonelle og agile aktiviteter gjort i separate enheter/teams, i så fall hvordan?
 - 5.2. Ble aktivitetene delt inn i tid, først den ene type tilnærming deretter den andre?
 - 5.3. Hvem tok avgjørelsen om å dele inn i Tradisjonelle eller agile tilnærminger i de prosjektene du har deltatt på?
 - 5.4. Har du opplevd å fokusere på flere ferdigheter samtidig? Det vil si tradisjonelle egenskaper som kostnad, effektivitet og inkrementell innovasjon samtidig med å utvikle nye produkter og tjenester (for eksempel hvor radikal innovasjon, hastighet og fleksibilitet er avgjørende)?
 - 5.5. Har du opplevd å reorientere deg ved å ta i bruk nye strategier og strukturer som er nødvendige for å imøtekomme endrede miljøforhold?
 - 5.6. Da du balanserte to ulike tilnærminger jobbet du i kryssfunksjonelle teams eller i teams med like funksjoner i prosjektet?

Tema 2: Ambidexterity

6. Når det kommer til organisatoriske rutiner, strukturer og systemer; foretrekker du:
 - 6.1. Å søke etter nye eller optimalisere og stabilisere? Forklar.
 - 6.2. Å skape variasjon eller pålitelighet gjennom erfaring? Forklar.
 - 6.3. Å utvide en leders eksisterende kunnskapsbase ved anskaffelse av ny kunnskap eller utnytte eksisterende kunnskap? Forklar.
 - 6.4. Å eksperimentere med nye teknologier, forretningsprosesser og markeder? Forklar.
 - 6.5. Å anvende og forbedre eksisterende kompetanser, teknologier, prosesser og produkter? Forklar.
 - 6.6. Å være nyskapende og vedta en langsiktig orientering? Forklar.
 - 6.7. Å fokusere på produksjon og ta i bruk en mer kortsiktig orientering? Forklar.
7. Hvordan er bedriftskulturen i Sopra Steria?
8. Har du opplevd å lede enheter som følger vidt forskjellige strategier og som har varierte strukturer og kulturer?

Tema 3: Leadership

9. I hvilken frihetsgrad gir du prosjektdeltakerne til å utføre oppgaver på sin egen måte kontra å gi dem oppskrift på hvordan det skal gjøres, eller f.eks i hvilken grad du overvåker og kontrollerer måloppnåelse?
10. Hvordan tror du benyttelse av blandingsmodeller eller mer agile prosjekttilnærminger på sikt vil påvirke prosjektlederrollen?
11. Hva er ditt forhold til risiko og hvordan formidler du det til teamet, mtp ønsker du å fremme et positivt syn til risikotaking ved å la de få et spillerom til å skape egne ideer og være kreative?
12. Når du formidler en visjon til prosjektteamet, hvilken oppførsel, verdier eller tankegang vil du motivere frem hos dem?
13. Har du opplevd situasjoner der du var nødt til å skifte lederadferd eller lederstil?
 - 13.1. Dersom ja: Forklar.
 - 13.2. Dersom nei: Kunne du sett for deg noen situasjoner der det er nødvendig?

Annet:

Har du noen tanker om tema eller begreper som burde vært tatt opp i forhold til adressering av problemstillingen vår? Forklar.

Appendix B: Raw data results

Theme 1 – The Project Management approach in Sopra Steria

Overview of Key findings related to the project management approaches

Keyword	Findings	Theory	Matching?
<p>Traditional</p>	<p>Project managers argue that traditional project management is outdated and not suitable in a software engineering industry such as Sopra Steria.</p> <p>There is a need to preserve the economic aspect, thus traditional reporting methods are being used.</p> <p>In projects with great uncertainty and risk, a traditional approach is not suitable.</p>	<p>The study has succeeded in finding theories which directly confirm the findings related to traditional methods.</p> <p>Wysocki states that in the complex world, traditional project management will not work as either the goal or solution is well known, and traditional projects appear more infrequently now than before (Wysocki, Effective Project Management, 2014) Further, Sommer et al. states that pure traditional methods cannot support the iterative cycles and external collaboration that drives the product development efforts of today (Sommer, Hedegaard, Dukovska-Popovska, & Steger-Jensen, 2015).</p> <p>The success of a traditional project is measured by time, cost, and scope; thus, the project plan includes a compilation of the defined project deliveries and activities to meet these constraints (Awad, 2005). As a result, detailed planning of tasks and then controlling the implementation of the projects in relation to former assumptions are used to prevent budgetary concerns (Wysocki, 2014).</p> <p>Wysocki argues that as traditional projects are intolerant to changes, and cost and time overruns are consequences of re-planning, thus, the approach lacks flexibility due to its reliance on heavy front-end planning. (Wysocki, Effective Project Management, 2014).</p>	<p>Yes</p>

Examples that support findings

Project managers argues that traditional project management is outdated and not suitable in a software engineering industry as Sopra Steria.

«Det som er problemet med det tradisjonelle er at de går bort ifra at du spesifiserer ting. Det kan altså ta så lang tid før brukeren får noen ting, at det er kanskje ikke det brukerne vil ha lengre.

Tradisjonell tilnærming gjør rene prosjektplanlegging mye lettere, fordi du da vet mye mer i detalj om hva som skal gjøres og når, men bruker mye lenger tid på å sette opp en slik plan.» (1)

«Hvis vi har en standard type analysedesign, så vil milepælene være **kontraktuelle**. Ulempen er ofte at du ønsker å starte utviklingen tidligere. I rent tradisjonelt så har vi utviklingsfase, testfase og implementering. Det vi ønsker/prøver på er å starte utviklingen tidligere, samtidig som vi starter integrert testing» (2)

«I min bransje så er det nesten ingen prosjekter hvor det egner seg å tenke utelukkende tradisjonelt. Det må være hvis du vet hva du skal lage og ikke noe handlingsrom for å være smart eller finne på noe lurt. I de tilfellene er det nesten ikke et prosjekt tenker jeg. Da har du mer en type produksjonsmodus.» (3)

«Jeg har ganske masse sertifiseringer, og holdt masse kurs i tradisjonell prosjektledelse, men den fossefalls måten å gjennomføre ting på ser jeg aldri noen spesielt god nytte av. Innen IT-utvikling, da er det ikke helt sånn plastelina, men det er ganske formbart når du jobber med utvikling. Det er en dårlig ide å bestemme seg først» (3)

«I tradisjonelt har man den fasen her hvor dette her skal gjøres og alle skal fokusere på en ting, så et beslutningspunkt hvor man beslutter om man kan gå videre til neste fase. Da har alle samme fokus så det kan jo være positivt, men samtidig så kan noen sitte og vente. For de er egentlig klare for å begynne på neste fase mens andre ikke er det og holder igjen. Merker jo at idéfase, konseptfase og utviklingsfase etc er veldig gammeldags tenkning» (5)

«Det vi ellers ville levert på tradisjonelt vis vi leverer jo på 1/5 av tiden, til vesentlig lavere kostnad.» (7)

«Hvis du vet akkurat hva du skal lage så går det fint an og kjører en tradisjonell prosess, men innenfor IT så vet vi sjelden akkurat hvordan ting skal bli. Så da vil jeg nesten tørre å påstå at i de aller fleste tilfellene så vil man ha nytte av å kjøre en agil metode. Fordi man vet aldri akkurat hvordan ting skal bli.» (10)

There is need to preserve the economic aspect, thus traditional reporting methods are being used.

«Selv om man jobber agilt så trenger man fortsatt å se på det her med budsjett og de mer rene prosjektlederoppgavene som fortsatt å se på ressurser, avtaler, kontrakter og tidsplan. Altså forsvinner jo ikke de typisk tradisjonelle prosjektlederoppgavene selv om du har et agilt prosjekt.» (1)

«I tradisjonelle prosjekt har man releaser underveis i henhold til milepælene som gjør at du kan sjekke og kontrollere ift dato og økonomi.» (2)

«I smidig er det fokus på effektivitet og kvalitet, ikke kroner og øre. Så lenge du har kontroll og stoler på at teamet gjør så godt de kan, så kommer du langt med smidig. Du måler resultatet oftere, så du får kanskje mer kontroll. Men igjen da så er det tilliten som er vanskelig.» (2)

«Mange forbinder jo fossefall med tradisjonelt, men det er jo mer enn bare det. Det er det med planleggingen, at du fokuserer på kostnad, tid og kvalitet.» (3)

«Den største utfordringen er vel egentlig økonomien når det kommer til det smidige. Altså folk vil vite hvor mye ting koster og også hvor lang tid det tar, men at økonomien er enda viktigere ofte. Og det er det som er veldig utfordrende hos offentlige kunder. Så der tror jeg nesten at en bør kjøre mer tradisjonelt og i starten bare for å ha rammene mer tydelig å få kontroll rett og slett.» (5)

«Flere av de prosjektene jeg har vært i har vært store prosjekter, hvor økonomi var veldig i fokus. Men som sagt hos kunden, eller hos offentlige kunder så kan man ikke gå helt bort fra de tingene. Som sagt så er tid veldig viktig, men økonomien den er de veldig streng på.» (5)

«Altså selv om vi snakker om å måle på effekt, out-put, through-put og sånne ting, så ser jeg at det koker ofte ned til et spørsmål rundt hva kommer det til å koste og når blir det ferdig.» (7)

«Det har ikke noe med at ikke ledelsen her forstår forskjellen, men det handler om at vi har børsnotert selskap og vi trenger den synligheten i økonomi. Det skal periodiseres og det er mye av de systemene der som kanskje ikke er helt tilpasset en agil verden. Så det er litt ytre påvirkninger som gjør det litt vanskeligere å være det tror jeg. Det er jo veldig mange av de prosjektene som jeg er involvert i rapporteres i portefølje her. De følges opp av økonomi internt og da er det ikke så veldig lett å få aksept for 100% «agilitet» da.» (8)

«Altså det det finnes mekanismer rundt som gjør at vi ikke gir slipp på den tradisjonelle måten å gjøre ting på.» (8)

«Vi leverer jo i stor grad et IT produkt, sånn at vi på smidig vis da leverer fram til pengene tar slutt. Så prøver vi jo hele tida å levere verdi tidlig, og at det som på en måte ligger til slutt skal være minst verdiskapende. Altså når pengene tar så har produktet blitt så langt vi kom, kan du si.» (9)

In projects with great uncertainty and risk, a traditional approach is not suitable

«I starten var de små prosjektene jeg styrte ganske fossefallsorienterte. Det er ofte **kontraktsformen** som ga føringer på hvordan vi gjennomfører prosjekter i IT-bransjen og der lagde man kravspekken først og så godkjenning av den. Etter det lagde man greiene og så tester man da til slutt. Det var den måten det gikk på. Endringer er noe man ikke ønsket seg fordi man hadde tungvinte rutiner og prosesser rundt det ved fossefall. Det ble mye styr og vi måtte da lage planen på nytt, estimere på nytt og så videre.» (3)

«Ofte hvis du skal gjøre noen tilpasninger av noe som har vært gjort flere ganger før, og det ikke er noe grunn til å tenke veldig mye på hvordan du skal lage det, da kan du like gjerne gjøre det på fossefallsmåten, hvis det passer best. Hvis du er i prosjekter der det faktisk ikke er helt opplagt hva man skal lage, for å oppnå de effektene man skal, så er det en veldig dårlig ide å bruke fossefall.» (3)

«Hvis det er noe som er veldig forutsigbart, si hvis du skal gjøre en jobb du har gjort mange ganger før, da kan en kjøre vannfall. Fordi da har du veldig lav usikkerhet og risiko knyttet opp mot det. For eksempel sette opp en infrastruktur-rigg, så kan det jo være at det egner seg å kjøre vannfall fordi du egentlig har alle planene på plass fra før og vet hvor risikoelementene ofte er. Du har sånn sett

stor forutsigbarhet da og da er det mye lettere å ha felles forståelse med kunde også i forhold til hvor mye det vil koste, hvor mye tid det vil ta og hvor mye ressurser man trenger. Desto større usikkerheten er, jo mer opplever jeg at smidig er en bedre tilnærmingen på det.» (6)

«Noen av de har vært tradisjonelle prosjekter som klassisk fossefalls prosjekt. Det største av de var lagt opp til et sånt klassisk fossefallsprosjekt, men den leveransen var så stor og kompleks at det rett og slett ikke funket med fossefall.» (8)

DISAGREEMENT

«Ja altså det prosjektet som på papiret egentlig skulle være helt sånn Scrum -basert, som var for *BEDRIFTSNAVN*. (...) Da skulle kontrakten, prosjektet og hele rammeverket være agilt og Scrum-basert, og det skulle være planlagt i sprinter. Jeg synes det fungerte utrolig dårlig, så en av de tingene jeg gjorde var å legge det til som et vanlig klassisk fossefalls prosjekt» (4)

<p>Agile</p>	<p>Feedback and continuous improvements are in focus to satisfy the customers.</p> <p>Experiencing difficulties with implementing an agile mindset.</p> <p>An agile approach must be adapted and customized to each unique project.</p>	<p>The study has succeeded in finding theories which directly confirm the findings related to agility and agile methods.</p> <p>Waja, Shah and Nanavati (2021) say Agile project management allows software developers to contribute to rapid adaptability to changes, early delivery and continuous improvement through feedback, various iterations and increments.</p> <p>Dikert, Paasivaara, & Lassenius (2016) say a common challenge is a difficulty of implementing an agile mindset. If the values and framework are not understood, agile practices can be conducted without understanding the purpose.</p> <p>A by-the-book implementation is not feasible and there is not a formal framework for agile, thus attempts to tailor the agile method to suit the organizations and the project's needs must be made (Conforto & Amaral, 2015) (Dikert, Paasivaara, & Lassenius, 2016).</p>	<p>Yes</p>
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Examples that support findings:

Feedback and continuous improvements are in focus to satisfy the customers

«Tanken med agilt er at du skal levere noe ofte til test, sånn at du får feedback tilbake igjen. Det betyr at sluttresultatet blir mye bedre. Det er feedbacken som gjør at du vet at du er på rett vei. Det handler mye mer om endringer og at man skal være mer glad når det kommer endringer fra businessen, for det betyr at de faktisk har satt seg ned og tenkt igjennom hva det er de egentlig vil ha. Så et åpent forhold til forandring er bra.» (1)

«... hvis du lager et fantastisk system, men det ikke er det brukeren vil ha, så spiller det ingen rolle om du har klart å holde budsjettet eller tiden. Det blir liksom ikke brukt.» (1)

«Agilt handler mye om at for meg å finne den beste måten å jobbe på.» (1)

«Jeg elsker endring. Det er derfor jeg liker smidig metode, for å håndtere endring fort. Om du tenker endring i prosjekt, miljø, eller endring internt i teamet, handler mer å være bevist på at endring skjer, ingenting er stabilt.» (2)

«Innen IT-utvikling, da er det ikke helt sånn plastelina, men det er ganske formbart når du jobber med utvikling. Det er en dårlig ide å bestemme seg først.» (3)

«Du kommer jo inn i en rutine selv om du kjører en smidig eller bruker smidig metodikk, så kommer du inn i en rutine. Så det virker veldig sånn satt og bestemt etter hvert, men det er jo på en måte ikke det. Altså man endrer seg jo, det blir sendt inn endringsmeldinger hele tiden og sånn håndterer de det.» (5)

«Desto større usikkerheten er, jo mer opplever jeg at smidig er en bedre tilnærmingen på det.» (6)

«Enhver endring fører til en kostnadsøkning, fordi man må inn å vurdere det, kanskje be ledelsen om mere penger og da får man kostnadsoverskridelser på prosjekt og sånn. I en vannfallskontekst, så er endringer ikke så positivt da. I en smidig kontekst så tenker jeg at endringer er bra, altså da er det om å gjøre å kunne håndtere endringene på en god måte.» (6)

«Man starter ofte med de møtene som avtalen tilsier at vi skal ha, og så foreslår vi forbedringer eller endringer i dette her etter hvert som ting går seg til. Det er ofte en evolusjonær tilnærming, i retning smidig.» (7)

«Du jobber i sykluser helt ut ifra brukerperspektiv hele tiden og det neste vi skal lage det vet vi ikke helt ennå. Ikke sant det kommer an på feedback vi får fra brukerne der i den andre enden.» (10)

«Altså når vi lager ny funksjonalitet for eksempel for en kunde, så prøver vi å gjøre det på det minste nivået og så ruller vi det ut, og så får vi brukertest det, så får vi tilbakemeldinger og den veien kommer det ofte inn endringer. Et prosjekt er jo dynamisk å bestå av endringer. Hvis man jobber med agile metoder så er det mye lettere å ta imot endringer sant, for da har vi rigget på den måten.» (10)

Experiencing difficulties with implementing an agile mindset

«Sopra har et smidig initiativ, men de glemmer et smidig tankesett. Det hjelper ikke innføre noe metode hvis organisasjonen ikke er smidig, (...) men vi har en lang vei å gå i Sopra Steria før vi er smidig. Vi har organisasjonen og kontrollbehovene, men tankesettene er der ikke. Det er ikke bare å begynne med daily scrum så stand up og tro at du er smidig.» (2)

«Sopra Steria da det at det er så liksom forankret i struktur og at de ikke klarer å være agile, vi er et stort selskap med mye forankring.» (2)

«vi er ikke så smidige som vi ønsker vi heller. Selv om i små team så klarer vi til en viss grad å kjøre agile, så isolert for et team på 8 mann så lar det seg gjøre med agil.» (2)

«Det hjelper ikke om jeg er keen på at temaet skal kjøre agilt hvis teamet ikke er modne for det eller forstår det.» (7)

«Alle teamene gikk over der, men jeg fikk jo ikke lov av styringsgruppa til å gå helt «agile» liksom.» (8)

«Vi har absolutt en del å gjøre på kompetanse, både hos våre arkitekter, testledere og prosjektlederne. At de må klare den omstillingen som jeg var innom.» (8)

«Det krevde mye av meg for å få de til å skjønne at det her ikke bare vare et «mote»-ord. Tror mange av de veldig erfarne bare tror at dette er et «buzz-word» og bare vil jobbe før de går av med pensjon, satt på spissen da.» (11)

An agile approach must be adapted and customized to each unique project

«Det er jo det som er bra med agilt at man hele tiden kan prøve å finne en bedre måte å gjøre ting på.» (1)

«En av grunnen til at dette prosjektet gikk så dårlig var blant annet at man hadde valgt feil tilnærming, feil prosjektmetodikk og det gjorde at prosjektet ikke fikk det til. Det kan være en kostbar feil å gjøre.» (2)

«Det som mange prøver på er å kjøre smidig metode i et kontrollert miljø, da feiler du ofte. For da er det ingen usikkerhet, det er ikke nødvendig fordi du vet hva du skal lage du har lagt det før og det er egentlig bare en tid det er bare å tid og penger før vi er i mål.» (2)

«I smidig har du i utgangspunktet ikke dato og økonomi. Du skal ikke fortelle teamet hvordan de skal gjøre det, det er de som skal fortelle deg hvordan de har tenkt å løse det. Det optimale med agile team er at de er stabile og at oppgavene.» (2)

«Første kapitlene i alle tilgjengelige rammeverk, sier noe om at dette er kun veiledende og det første man må gjøre det er jo å tilpasse dette til den konkrete situasjonen og det konkrete prosjektet.. Du tar et subsett av det, gjør en pragmatisk tilnærming og sier at dette er det som funker for oss. Du må ha en pragmatisk og praktisk konkret tilnærming til de rammeverkene, ellers går det ikke.» (4)

«Smidig handler om å finne en balanse og finne ut hva som passer for sitt prosjekt og sine ansatte. Hvis du kun går for den ene metoden, er du ikke smidig. Og det tror jeg er et problem fordi mange av de som er veldig opptatt av smidig, de tror at alt skal være smidig hele tiden. Det har blitt litt som en religion for noen.» (5)

«Det som er med smidig er at det ikke er 100% smidig, det er veldig få som får til det. Så det spørs bare hvilken grad av smidig man har. (...) Smidig handler om at du skal tilpasse ta de riktige valgene,

og legge til rette for de riktige prosessene. Så det handler egentlig ikke om «er du smidig eller ikke», men det handler om hvor mye, altså hvor smidig.» (5)

«Så handler det om å forstå kundenes behov. Det handler litt om type oppdrag. Jeg mener man skal ta i bruk det som er mest hensiktsmessig. Det hjelper ikke om jeg er keen på at temaet skal kjøre agilt hvis teamet ikke er modne for det eller forstår det.» (7)

«du må evne å identifisere hvilken metodikk egner seg best for den leveransen vi skal gjøre. Jeg tror det er veldig viktig å ha en forståelse for hva leveransen består av og kunne identifisere hvilken leveransemodell som egner seg best.» (8)

«det er veldig viktig at en prosjektleder evner å tilpasse metodikken til hvert prosjekt og kunde.» (10)

«Men også hatt prosjekter hvor det har vært flere team der noen har jobbet veldig agilt, sånn 100% slavisk Scrum etter boka.» (11)

Disagreement:

«Smidig måte å gjøre ting har vært populært i utviklertmiljøene lenge, men hos rådgiverne, ledelse/prosjektledelse og hos de som drev infrastruktur, så tok det lengre tid før førstevalget var smidig. Nå er jo alle enige om det.» (3)

«Det har ikke noe med at ikke ledelsen her forstår forskjellen, men det handler om at vi har børsnotert selskap og vi trenger den synligheten i økonomi. Det skal periodiseres og det er mye av de systemene der som kanskje ikke er helt tilpasset en agil verden. Så det er litt ytre påvirkninger som gjør det litt vanskeligere å være det tror jeg. Det er jo veldig mange av de prosjektene som jeg er involvert i rapporteres i portefølje her. De følges opp av økonomi internt og da er det ikke så veldig lett å få aksept for 100% «agilitet» da.» (8)

<p>Hybrid</p>	<p>One should use a hybrid model as one model works better than the other in certain circumstances</p> <p>A formal hybrid approach does not exist, thus different methods and approaches are being used.</p>	<p>The study has not succeeded in finding theories which directly confirm the findings related to hybrid mindsets.</p> <p>Bohem and Turner claim that future projects vary in size, business value, business case, culture, risk and complexity, thus they need both agility and discipline, and the approach should be adapted accordingly (Bohem & Turner, 2004).</p> <p>In this thesis, there is found that the project managers use different approaches and frameworks as a clear and distinct definition is absent.</p>	<p>Partially</p>
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Examples that (indirectly) supports findings:

One should use a hybrid model as one model works better than the other in certain circumstances

«Ja altså i de prosjektene jeg har hatt de siste årene, så har jeg vært både prosjektleder og Scrum Master, så jeg har liksom hatt begge rollene. Selv om man jobber agilt så trenger man fortsatt å se på det her med budsjett og de mer rene prosjektlederoppgavene som fortsatt å se på ressurser, avtaler, kontrakter og tidsplan. Altså forsvinner jo ikke de typisk tradisjonelle prosjektlederoppgavene selv om du har et agilt prosjekt.» (1)

«Du har både hatt den prosjektdelen med rapportering, styringsgruppemøter, tidsplan, se på ressursallokering og budsjett. I tillegg har jeg hatt de daglige møtene og kontakten med Scrum teamet. Jeg er litt mer sånn Coach for dem. Det har vært en veldig god blanding, men av og til så er det vanskelig å få de ulike knaggene til og man lurer på hva slags rolle man har.» (1)

«Jeg mener at en smidig tilnærming er riktig og i et tradisjonelt prosjekt. For det går på endringsledelse, det går på evnen til å ta inn endringer.» (2)

«Det er jo gevinsten av hybrid, at du spesifiserer underveis og ikke legger så mye arbeid i spesifiseringen som du må i vannfall. Så du ikke bestiller ferdig også skal det komme ut ferdig to mnd senere, men med smidig tilnærming at du kan fordele det opp i forståelige stykker og levere de forståelige stykkene. Da får du en helt annen synergi med bestiller, da du får avstemt hele tiden uten at kunden blir redd for at du ikke har skjønt det.» (2)

«Jeg vil si at det egentlig har vært 80% med vanlig fossefall, altså tradisjonelle. Resten har vel vært hybrid, fordi jeg har ikke vært i et prosjekt som har vært helt agilt, altså bare Scrum, selv om de påstår at de er det.» (4)

«Det er jo grunnleggende forskjellige roller og arenaer i de 2 tilnærmingene, så en av de arbeidsarenaene som jeg ser at nesten alle vanlige tradisjonelle fossefalls prosjekter bruker nå er jo sånn standup møter.» (4)

«I starten så var det vel mest vanlig med type klassisk eller vannfalls, så har det blitt en liten sånn glidende overgang. Nå er det mere i forhold til behovet, men i det siste så har det jo bare vært hybride prosjekter (...)» (6)

«Altså det er omfattende tema, men det som er ankerpunktet for å kjøre hybride prosjekter er at man må jo forstå litt hvor kundene er, hvor modne kunden er i forhold til smidig reise, så det er egentlig det å prøve å starte der og se litt hva behovet er. Hvilken oppgave skal man løse.» (6)

«Jeg tror heller ikke vi blir kvitt de store tradisjonelle prosjektene heller, for det er noe med hva slags leveranse det er som bør si noe om hvilken arbeidsform du velger å bruke da. Jeg tror vi kommer til å se mer og mer av den agile delen. Nå kommer jeg fra en X-avdeling, så der har det jo vært mye mer tradisjonelle løp, men også der tror jeg vi vil se at deler kan leveres mer agilt da.» (8)

«Kontrakter slik som vi jobber, det er rent standardisert. Vi har en leveransedato leverandøren ønsker at systemet er ferdig hos oss. Alt i kontrakten er standardisert, men leverandøren jobber agilt.» (11)

A formal hybrid approach does not exist

«Hvis du da har den hybridløsningen som jeg tror på, den kombinasjonen, så vil det være behov for prosjektledelse på ene sida og så skal timene bare rapportere. Hvis du har et bra prosjekt, så trenger du ikke prosjektleder. Prosjektleder er det kun når det går galt.» (2)

«Du må se for deg alle metodikkene og alle rammeverkene og plukke ut «best of breed», hva som du synes er viktige komponenter (...). Man sammensmelter det beste fra de rammeverkene.» (4)

«For å være helt ærlig så opplever jeg at man ikke tenker så veldig mye på hvilke metoder jeg bruker, om det er både tradisjonelt og agilt, eller hybrid, før etter før oppstart. Etter hvert som ting går seg litt til så glemmer du helt at du egentlig bruker et rammeverk og at du endrer litt på ting.» (5)

«Du mikser og plukker ut det beste fra 2 verdener så får du det praktisk til å fungere. Hva som er min lederstil i forhold til å lykkes, så er det i sin enkleste form det der med at jeg har riktig personer. Jeg er egentlig bare den første i køen, så jeg er akkurat så god som det teamet jeg har med meg er.» (4)

«Veldig mange lager sitt eget rammeverk. Altså veldig mange offentlige etater har laget egne rammeverk som passer for dem. Som er veldig bra. Jeg tror ikke nødvendigvis man skal kalle ting smidig eller hybrid eller fossefall. Som prosjektleder blir du ikke kvitt den kunnskapen du har, og hvis du har vært prosjektleder i noen år, og du har funnet dine metoder og ting som funker for deg, og som du klarer å overføre til prosjektressurser, så må du bare fortsette med det.» (5)

«Etter vi har formidlet metodikk så kommer neste spørsmål, ja, når kan jeg få den detaljerte planen og hvor mye koster det. Når man jobber på det nivået der så ender man ofte opp i en sånn liten hybrid greie da fordi du «tweaker» det litt til. Det virker litt til sånn at du da kan gi en viss forutsigbarhet, samtidig som du kan på en måte få en effektiv leveranseprosess. Det er jo en hybrid måte da.» (6)

«Ja, men igjen så er disse hybridene, så kan det henge litt på teknologi og andre ting og parametere også som ikke vi er herre over. Det gjør at vi ikke kan gjøre akkurat sånn som vi vil, men vi kan ha likevel jobbe i sprinter og organisere oss i produktteam og styre veldig mye av det selv.» (7)

«En hybrid løsning krever nok at de som er tradisjonelle prosjektledere de må oppdatere seg på kompetanse i forhold til det å jobbe og agilt. Jeg tror også at de som forstand kaller seg for agile coacher eller agile prosjektledere også må ha en viss kjennskap til det tradisjonelle metodikken, fordi at kundene sitter gjerne med sitt begrepsrammeverk og sine forventninger. Og hvis du skal kunne for eksempel snu en kunde fra å jobbe tradisjonelt til å jobbe agilt, så må du på en måte ha en liten fot inn i den tradisjonelle verden for å skjønne dem og hvordan du skal kommunisere. Og det er egentlig erfaringsmessig litt en opplæringsprosess sånn overfor kunder og i å få det til å skjønne hva som skal til for å jobbe agilt. Så jeg tror at liksom det å ha litt kunnskap om begge de 2 verdene er viktige.» (10)

«Da er jo den hybridmodellen en fin måte å få det inn på da. Begynner med enkle verktøy i smidig katalogen med at du kanskje har det standardisert rundt deg, og så utvikler man det.» (11)

Theme 2 – Ambidexterity

Overview of Key findings related to Ambidexterity

Keyword	Findings	Theory	Matching?
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Structural	The exploitative and explorative tasks are separated into different teams or structures within Sopra Steria.	The study has partially succeeded in finding a theory which directly confirms the findings related to structural ambidexterity. Structural ambidexterity lies in a firm's structure, where dual structures are created, and certain groups can focus on alignment while others on adaption (Gibson & Birkinshaw, 2004).	Partially
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Examples that support findings:

The traditional and agile tasks are separated in different teams

«Da kjørte vi tradisjonelt først med et team som infrastruktureressurser, når de var klare begynte vi mer agilt med de applikasjonene vi skulle migrere. Så det var først det ene så det andre.» (1)

«Hvis du da har den hybridløsningen som jeg tror på, den kombinasjonen, så vil det være behov for prosjektledelse på ene sida og så skal timene bare rapportere.» (2)

«Ja på en måte. I starten av det prosjektet, så var det sånn at kundene hadde sine team som var behovsteam og testteam, mens vi hadde team som jobba med løsningsbeskrivelser og utvikling. Til slutt slo vi sammen de teamene.» (3)

«Det er veldig avhengig av kontrakten på en måte og jeg er jo da prosjektledere og jobber med smidige prosjekter, og innen smidig metodikk så er det ikke beskrevet noen prosjektleder. Hvis vi har en kontrakt der vi skal levere noe til noen eller skal løse et problem, så trenger vi noen som er overordna kontaktpunkt og ansvarlig for det. Da blir det for min del litt sånn at jeg må servere kunden for eksempel rapporter og planer til de på formater som de ønsker. Jeg kan ikke ignorere at de har et behov for litt planer for eksempel, mens nedover i prosjektet så ønsker jeg at de som jobber med ting skal kunne jobbe på så smidig som mulig. Ofte så er det litt sånn en periode at du er litt schizofren.» (3)

«de kan jobbe helt forskjellige i de 2 teamene. For eksempel at endringsledelse ikke jobber smidig mens alle de tekniske timene jobbet smidig. De fulgte en sånn kanban-metodikk. Jeg tror ikke nødvendigvis det var veldig sånn bestemt at dere jobber sånn at dere jobber sånn, det bare skjedde egentlig. Og det har litt mer preferanser å gjøre. Det handler om de ulike teamlederne og hvordan de er vant til å styre team, hva de liker selv.» (5)

«Nå er det mer teamarbeid, en deler seg opp i mindre team og så er det sånn at det teamet har det ansvaret.» (5)

«Det var faktisk noen krefter i prosjektorganisasjonen som ville tenke i de retningene, fordi det var både infrastruktur og applikasjonsutvikling. Applikasjonsutvikling er jo oftere den agile retningen, mens infrastruktur er jo oftere mer tradisjonell.» (8)

«Så min virkelighet er at det er en sånn typisk Prince 2 dfi modell styrt prosjekt, som i utgangspunktet er rammen rundt. Mens det vi gjør internt i prosjektet er smidig. Og i kombinasjonen med det, at vi jobber så mye internt, så har vi jo da en ganske sterk sluttbruker og egentlig til dels mottakende enhet her.» (9)

<p>Temporal</p>	<p>There is a temporal separation between exploitation and exploration.</p>	<p>The study has not succeeded in finding theories which directly confirm the findings related to temporal ambidexterity.</p> <p>There are usually two common scenarios for sequential ambidexterity.</p> <p>1) when companies are at the beginning of the new product phase trying to figure out what the product is, the market, and what services they want to offer- the core explores the territory. However, when that is established, companies need to build internal efficiencies- the exploit capabilities. Thus, the pendulum swings from the exploration phase with trying things out, failing, learning, iterating etc. to the exploitation phase with execution, streamlining, and putting in rules and procedures Ugyldig kilde er angitt..</p> <p>2) The second scenario is that established companies spend their daily business in the exploitation phase by making money by squeezing the margins, optimizing routines, and getting better and better in their daily businesses. This is punctuated by radical changes (O`Reilly & Tushman, 2004).</p>	<p>No</p>
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Examples that support findings:

«I starten av disse små prosjektene jeg styrte, så var de ganske fossefallsorienterte, vi kommer litt tilbake til det også, men det er ofte kontraktsformen som gir veldig føringer på hvordan vi gjennomfører prosjekter i IT-bransjen og der var det sånn at man lagde kravspekken først og så ble man enige om den og så laget man greiene og så tester man da til slutt på en måte.» (3)

«Man kan kanskje si vi balansere tradisjonelle og agile metoder i et og samme prosjekt, ofte i det offentlige grunnet store leveranser. Vi har løsningsleveranser som skal brukes av for eksempel hele Norge. Da kjører vi piloter og deltester både løsninger og design, istedenfor å ruller ut dette til 2000 bygg, så ruller vi den første ut til 4. Så evaluerer, sjekker og forbedrer vi det. Gjør dette et par ganger, for så å ta resten. Det er vanlig måte å gjøre det på, fordi det er mye mer risikoregulering enn mye annet.» (4)

«Ja, det første prosjektet jeg hadde da var det veldig sånn. Vi har den fasen her, dette her skal gjøres, alle skal fokusere på en ting og så kommer det et beslutningspunkt hvor man da beslutter om man kan gå videre til neste fase.» (5)

«Rapportering for eksempel, altså sånne typiske prosjekt produkter er ganske tradisjonelle. Vi rapporterer på månedsbasis. Tildelinger i kroner og øre er via statsbudsjettet og den prosessen som går der, og den er jo alt annet enn smidig. Det er faste datoer og rammer. Og så har jeg vært gjennom en konseptfase og en planleggingsfase og skal ha en avslutningsfase, men vi leverer jo i stor grad et IT produkt. Sånn at vi på smidig vis da leverer fram til pengene tar slutt. Så prøver vi jo hele tida å levere verdi tidlig, og at det som på en måte ligger til slutt skal være minst verdiskapende. Altså når pengene tar slutt så har produktet blitt så langt vi kom, kan du si.» (9)

Examples that do not support findings

«Jeg har aldri opplevd at det har vært samme team som først jobber tradisjonelt deretter agilt, eller motsatt. Nei det har aldri vært det. Aldri vært noe sånt. Det har vært at man har jobbet agilt med teamene sine fra start.» (1)

«Innen forbi samme team? Nei. Vanligvis kjører jeg utvikling og test agilt. De vil da bli invitert ned i en type design fase, men da jobber ikke de smidig. Da vil de operere innenfor vannfalls aktiviteter.

Nei, jeg har ikke fordelt tradisjonelle og agile aktiviteter på ett og samme team i alle fall, for da må du skifte mind-set. Det vil jeg ikke anbefalt heller tror jeg. Så hvis jeg forstår spørsmålet så nei. Jeg vil ikke at de som har det agile tankesettet skal bytte til tradisjonell prosjektledelse, jeg vil de skal levere isolert. Det er viktig å isolere de.» (2)

<p>Contextual</p>	<p>The project managers change tasks due to context.</p>	<p>The study has succeeded in finding theories which directly confirm the findings related to contextual ambidexterity.</p> <p>The concept of contextual ambidexterity begins when the focus shift to a more simultaneously balance and the attention changes from trade-off (either/or) to paradoxical (both/and), this means without separating explorative and exploitative activities. It is contextual because it arises from features of its organizational context (Gibson & Birkinshaw, 2004).</p>	<p>Yes</p>
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Examples that support findings:

«Det er min rolle å stadig tilpasse meg konteksten så godt jeg kan til prosjektet og måten vi jobber på til prosjektteamet, for at de skal drives.» (1)

«Her er jeg prosjektleder og her er jeg produkteier. Så min rolle blir todelt, det er jeg som bytter.» (2)

«Jeg tror man må være litt åpen fordi du finner ikke en måte å gjøre ting på som passer i alle sammenhenger. Eksempel ønsker en kunde at ting foregår på en viss måte, samtidig som vi har våre styringsgrupper, møter som foregår slik, og rapportene våre følger denne malen. Da gjør jeg

tradisjonelt prosjektlederarbeid opp mot dem, og så er vi heller ganske smidige i arbeidsformen ned i prosjektet. Da syr vi de historiene sammen på en riktig måte. Best for alle.» (3)

«Som prosjektleder må du se for deg alle metodikkene og alle rammeverkene, og plukke ut «best of breed»; hva du synes er viktige komponenter i denne settingen. Man tar da elementer fra den ene metodikken inn i den andre eller omvendt. Det ser man bare mer og mer av. Man sammensmelter det beste fra de rammeverkene avhengig av kontekst. Du mikser og plukker ut det beste fra 2 verdener så får du det praktisk til å fungere» (4)

«En blanding av metoder er kanskje riktig oppskrift. Det er dumt å ha 100% av en av dem. Hvis du skal være så smidig at det ikke lenger blir smidig, da har du også et problem. Handler om å tilpasse seg situasjonen, ta de riktige valgene og legge til rette for de riktige prosessene.» (5)

«Vi står i en skvis, en ganske krevende spagat. Eksempel, vi kommer til kunden med et produkt som ikke er 100% ferdig, og de vil ikke tilgjengeliggjøre det for sluttbruker fordi det ikke er ferdig. Vi prøver å si at det skal ikke være ferdig, men det fungerer og vi skal lære av feedback vi får. Har forståelse for begge ståstedene, og derfor må vi prøve å finne en form for middelvei som gjør at det er gjennomførbart for alle parter.» (9)

Challenges

«Det er det som er vanskelig. For de det er krevende å gjøre. Det er mer bevisstgjøringen og ulempen er at du kan bli ambivalent, du gjør begge deler og så glemmer du ut. De som jeg var coach for var prosjektledere og de fikk ikke til p være produkteier. Det er ikke metoden som er vanskelig, det er ikke verktøykassen. Det er hodet. Å skjønne hva det betyr å vær smidig, å våge å være ærlig og rapportere. det er helt annet tankesett enn det utvikleren har gjort.» (2)

Theme 3 – Leadership

Overview of Key findings related to Leadership

Keyword	Findings	Theory	Matching?
Transformational leadership	<p>There are found characteristics that indicate that project managers to a large extent have a form of transformational leadership style.</p> <p>The informants express motivating visions, communication of innovative thoughts, improvements, openness, and trust.</p>	<p>There have been found theories in this study that define transformational leadership and its characteristics.</p> <p>Rosing (2011) defines transformational leadership as “moving the follower beyond immediate self-interests through idealized influence (charisma), inspiration, intellectual stimulation, or individualized consideration”. Further, in table 7 he gives these examples of transformational leadership characteristics:</p> <ul style="list-style-type: none"> • A Vision that motivates exploratory behavior 	Yes

		<ul style="list-style-type: none"> • Stimulation of thought in very new directions • Communications of the values of openness and tolerance • A Vision that motivates confirmatory behavior • Stimulation of small improvements and enhancement of efficiency • Communication of the values of conscientiousness and rules adherence 	
<p style="text-align: center;">Examples that support findings:</p> <p>Communications of the values of openness and tolerance <i>«I prosjekter bør verdier som åpenhet og respekt være sentrale. 10% av det man gjør er rent teknisk, mens 90% til å håndtere mennesker i et prosjekt. Folk må ha det bra for å levere bra.» (1)</i></p> <p><i>«Jeg tror de viktigste verdiene er åpenhet, ærlighet, godt samarbeid, sterk teamfølelse og hjelper hverandre. Jeg prøver å ikke dra fram pisker før jeg må.» (8)</i></p> <p>A Vision that motivates exploratory behavior <i>«Jeg er på den med tilliten og ærligheten i alt. En visjon vil jeg skal fremme slike verdier.» (2)</i></p> <p><i>«Jeg tror motivasjonen handler mye om å trives, ha det fint sammen og tørre å prøve.» (5)</i></p> <p>A Vision that motivates confirmatory behavior <i>«Jeg formidler en visjon som forklarer hensikten med det vi gjør og hva vi faktisk vil oppnå.» (3)</i></p> <p>Stimulation of thought in very new directions <i>«Jeg sier min viktigste jobb som leder er å ta dritten for alle andre, for at de skal ha den tilliten og tryggheten til at det er lov å gjøre feil.» (7)</i></p> <p><i>«Jeg er en inkluderende demokratisk leder som er opptatt av tillitt og ærlighet. Beslutninger tas sjeldent uten å involvere de det gjelder. Vi prøver å lykkes som et team ved å utnytte hverandres styrker. Glede når jeg gir folk ansvar og tillit, og de da tar det ansvaret og mestrer det.» (9)</i></p> <p>Stimulation of small improvements <i>«Jeg vil gjerne forbedre måten vi jobber på og motiverer teamet til samme tankegang.» (1)</i></p> <p>A Vision that motivates confirmatory behavior / Communications of the values of rules and adherence <i>«Man har en visjon og setter et måleresultat. Det er forhåpentligvis det samme som styringsgruppen. De vil ha et mål i prosjektet for å kunne se fremdriften opp mot det. Jeg begynner prosjekt med team canvas hvor det etableres regler, verdier og ønsket arbeidsmiljø. Parallelt formidles en visjon klart og tydelig slik at teamet klarer å se for seg sluttresultatet og hvilken retning vi skal.» (10)</i></p>			

A Vision that motivates exploratory behavior / Communications of the values of rules, adherence, openness and tolerance

«Hovedfokus på et bra samarbeidsmiljø, for det resulterer ofte i et bra produkt. Setter også klare forventninger til dato, tid, åpenhet og ærlighet, men da må jeg skape en tillit til dem.» (11)

<p>Transactional leadership</p>	<p>There are found characteristics that indicate that the project managers to some extents have a form of transactional leadership style.</p> <p>Many informants set goals and monitor them, as well as being aware of errors. There are not directly mentioned rewards and sometimes not specified type of goals.</p>	<p>The study has succeeded in finding a theory that defines transaction management and its characteristics.</p> <p>Rosing (2011) says “transactional leadership establishes an exchange-based relationship by clarifying goals, rewarding goal achievement, and by intervening only when necessary”. Further, in table 7 he gives these examples of transactional leadership characteristics:</p> <ul style="list-style-type: none"> • Rewarding experimentation • Focus on errors to learn from errors • Setting and monitoring exploration goals • Rewarding efficiency • Focus on errors to avoid errors • Setting and monitoring exploitation goals 	<p>Partially</p>
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Examples that support findings:

Rewarding experimentation / Focus on errors to learn from errors

«Det er ok å utforske og gjøre feil, men vil at de tar opp ting med en gang for å lære. Du må stole på teamet, siden jeg egentlig ikke har mulighet til å se at dypt tekniske ting er gjort riktig.» (1)

Setting and monitoring goals / Rewarding efficiency

«Benytter målekriterier og estimerer annerledes innen smidig. Fokus på effektivitet, kvalitet og resultat, ikke kroner og øre. Mener det er god nok kontroll, men vanskelig hvis du da måles på timeskost og sammenligner det. Så lenge du har kontroll og stoler på at teamet gjør sitt beste.» (2)

«Jeg har nå 10 prosjekter og 100 konsulenter. Kunne ikke overvåket alles arbeid, da tillitt hadde blitt mistet og kapasiteten ikke strekker til. Mikrostyle folk er jeg ikke veldig interessert i(...) Når jeg er ansvarlig for nyutdannede, så holder jeg de tett og de følger meg. Da er det mye coaching og overvåking daglig. Glede er at disse blir selvdrevne og kjempeflinke ofte i løpet av bare 6 måneder. Etter ett år så er de kanskje gull. Da føler jeg at jeg har gjort jobben min.» (4)

Setting and monitoring exploitation goals

«Vi tar i bruk en del metrikker man kontinuerlig kan måle produkt og teamet på.» (7)

«Jeg følger med for å se at det er fremdrift i henhold til mål. Når man har jobbet sammen lenge får man en viss feeling på hva og hvem som må overvåkes og ikke. Jeg tenger ikke følge så nøye med på nåværende prosjekt, men jeg gjør det allikevel. Med SCRUM så faller kontrollbehovet bort etter hvert, avhengig av hvordan du gjør det. Det er verktøy som alle kan gå inn på til enhver tid og se hva som blir gjort og hvor fort.» (10)

Rewarding experimentation / Focus on errors to learn from errors / Setting and monitoring goals

«Jeg oppfordrer teamet til å prøve seg litt. Vet ikke hvor mye de faktisk eksperimenterer, men de får lov til det(...) De fleste gjør det de skal, mens noen trenger påminnelse fordi de glemmer. De færreste må følges opp fordi de faktisk ikke gjør arbeidsoppgavene. Da er Planner i teams et godt verktøy for å sette opp og overvåke arbeidsoppgaver.» (5)

Focus on errors to avoid errors / Setting and monitoring goals

«Jeg vil med en gang høre om potensielle problemer, slik at vi kan unngå feil før det oppstår. Hvis folk tilbakeholder slik informasjon, så kan det eskalere og bli vanskelig å fikse(...) Jira brukes til logging og bekreftelse på det som gjøres(...) Vi kjører alltid stand up i mine prosjekter der gårtdagens og dagens gjøremål framlegges. Det er en fin måte å kontrollere, overvåke, ta raske avklaringen på og for å fange opp utfordring.» (8)

<p>Opening Leader behaviors</p>	<p>There are found characteristics that indicate that project managers to a large extent have a form of Opening Leader behaviors.</p> <p>All the informants' express room for risk-taking, exploration and mistakes.</p>	<p>The study has succeeded in finding a theory that defines Opening Leader behavior and its characteristics.</p> <p>Rosing (2011) defines opening leader behaviors as a set of leader behaviors that includes encouraging doing things differently and experimenting, giving room for independent thinking, and acting, and supporting attempts to challenge established approaches. See table 6 for examples of Rosing's Opening Leader behaviors characteristics.</p> <ul style="list-style-type: none"> • Allowing different ways of accomplishing a task. • Encourage exploration with different ideas. • Motivating to take risks • Giving possibilities for independent thinking and acting • Giving room for own ideas. • Allowing errors • Encouraging error learning 	<p>YES</p>
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Examples that support findings:

Allowing different ways of accomplishing a task / Giving room for own ideas / Allowing errors, Motivating to take risks / Encourage exploration with different ideas.

«Jeg leter etter nye måter å jobbe på, ikke bare for at det skal være nytt, men jeg vil gjerne forbedre måten vi jobber på og motiverer teamet til samme tankegang(...) Hvis man har en ide, så skal man ikke være redd for å teste det. Det å gjøre feil er helt ok. Alle gjør feil, så det skal være en åpenhet om at man skal tørre å ta de her risikoene da.» (1)

Allowing different ways of accomplishing a task

«Jeg har aldri gjennomført to prosjekter helt likt. Det passer aldri å gjøre noe nytt på helt den samme måten som noe annet er gjort tidligere, selvom det ofte er mye likt. Lederstilen min er mer en uformell type lobbystil, enn en oppfølgingsstyrer. De som jobber får i størst mulig grad bestemme selv hvordan de gjør ting, fordi de vet best selv hvordan de gjør jobben sin.» (3)

Allowing errors / Encouraging error learning

«For meg er det fryktelig viktig å oppnå resultater, koste hva det koste vil. Villig til å ta en risiko og motivere teamet til det samme. Kalkulert risiko er du nødt til å ta og pushe på teamet for å levere.» (4)

«Det er OK å gjøre feil og utforske» (1)

Giving room for own ideas / Encourage exploration with different ideas / Allowing errors

«Jeg skaper alltid en åpen og uformell stemning med teamet. Da tør de mer og prøver mer. Jeg sier ikke sånne «hvorfor har ikke du gjort slik eller det innen den datoen» for det vet de veldig godt selv.» (5)

Motivating to take risks / Giving possibilities for independent thinking and acting

«Jeg tror kanskje jeg er litt for lite redd for risiko egentlig. Jeg pusher. Jeg sier jeg tar driften for alle andre og tillater folk å gjøre feil.» (7)

Giving possibilities for independent thinking and acting / Giving room for own ideas

«Risiko kan være både muligheter og noe vi vil styre unna, men jeg vil det skal være rom for det og invitere til nyskaping(...) Jeg er hands-off hvis teamet trenger 'spillerom'. Samtidig skal jeg være en trygg havn å komme til og ikke være helt hands-off heller. Den balansen er ikke alltid så lett å få til.» (10)

Giving room for own ideas / Encourage exploration with different ideas

«Jeg er generelt veldig positivt innstilte både til endringer og forbedringer. Du kan alltid komme med nye ideer, men man må jo sette opp «pros and cons» også, for det er ikke alt man kan gjennomføre» (11)

Closing Leader behaviors	There are found characteristics that indicate that the project managers to some extents have a form of Closing Leader behaviors.	The study has succeeded in finding a theory that defines Closing Leader behavior and its characteristics. Rosing (2011) defines Closing leader behavior as a set of leadership behaviors that includes taking	Partially
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	<p>Many informants establish routines, do planning and indirectly monitor the team. There are not directly mentioned adherence to rules or consistent task performance.</p>	<p>corrective action, setting specific guidelines, and monitoring goal achievement. See table 6 for examples of Rosing's Closing Leader behaviors characteristics.</p> <ul style="list-style-type: none"> • Monitoring and controlling goal attainment • Establish routines • Taking corrective actions • Controlling adherence to rules • Pay attention to uniform task accomplishment • Sanctioning errors • Sticking to the plans 	
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Examples that support findings:

Establish routines

«Etablring av bra rutiner er viktig for blant annet å håndtere nye ting som kommer, ellers er det lett at det sklir ut i tid og budsjett fordi det kan hope seg opp. Nødvendig å ha fastsatte rutiner.» (1)

Taking corrective actions / Establish routines / Sticking to the plans

«Jeg strukturere ting opp i hodet mitt for å finne ut av hvordan det kan gjøres. Det er rutine og holdninger. Vi har planer og noen ganger veldig faste datoer for hva som må være på plass.» (3)

«Hos *KUNDE* er alt veldig tilrettelagt og ikke veldig åpent for å gjøre ting annerledes. Det er jo offentlige kunder og de har ofte en ganske god idé av hva de vil ha gjort og hvordan(...) Du kommer jo inn i en rutine uavhengig av metode(...)Jeg ble plutselig kastet inn i et prosjekt der jeg måtte rydde opp, lage struktur og masse lister og planer for å få oversikt og kontroll.» (5)

Monitoring and controlling goal attainment

«Måloppnåelse kontrolleres gjennom DORA, som har en del metrikker man måler ting på» (7)

Taking corrective actions / Sanctioning errors

«Jeg kan ta veldig styringa dersom det er noe veldig dårlig timing. og si at nå trenger vi å gjøre sånn og sånn i den rekkefølgen her. Dersom vi begynner å spore av i feil retning, så etterspør jeg innspill i håp om å unngå feilen» (8)

An Overview of ambidextrous leadership behaviors in Sopra Steria
Findings of Ambidextrous leadership behaviors in Sopra (Rosing, 2011)

	Opening Leader behaviors (Agile)	Closing Leader behaviors (Traditional)
Transformational leadership	A Vision that motivates exploratory behavior	A Vision that motivates confirmatory behavior

	<p>«Jeg synes motivasjon handler mye om å trives, ha det gøy sammen og tørre å prøve. Gjennom en visjon ønsker jeg å fremme slike verdier.» (5)</p> <p>Stimulation of thought in very new directions «Jeg oppfordrer og opplever at vi er veldig flinke til å tenke nytt og lage bærekraftige løsninger for kunden.» (5)</p> <p>«Jeg sier min viktigste jobb som leder er å ta dritten for alle andre, for at de skal ha den tilliten og tryggheten til at det er lov å gjøre feil.» (7)</p> <p>Communications of the values of openness and tolerance «Viktigste verdiene å formidle er åpenhet, ærlighet, godt samarbeid, sterk teamfølelse og at vi hjelper hverandre med å få ting på plass. Jeg prøver å ikke dra fram piskene før jeg må.» (8)</p>	<p>«Jeg leter etter nye måter å jobbe på, ikke bare for at det skal være nytt, men jeg vil gjerne forbedre måten vi jobber på og motiverer teamet til samme tankegang.» (1)</p> <p>«Jeg formidler en visjon som forklarer hensikten med det vi gjør og hva vi faktisk vil oppnå.» (3)</p> <p>«Jeg begynner prosjekt med team canvas hvor det etableres regler, verdier og ønsket arbeidsmiljø. Parallelt formidles en visjon klart og tydelig slik at teamet klarer å se for seg sluttresultatet og hvilken retning vi skal.» (10)</p> <p>Stimulation of small improvements and enhancement of efficiency «Med smidig metode preppes fokus på effektivitet og kvalitet.» (2)</p> <p>«Vi evaluerer, sjekker og forbedrer det vi gjør konstant.» (4)</p> <p>«Jeg og teamet snakker konstant om forbedringspunkter.» (8)</p> <p>«Testing og tilbakemelding gir deg mye bedre kontroll og kontinuerlige forbedringer til kunden er fornøyd.» (3)</p> <p>Communications of the values of conscientiousness and rules adherence «Jeg begynner prosjekt med team canvas hvor det etableres regler, verdier og ønsket arbeidsmiljø. Parallelt formidles en visjon klart og tydelig slik at teamet klarer å se for seg sluttresultatet og hvilken retning vi skal.» (10)</p>
<p>Transactional leadership</p>	<p>Focus on errors to learn from errors «Det er ok å utforske og gjøre feil, men vil at de tar opp oppståtte problemer med en gang, for å lære (...) Du må stole på teamet, for jeg har egentlig ikke muligheten til å kunne gå inn og se at f.eks dype tekniske ting er gjort rett eller galt.» (1)</p>	<p>Rewarding efficiency «Benytter målekriterier og estimerer annerledes innen smidig. Fokus på effektivitet, kvalitet og resultat, ikke kroner og øre. Mener det er god nok kontroll, men vanskelig hvis du da måles på tidskost og sammenligner det. Så lenge du har kontroll og stoler på at teamet gjør sitt beste.» (2)</p>

	<p>Rewarding experimentation <i>«Jeg oppfordrer teamet til å prøve seg litt. Vet ikke hvor mye de faktisk eksperimenterer, men de får lov til det.» (5)</i></p> <p>Setting and monitoring exploration goals <i>«Når jeg er ansvarlig for nyutdannede, så holder jeg de tett og de følger meg. Da er det mye coaching og overvåking daglig. Glede er at disse blir selvdrevne og kjempeflinke ofte i løpet av bare 6 måneder. Etter ett år så er de kanskje gull. Da føler jeg at jeg har gjort jobben min.» (4)</i></p> <p><i>«Vi kjører alltid stand up i mine prosjekter der gårtdagens og dagens gjøremål framlegges. Det er en fin måte å kontrollere, overvåke, ta raske avklaringen på og for å fange opp utfordring.» (8)</i></p>	<p>Focus on errors to avoid errors <i>«Dersom vi begynner å spore av i feil retning, så etterspør jeg innspill i håp om å unngå feilen.» (8)</i></p> <p>Setting and monitoring exploitation goals <i>«Vi tar i bruk en del metrikker man kontinuerlig kan måle produkt og teamet på» (7)</i></p> <p><i>«De fleste gjør det de skal, mens noen trenger påminnelse fordi de glemmer. De færreste må følges opp fordi de faktisk ikke gjør arbeidsoppgavene. Da er Planner i teams et godt verktøy for å sette opp og overvåke arbeid.» (5)</i></p> <p><i>«Jeg følger med for å se at det er fremdrift i henhold til mål. Men når en har jobbet lenge sammen får en viss feeling på hva som trengs å overvåkes og ikke. Jeg tenger egentlig ikke følge så nøye med på nåværende prosjekt, men jeg gjør det allikevel.» (10)</i></p>
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Theme 4- Obstacles with agile approach in Sopra Steria

Overview of emerging findings related to obstacles

Keyword	Findings	Theory	Matching?
Contract	<p>Some informants feel the contract is a hinder to agility.</p> <p>The contracts are not agile.</p>	<p>The study has not succeeded in finding theories which directly confirm that non-agile contracts prevent agility in Sopra Steria.</p> <p>On the other hand, Ågren and Knauss (2018) state that requirements-based contracts are hindering fast collaboration (Ågren & Knauss, 2018), which is a characteristic of agile.</p>	Partially
<p style="text-align: center;">Examples that support findings:</p> <p><i>«Det er ofte kontraktsformen som gir føringer på hvordan vi gjennomfører prosjekter i IT-bransjen.» (3)</i></p>			

«Vanligvis når du kjøper et prosjekt, så gjør du et grunnleggende innledende valg. Skal jeg kjøpe kompetansen, et prosjekt, et produkt eller en leveranse? Altså valg av kjøp, så prosjektmetodikk, så valg av pris og deretter skrives kontrakten.» (4)

«Det er veldig krevende å kjøre smidig hvis du for eksempel har en fastprisavtale.» (6)

«Kontraktene har ligget litt bak utviklingen av metodeverket. Tidligere hadde man f.eks. fastprisavtaler og det som i aller høyeste grad virker begrensende på muligheten for å jobbe smidig. Det står i kontrakten at det skal lages sånn og sånn, men alle er enige om at det ikke er det vi burde gjøre. Behovene har utviklet og endret seg siden avtalen ble inngått.» (7)

«Vi tenker på forbedringspunkter hele tiden. Vi hadde en presentasjon for en uke siden hvor vi sa at alt henger sammen med alt, fordi du begynner jo med hvordan du selger inn en ting. Hvis du selger det inn som at dette leveres som et tradisjonelt fossefall og det blir til en kontrakt som kunden signerer, så er prosjektet bundet til å levere det på den måten. Der må vi kanskje forbedres.» (8)

«Kontrakter slik som vi jobber, det er rent standardisert. Vi har en leveransedato leverandøren ønsker at systemet er ferdig hos oss. Alt i kontrakten er standardisert, men leverandøren jobber agilt. Det er spennende, for jeg har ikke sittet på den siden selv og vært den som har behandlet det standardiserte. Vi prøver da å bidra inn til leverandøren slik at de får kjørt sprintene sine og at vi får testet underveis. Vi må opptre agilt i visse forum med dem, men i de andre forum er det ganske strengt.» (11)

Steering group	Some informants feel the Steering group is a hinder to agility.	The study has not succeeded in finding theories which directly confirm that the Steering group is a limiting factor towards agility in Sopra Steria.	No
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Examples that support findings:

«Jeg rapporterer oppover til styringsgruppa og dette er interessant å se på når vi snakker om hvor smidig vi kan være. Fordi jeg kan være smidig i prosjektgruppen min, mens oppover er det så vannfall som en kan få det.» (2)

«Vi har styringsgruppen vi har møter med som skal foregå slik, og rapportene våre skal følge denne og denne malen osv. Det blir veldig tradisjonelt prosjektlederarbeid opp mot styringsgruppa, og så er vi heller ganske smidige i arbeidsformen ned i prosjektet da. Da får vi bare sy de historiene sammen på en riktig måte.» (3)

«Jeg fikk jo ikke lov av styringsgruppa til å gå helt «agile» liksom. De forventer fortsatt den tradisjonelle prosjektlederstyringen med estimater, tidsplan og alt det vanlige, som du kanskje ikke har så stort fokus på når det er mer agilt... men styringsgruppen ville ikke akseptere agilitet på rapporteringen da. De ville ha det tradisjonelle, men lot oss likevel kjøre agilt nedover. Selv om det er veldig vanskelig å få til det når det er en disconnect der» (8)

Customer	Some informants feel the customers are a	The study has not succeeded in finding theories which directly confirm that the customer is a limiting factor toward agility.	No
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	limiting factor towards agility.		
Examples that support findings:			
<p>«Det er utfordringer i den smidige verden når det kommer til kunden. For i smidig fjerner du spesielt kroner og datoer fra kunden, noe de som oftest forlanger eller krever.» (2)</p> <p>«Det blir mer behagelige opplevelser for alle parter om jeg gjør litt tradisjonelt prosjektlederarbeid opp mot dem, og så er vi heller ganske smidige i arbeid formen ned i prosjektet da.» (3)</p> <p>«Kundene våre har veldig mye «legacy». De har mye bagasje da. Så selv om du skal implementere det samme i et nytt prosjekt så er den bagasjen så ulik fra prosjekt til prosjekt, og fra bedrift til bedrift. Derfor må en alltid ta hensyn til den bagasjen. Og den skaper ulike utfordringer på hvert sted du er, så noe kan være likt, men du må alltid komme opp med nye smarte løsninger.» (5)</p> <p>«Problemet er når noen kunder egentlig ikke bryr seg så mye. De sier at de skal ha noe, men møter ikke mer opp og er ikke med som en aktiv Produkteier for eksempel. Da er det ingen hensikt å kjøre smidig for da får ikke teamet den inputen de trenger fra Produkteier, som prioriteringer osv. Da ender man kanskje opp med å levere ting som ikke helt passer, fordi kunden ikke har vært der» (6)</p> <p>« «BEDRIFTSNAVN» er en ganske konservativ organisasjon på sett og vis. Selvfølgelig handler det her om lover og regler. Sånn i utgangspunktet er jeg ganske kreativ og tror på Innovasjon, men ofte møter vi en vegg av lover som gjør alt litt komplekst og dermed setter visse begrensninger til smidig metode.» (9)</p> <p>«Om man kjører tradisjonelt eller agilt kommer veldig an på oppdraget; Kunden og modenheten hos kunden. Hvordan innsalget har blitt gjort og hva forventninger kundene har hatt helt fra oppstart. Det har vært variert.» (10)</p>			
Religion	Some forget that agile is a method, not a religion	The study has not succeeded in finding theories which directly confirm that for some people agile has become a religion rather than a method.	No
Examples that support findings:			
<p>«Altså en blanding er på en riktig måte oppskrift. Det er veldig dumt å ha 100% av en av dem. For hvis du skal være så smidig at det ikke lenger blir smidig, da har du også et problem. Og det har vært et tema da, hvor mye fokus kan man ha på smidig? Smidig handler om at du skal tilpasse ta de riktige valgene, og legge til rette for de riktige prosessene. Så det handler egentlig ikke om «er du smidig eller ikke», men det handler om hvor mye, altså hvor smidig.» (5)</p> <p>«Det er litt sånn typisk IT-ånd så blir det fort litt religion dette her da. Selvfølgelig i prosjektlederrollen så er det vannfall vs smidig. Spesielt innenfor smidig så er det noen som mener at hvis ikke du kjører en viss metodikk, så jobber du ikke smidig.» (6)</p> <p>«Og så mener jeg at mange av de som ser på smidig som en religion, de glemmer en del av elementene oppi dette.» (7)</p>			

«Jeg tror ofte utfordringen kan ligge i selve prosjektgruppen. At noen er evangelister og vil bare jobbe smidig, og fordrar ikke andre måter å jobbe på.» (10)