Business process management and success factors – Which success factors are the basis for a successful implementation phase of a BPM project"

A qualitative case study about the success factors present in the
implementation phase of a single point of contact project at the
University of Agder

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Preface

This master thesis is written as the final project at the master course in Information systems at the University of Agder. The thesis is a part of the IS-501-1 "*Master thesis in Information systems*" course and is written in the time period between January 2020 and June 2020.

This course gives the opportunity to work in-depth with a specific subject and conduct a project in either the public or private sector. After writing this thesis we will have gained an understanding of applying theoretical knowledge and scientific methods to a specific problem. The purpose of this thesis is to answer what success factors are the basis for a successful implementation phase in a BPM project at a Norwegian university.

We want to thank our supervisor, Professor Dag Håkon Olsen at the institute of Information systems at the University of Agder for his guidance and expertise in this field. We are thankful for the guidance, constructive feedback, and continued assistance that we have received throughout this thesis

At last we want to thank interviewees at the University of Agder for their participation and honesty in our research. A special thanks to the UiA help project leader for allowing us to use their project as a part of our thesis.

Kristiansand, 3. June 2020

Ola Skarpmoen Eriksen

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Abstract

The following master thesis looks into the topic of business process management and the success factors present in the implementation phase. From prior research, it was discovered that there is a research gap in prior conducted research about success factors within different phases of a BPM project. The purpose of this thesis is to add to this perceived research gap by discovering the success factors in the implementation phase of a BPM project undertaken at the University of Agder.

A literature review was first conducted to identify already existing success factors, resulting in 127 factors found. A pre-existing framework of critical success factors was re-specified and used in mapping the identified success factors. This led to two new categories being discovered, these being *organizational change* and *processes*. The framework was used as a basis in creating our interview guide and consisted of 11 critical success factors, *leadership, methodology, people, performance measurement, project management, strategic alignment, organizational change,* and *processes.*

Data gathering consisted of a single explanatory case-study and a qualitative process. A total of nine individuals were interviewed through a semi-structured interview process. The chosen case study was a BPM project conducted at a large public sector organization, the University of Agder.

The individuals interviewed were all people with a certain authority of the project during the implementation phase. The data collected from the interviews were transcribed and analysed in a data analysis system to determine what success factors respondents meant were critical. Findings were validated by cross-checking transcriptions of the interviews.

In our findings, we discover that not all of the 11 critical success factors were critical for the implementation phase. We argue that *culture, communication, people,* and *processes* are the critical success factors of the implementation phase. *Information technology*, *leadership*, *project management* and *organizational change* are considered as important for this phase, but not critical. *Methodology, performance measurement* and *strategic alignment* are considered as not important for this phase.

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1. Introduction

Business Process Management (BPM) is an important topic for today's organizations. It is a topic that has been around for many years and has been popular amongst organizations that wish to achieve better performance of their processes (Malinova, Hribar, & Mendling, 2014). BPM provides several benefits within an organization, as it has the potential to improve the performance of their processes, be more efficient in their productivity and be more competitive while reducing the resources needed (Bai & Sarkis, 2013).

The conceptual roots for BPM come from multiple highly researched management concepts of the twentieth century. With the definition of BPM still mostly inconsistent, it is difficult to say when and how BPM started. The first use of the term BPM is under dispute, and some believe that the term dates back to 1911 in the times of *Scientific Management,* while others even quote sources back to the eighth century (Klun & Trkman, 2018). BPM has evolved from instructions on applications to a management practice where the organization's processes are focused on clients, objectives, people, and technology that are integrated with operational and strategic activities. The goal of BPM is to better align the organization with customer needs and it does so by combining the IT and the organization's business perspectives (Bernardo, Galina, & Pádua, 2017).

Much of the prior research discusses how BPM should be used and implemented in organizations (Trkman, 2010). However, there have been reports that organizations are not achieving the expected benefits and results of BPM (Malinova et al., 2014). This has sparked researchers to focus on discovering what *critical success factors* (CSFs) there are for BPM to be successfully implemented and adopted. CSFs are the key areas that must be focused and committed on by organizations that wish to achieve success in BPM. Most of the prior research conducted about CSFs focus on the whole lifecycle of a BPM project, and there is a perceived research gap about which CSFs are present for the specific phases of the lifecycle (Buh, Kovačič, & Indihar Štemberger, 2015).

Our thesis focuses on this research gap and is also the basis of our research question. The research question we answer in this thesis is as follows: *"Which success factors are the basis for a successful implementation phase of a BPM project?"*.

In answering our research question, we have first conducted a literature review where we identify success factors from prior research and map these using a holistic framework. In an attempt to discover which CSFs are present in a specific phase, a single-case study about the implementation phase of a BPM project at the *University of Agder* (UiA) using a qualitative data gathering method was conducted.

1.1 Motivation

There were multiple contributors that motivated us in conducting this research about both our chosen topic and chosen case. BPM was a term that was introduced to us in one of our master studies courses, and we have been genuinely interested in this topic since. It was fascinating to see how BPM helps businesses evolve and be more customer-oriented. We believe that customer satisfaction is immensely valuable, and BPM allows organizations to get this focus

back. Since we have only looked at theoretical examples, we wanted to study this topic with an actual real-world example rather than just theoretical.

The case of UiA Help presented itself as a perfect opportunity to study this topic. Throughout our master years at UiA, we have both worked at the IT Department at the university. Since we were employees, the project of UiA Help has had an even more substantial personal interest for us as we were first-hand witnesses of how such an organizational change project-affected its employees. Our involvement in the public sector has also motivated us to study more into how the public sector conducts such projects, as much of our prior research undertaken about BPM has solely focused on the private sector.

1.2 Contribution

BPM success is a very complicated matter and projects have different characteristics that require different success factors for different project lifecycles (Bandara, Alibabaei, & Aghdasi, 2009). After conducting our literature review and looking at existing prior research, it is apparent that there is a need to evaluate and re-evaluate the already defined success factors of BPM (Trkman, 2010). BPM has been a widely researched topic throughout the years, and there exist many discovered success factors (Klun & Trkman, 2018). Our thesis first contributes to the mapping of previously identified success factors and gathers existing success factors into one holistic framework.

Our contribution lies in the gap of research that looks into success factors within specific phases of a BPM project. The article *"Critical success factors for different stages of business process management adoption–a case study"* (Buh et al., 2015) stated that there had been a lot of research done already about the success factors of an entire BPM project, but not about the different stages. We argue that there is a research gap as only a few out of our 32 reviewed articles have solely focused on the specific success factors in the different stages of BPM projects. We therefore believe that our thesis contributes to research by looking at a specific stage of a BPM project, the implementation phase, and discover the success factors present within that stage.

1.3 Case description

Our chosen case for this thesis has been a BPM project at the University of Agder. This university has 1440 employees, 550 in administration, and 890 in the academics. UiA has two campus locations in Kristiansand and Grimstad, with a total of 12 995 students (Agder, 2019). The administration at UiA started a project where the goal was to establish a *single point of contact* (SPOC) service desk. The purpose of this project was to decrease the number of service desks at UiA from four to one single contact service desk.
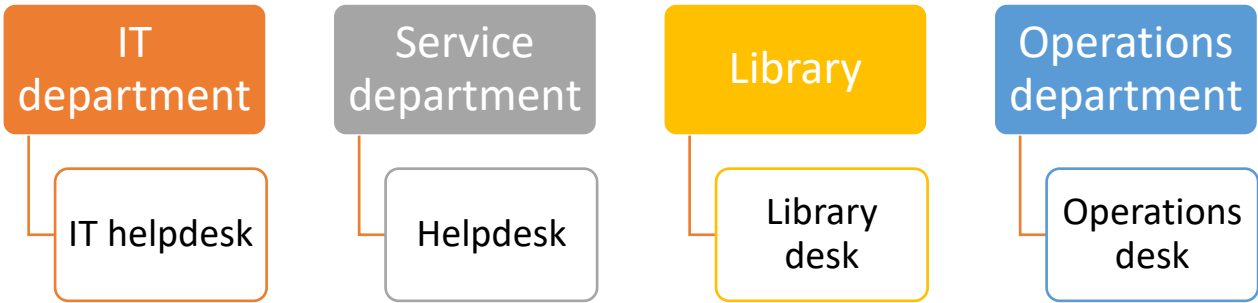
Figure 1: Organization of service desks before the project

UiA has had rapid growth in complexity, students, and employees. In such a large organization, this makes it difficult for students and employees to navigate themselves to the information that they need. There were too many desks, contact points, and spread of information about the different portals to contact them, as shown in *Figure 1*. The layout of service desks they had, placed the responsibility on the users to find information about the services provided by the university. Different cultures in the departments gave users different levels of service. The reason is that the departments developed services that they offer different to one another, and this gave the departments little room for co-creation and synergy (Agder, 2016, 2017).

UiA described their needs in the document that proposed the grounds for the project. The needs presented in the document is displayed in *Table 1* below.

Table 1: Reasons for UiA starting the project (Agder, 2016)

Reasons for UiA starting the project
The need for more effective processes and resource usage.
Measure resource use and service delivery for continuous improvements.
Facilitate interaction between the different departments.
Digitize and automate services.
Disengage resources to handle the increased assignments and developments of new services.
Ensure a robust service delivery with the possibility to control the resource usage between the different departments if needed.

Figure 2 shows where the UiA help sub-department is located at in the organization chart.
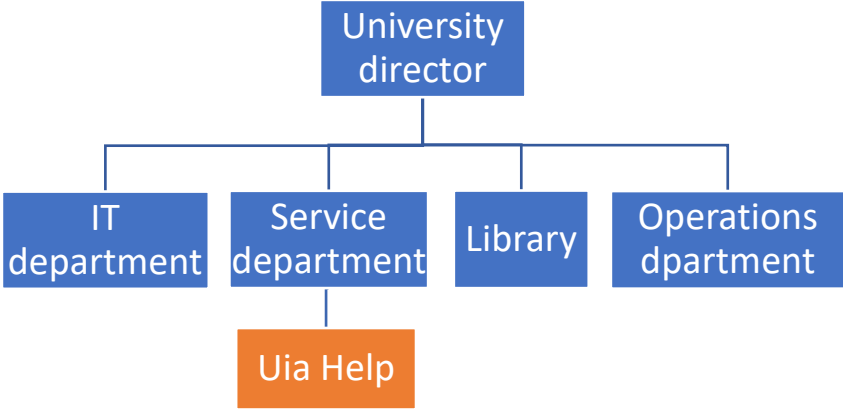
Figure 2: Organization chart

The goal of the project is to have a single point of contact that students and employees can contact. *Figure 3* displays how UiA help combines the contact point of each service desk into one entity.
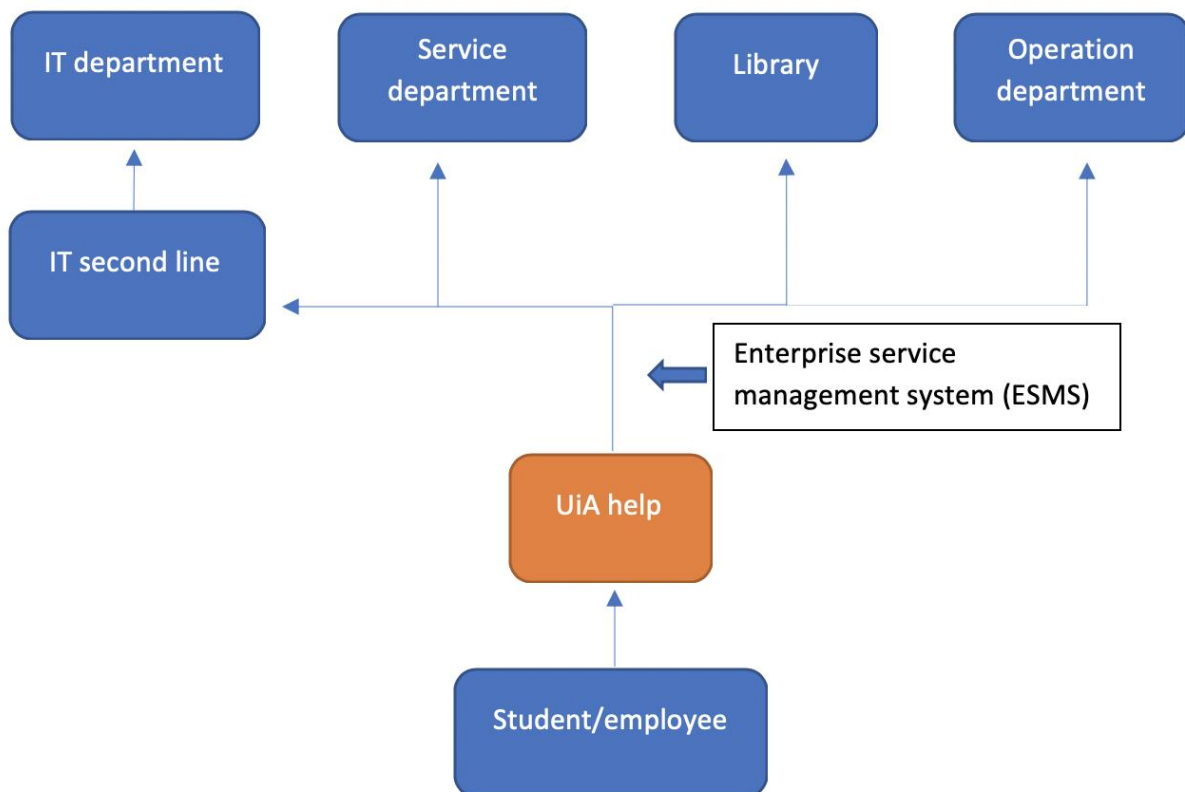
Figure 3: Single point of contact for each service help desk

1.4 Structure of the thesis

Our thesis consists of 7 chapters with multiple subchapters that follows a standard layout for a qualitative research paper. This thesis includes a description of the case, related research, key concepts, articles reviewed, holistic framework, research approach, results, discussion, and conclusion.

Chapter 1: Introduction
An introduction is given to the master thesis by providing a brief overview of BPM, the focus of the thesis, and a presentation of the research question. Motivation, contribution, and case description are discussed in this chapter.

Chapter 2: Related research
Chapter 2 presents the literature that has had a significance for this research and explains the literature search processes used. Definitions of the key concepts that were significant and what others have done prior to our chosen field are included. Previously discovered success factors are mapped, and a new proposed framework is discussed in this chapter.

Chapter 3: Research approach
This chapter explains the research process, strategy, and methodical approach. A presentation of the data generation method, data analysis, and data processing is presented. Different

problems, pitfalls, and limitations for our design are discussed, and the chapter concludes with an overview of the data gathering process and validation.

Chapter 4: Results of findings

Results from the data gathering process are presented in this chapter. There is first a general impression of the project from our respondents, following with a presentation of the results of each factor discussed in the proposed CSF framework.

Chapter 5: Discussion

The chapter discusses the findings from the qualitative research, along with the prior research for each factor presented in the proposed framework. A discussion of our results in total, and a summary concludes this chapter.

Chapter 6: Limitations

The limitations, reliability, and validity of our research are presented in this chapter.

Chapter 7: Conclusion

A conclusion with a summary of the thesis and answering the research question is presented. The ending is a discussion on the implications and potential future research to be conducted.

2. Related research

The following section consists of the steps undertaken for finding related research for this master thesis. A total of four literature searches split into two parts, following a five-phase layout approach was conducted. A total of 32 articles that met the criteria were used. 20 articles were used as a part of the literature review, and 12 articles used for discovering what others have done in this field.

The literature review was used as a basis to both get a theoretical understanding of the topic and finding previously associated success factors. This section is also a continuation of our previous work in both our IS-404 "*Research Methods in Information Systems*" and IS-420 "*Current Topics and Research areas in Information Systems*" subjects. The two courses were used as a pre-phase for this master thesis and the literature search process, key concepts, results, and holistic framework are used from both our IS-404 "*Business process management and success factors – Which success factors are the basis for a successful implementation phase of an ongoing BPM project*" (Jensen & Eriksen, 2019a) and IS-420 "*Success factors and barriers in business process management projects – A literature review*" (Jensen & Eriksen, 2019b) reports. The literature review was the theoretical basis of specifically identifying success factors associated with BPM projects and summarizes them using a holistic framework.

2.1 Literature search approach

The literature used for this thesis was found by following a structured approach, as presented in the article by Jane Webster and Richard T (2002). This article explains several important ways of how to undertake in conducting a structured approach to begin discovering relevant literature for a thesis. Two presented techniques from the article were used to go about conducting the literature search these being; "*go backward approach*" and "*go forward approach*". By reviewing articles in a backward manner, the go backward approach consists of us looking at what kind of sources that relevant articles have used in their research. Sources that we deemed interesting and appropriate for this thesis were reviewed to see if they applied for this research. The go-forward approach consists of searching for sources and articles ourselves in a database by following the set criteria. A concept matrix was also incorporated and used for related research and is a key point to go from an author-centric approach to a concept-centric (Webster & Watson, 2002).

2.1.1 Search criteria

Before conducting the literature search, several criteria were set to help create the search strings. This was used to help narrow down relevant material found in the databases. The requirements are shown in *Table 2* and consisted of the following points:

Table 2: Literature search criteria

Keywords	- Success factors - Key factors - Critical success factors - Business process management - Business process management project - Business process management lifecycle - Business process management phases - Business process management stages - Barriers - Pitfalls - Challenges
Language	- English - Norwegian
Timeframe	2008 – 2020
Databases	- Web of Science - Google Scholar
Subject area	All identified
Other	- Articles are to be peer reviewed - Articles must have an author and not be anonymous

2.1.2 Five-phase approach

After the criteria were decided, we adapted a five-phase approach to narrow down the large number of articles that were found from the various databases. The following procedure of the phases was followed for narrowing down our articles during our go forward and afterward adapting the go backward approach when relevant articles were discovered (Danielsen, 2019).

The phases undertook consist of the following steps:

Phase 1: Searching for articles in various databases with set criteria. Export discoverd aticles into a spreadsheet.

Phase 2: Find and remove duplicate articles and articles that do not meet set criteria

Phase 3: Check the titles and review them to see if they are relevant and or interesting for the thesis.

Phase 4: Read the abstracts of the articles to further establish whether they relate to the research and if they are of interest.

Phase 5: Read chosen articles and highlight any important points that are relevant and interesting.

Figure 4: Five-phase approach to conducting a literature search (Danielsen, 2019)

2.2 Conducting the literature searches

Four different literature searches to find the articles used in the thesis were conducted. We have used four different search strings for each version of the five-phase approach, which are shown in *Table 3*. The search strings were derived from the criteria we previously set and were changed slightly throughout each iteration of the five-phase approach.

Table 3: Search strings used for each version of our article searches

Versions of Article Search	Search string used
Version 1	TITLE-ABS-KEY (*"BPM" OR "business process management"*) AND (*"critical success factor"*) AND (*"pitfall" OR "barriers"*) AND PUBYEAR > *2009*
Version 2	TITLE-ABS-KEY ("BPM" OR "business process management") AND ("success factor" OR "key factors") AND ("barriers" OR "challenges") AND NOT ("business process reengineering") AND PUBYEAR > 2008
Version 3	TITLE-ABS-KEY ('business process management' OR 'business process orientation') AND ('success factors' OR 'factors') AND NOT ('Business process modeling')
Version 4	TITLE-ABS-KEY ('business process management' OR 'BPM') AND ('life cycle' OR 'phase' OR 'stages') AND ('factors' OR 'success factors') AND NOT ('business process modeling' AND 'business process orientation') AND PUBYEAR > 2008

Phase 1 of our conducted literature search

In Phase 1 of the literature search, the search string from Version 1 was used, and a total of 76 articles were discovered. A spreadsheet was created, and the discovered articles were exported. The spreadsheet created included the *Authors, Title, Year, Source Title, Cited by, DOI, Abstract, Authors keywords, Index keywords, and Language*. The same was done throughout the other iterations of our five-step approach.

After changing up our search string for Version 2, which consisted of us now including "success factors" as opposed to just "critical success factors," we got a total of 220 results. For version 3, we have decided to also include business process orientation in our search string, and a total of 333 articles were discovered. For Version 4, we made a more drastic change in our search string by including all articles that have had "factors" associated with them in our search string, which resulted in us obtaining a much larger result of 2378 articles.

During this phase and through each iteration, we had searched for articles in another database, Google Scholar, where we had used the same criteria as noted before and included any relevant articles in our Phase 1 spreadsheet.

Phase 2 of our conducted literature search

Phase 2 of the literature search consisted of us removing duplicates and articles that did not meet the set criteria. Results for each version of phase 2 are displayed in tables 3 through 6.

Phase 3 of our conducted literature search

In phase 3, we looked through the titles of the articles and determined whether they were of relevance for this thesis. During this phase, the majority of the articles discovered were not seen as relevant.

Phase 4 of our conducted literature search

For phase 4, a ranking system was created to help determine the relevance and importance of the chosen articles. The system had a range from 0 to 3, where rank 0 was considered as irrelevant, rank 1 as maybe, rank 2 as include, and rank 3 as must include. During this phase, the abstract was read and given a rank. The ranking was first done individually, and later on discussed as to why a particular rank was given. This was done so assure the quality of the articles. Articles that had received rank 1 were further addressed to see if they were important enough to move onto the next phase.

Phase 5 of our conducted literature search

Phase 5 consisted of two separate approaches to the use of the reviewed articles. The articles that were discovered from version 1 and 2 of our literature searches were read and success factors, if present, were identified. The articles reviewed under versions 3 and 4 of our article searches were used to research previous work that was done and help us get a better understanding of the topic as well.

During this phase, we have also incorporated the go backward approach. We have looked at the sources used from the 32 articles that were reviewed in order to see if any other sources that were used met our initial criteria. Not many were discovered with this technique as the most relevant sources used by previous authors were already discovered from our initial article searches. Results of the article search and each version was undertaken are summarized in *Table 4* to *Table 7* below. The searches yielded good results, though, during version 4 of our article search, we had gathered a lot of articles from the search string that was used. This was due to us, including new keywords that were present in many other research fields, though, towards the end, not many were relevant for our thesis as displayed in phase 5 of *Table 7.*

Table 4: Results from Version 1 of article search

Phases in Version 1 of article search	Results
Phase 1	76
Phase 2	36
Phase 3	36
Phase 4	35
Phase 5	11

Table 5: Results from Version 2 of article search

Phases in Version 2 of article search	Results
Phase 1	220
Phase 2	212
Phase 3	56
Phase 4	27
Phase 5	9

Table 6: Results from Version 3 of article search

Phases in Version 3 of article search	Results
Phase 1	333
Phase 2	333
Phase 3	18
Phase 4	17
Phase 5	6

Table 7: Results from Version 4 of article search

Phases in Version 4 of article search	Results
Phase 1	2378
Phase 2	1706
Phase 3	22
Phase 4	6
Phase 5	6

2.3 Reviewed articles

Below are the articles from the literature search that were used as a part of the related research for this thesis.

Table 8: Reviewed articles (Jensen & Eriksen, 2019b)

Number	Title	Author	Year	Publication
1	Critical Success Factors in business performance management – Striving for success.	Thilini R. Ariyachandra & Mark N. Frolick	2008	Information Systems Management.
2	Exploring BPM Adoption Factors: Insights into Literature and Experts Knowledge	Renata Gabryelczyk	2019	
3	A FRAMEWORK FOR ASSESSING BPM SUCCESS	Monika Malinova, Brina Hribar, Jan Mendling.	2014	Association for Information Systems.
4	Ten Principles of good business process management	Jan vom Brocke, Theresa Schmiedel, Jan Recker, Peter Trkman, Willem Mertens and Stijn Viaene	2014	Business Process Management journal
5	Business process management success framework for transition economies	Renata Gabryelczyk, Narcyz Roztocki	2018	Information systems management
6	BPM for change management: Two process diagnosis techniques	Silvia Ine's Dallavalle de Pa 'dua, Janaina Mascarenhas Hornos da Costa, Mayara Segatto and Melchior Aparecido de Souza Junior and Charbel Jose Chiappetta Jabbour	2013	Business Process Management Journal
7	Increasing process orientation with business process	Rok Skrinjar, Peter Trkman	2013	International Journal of Information Management 33

	management: Critical practices			
8	Business process management – at the crossroads.	Monika Klun, Peter Trkman	2018	Business process management journal. 2018
9	Propositions on the interaction of organizational culture with other factors in the context of BPM adoption	Mojca Indihar Štemberger and Brina Buh, Ljubica Milanović Glavan and Jan Mendling	2017	Business process management journal,
10	Process management tasks and barriers: functional to processes approach.	Lucia A. Silva Borges, Leda Damian, Silvia Ines Dallavalle de Padua.	2012	Business process management journal.
11	A qualitative research perspective on BPM adoption and the Pitfalls of business process modelling.	Monika Malinova, Jan Mending	2013	Lecture notes in Business information processing
12	An exploration of BPM adoption factors: Initial steps for model development.	Renata Gabryelczyk	2018	Proceedings of the Federated Conference on Computer Science and Information Systems.
13	The critical success factors of business process management	Peter Trkman	2010	Information Journal of Information Management
14	Means of achieving business process management success factors	Alibabaei, Ahmad, Jalal Ale Ahmad, Bandara, Wasana, Aghdasi, Mohammad, Tarbiat Modares University	2009	Mediterranean Conference on Information Systems (MCIS),
15	Critical success factors for different stages of business process management adoption – a case study.	Andrej kovacic, Mojca Indihar Stemberger	2015	Economic research

16	A grey-based DEMATEL model for evaluating business process management critical success factors	Chunguang Bai, Joseph Sarkis	2013	Int. J. Production Economics 146
17	Stakeholder involvement in Business process management agenda-setting and implementation.	Jorg Becker, Bjorn Niehaves, Ralf Plattfaut	2010	Americas Conference on Information systems (AMCIS)
18	Major issues in business process management: an expert perspective	Bandara, Wasana, Indulska, Marta, Chong, Sandy, Sadiq, Shazia	2007	The 15th European Conference on Information Systems
19	Identifying do's and don'ts using the integrated business process management framework.	Monika Malinova, Jan Mendling.	2018	Business process management journal.
20	Major Issues in Business Process Management: An Australian Perspective	Marta Indulska, Sandy Chong, Wasana Bandara, Shazia Sadiq, Michael Rosemann	2006	ACIS proceedings
21	A study on priority factors of competitiveness and performance of manufacturing companies using Analytical Hierarchy Processes (AHP)	M Munizu, K Damang, Armayah, M Asdar and N Brasit	2019	IOP Conference Series: Earth and Environmental Science
22	Approaching digitalization with business process management	Florian Imgrund, Marcus Fischer, Christian Janiesch, and Axel Winkelmann	2018	MKWI 2018 - Multikonferenz Wirtschaftsinformatik
23	BPM Adoption in Serbian Companies	Dragana Stojanović Ivona Jovanović Dragoslav Slović Ivan Tomašević	2019	Lecture Notes in Business Information Processing

		Barbara Simeunović		
24	Critical success factors of a design startup business	Boyoung Kim Hyojin Kim and Youngok Jeon	2018	Sustainability (Switzerland)
25	Propositions on the interaction of organizational culture with other factors in the context of BPM adoption	Mojca Indihar Štemberger, Brina Buh, Ljubica Milanović Glavan, Jan Mendling	2018	Business Process Management Journal
26	Unlocking the potential of the process perspective in business transformation	Greet Bontinck, Öykü IsikJoachim Van den Bergh and Stijn Viaene	2016	Lecture Notes in Business Information Processing
27	A reflection on the interrelations between business process management and requirements engineering with an agility perspective	Aysolmaz B., Gürsul M., Kirchner K., Laue R., Mertens R., Reher F., Schönreiter I.M., Turban B.M., Weißbach R.	2018	Lecture Notes in Business Information Processing
28	A set of indicators for BPM life cycle improvement	Lamghari Z., Radgui M., Saidi R., Rahmani M.D.	2018	2018 International Conference on Intelligent Systems and Computer Vision, ISCV 2018
29	Defining business process improvement metrics based on BPM life cycle and process mining techniques	Lamghari Z., Radgui M., Saidi R., Rahmani M.D.	2019	International Journal of Business Process Integration and Management
30	Do differences between managers and employees' matter? A case study on BPM maturity and process performance	Kraljić T., Kraljić A.	2017	Lecture Notes in Business Information Processing
31	Heterogeneous business process	Jurová M., Juřica P.	2015	Proceedings of the 26th International

	management: A metamodel-based approach			Business Information Management Association Conference - Innovation Management and Sustainable Economic Competitive Advantage: From Regional Development to Global Growth, IBIMA 2015
32	The leadership influences in BPM lifecycle	Funke C., Syed R.	2019	25th Americas Conference on Information Systems, AMCIS 2019

2.4 Business process management

Business process management focuses on processes when organizing and managing work (Dumas, La Rosa, Mendling, & Reijers, 2013). Through different methodologies, techniques, and tools, an incremental improvement in business processes can be made (Lamghari, Radgui, Saidi, & Rahmani, 2018). This has the potential to bring many benefits to organizations if adopted successfully (Buh et al., 2015). Benefits of BPM include speeding up an organization's processes, reducing needed resources, and improving competitiveness, productivity, and efficiency (Bai & Sarkis, 2013). It is an effective approach for the development and alignment of business strategy and deploying performance management (Ariyachandra & Frolick, 2008). While there are many benefits associated with BPM, adopting this concept is a complicated and time-consuming process (Buh et al., 2015).

BPM is often defined as a holistic approach to the practice of organizational management, in understanding the bigger picture, with critical success factors to improve competitive positioning, and an approach for culture change, or other organizational goals. The idea of BPM is to develop an organization that is ready to use processes by eliminating activities that do not add value and improve the fluency of these processes. BPM is not only analyzing, designing, developing, and executing processes, but also considers the interaction between processes, controlling, analyzing and optimizing them. This implies a permanent and continuous commitment to managing and the improvement of the organization's processes, which translates into a lifecycle model (de Morais, Kazan, de Pádua, & Costa, 2014).

Usage of BPM is to focus on processes when organizing and managing work (Dumas et al., 2013) The definition for processes that we use for this thesis is: "*A process is a specific order of work activities in time and space, with a beginning, an end and identified inputs and outputs*", but other definitions like "*a horizontal connection of activities needed to achieve a desired result*", "*a process is a set of activities for achieving a goal or solving a specific problem*" (de Morais et al., 2014).

There are many views and definitions for BPM, and the understanding of the concept varies amongst practitioners and academics. For this master thesis, BPM is interpreted as *"A lifecycle approach to managing and improving processes"* (Buh et al., 2015).

2.5 Business process management lifecycles

Business process management lifecycles are models that describe, structure the steps and activities that should be followed in a BPM effort (de Morais et al., 2014). Lifecycles cover a set of activities that describes how to manage a business process management project in an idealized and circular way (Malinova et al., 2014). Lifecycle frameworks provide a robust foundation for studying a given phenomenon, which has led to numerous different BPM lifecycle frameworks that were previously proposed. This provides a robust foundation for studying a given phenomenon (Gabryelczyk & Roztocki, 2018).

For this thesis, two lifecycle frameworks were chosen, which are displayed in *Figure 5: Business process management implementation framework* and *Figure 6: Business process management and lifecycle framework*. These figures are retrieved from relevant research and describe each stage of the cycle. The frameworks below were chosen for their simplicity and easy understanding of the BPM lifecycle.
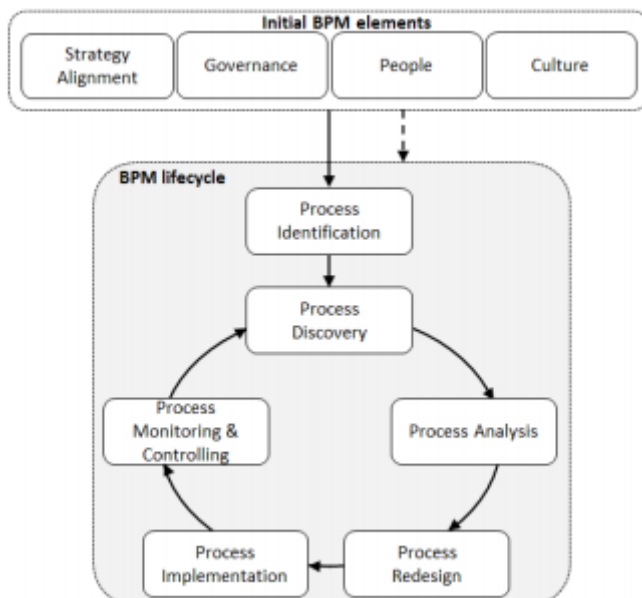

Figure 6: Business process management implementation framework (Malinova, Hribar, & Mendling, 2014)
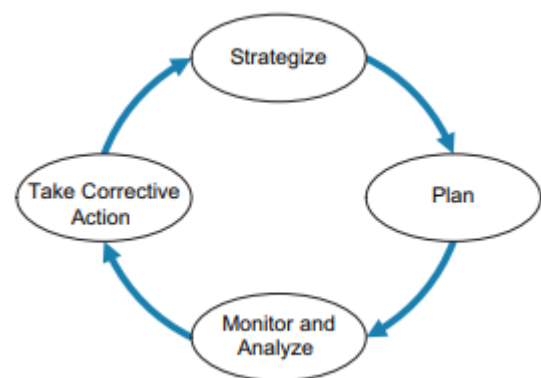

Figure 5: Business process management lifecycle framework (Ariyachandra & Frolick, 2008)

2.6 Success factors

Business process management is a topic that is difficult to measure. Due to the nature of BPM projects being case-specific, different factors for different cases are present and what has been successful for one project, might not be the same for others (Bandara et al., 2009). To help tackle this issue, there exists common factors that can be associated and applied to many different types of BPM projects, these are known as common success factors (Ariyachandra & Frolick, 2008). For this master thesis, we look into success factors as goals that must be met for the project to succeed, and use the following definition: *"BPM is successful if it continuously meets pre-determined goals, both within a single project scope and over a longer period of time"* (Trkman, 2010).

Some success factors are more detrimental to the overall success of a BPM project, these are known as critical success factors. These factors must be focused and committed on if the business process management project is to succeed (Trkman, 2013). These factors must be taken into consideration from management as they allow an organization to evaluate its threats, see opportunities, weaknesses, and strengths (Syed, Bandara, French, & Stewart, 2018). Evaluating critical success factors in an organization also helps in seeing if a specific BPM effort is going to succeed or not (Ohtonen & Lainema, 2011).

2.7 Single point of contact

Single point of contact refers to a single point of contact support, where all IT issues, service requests, problems, and incidents are directed to the level one service desk. When a user or customer contacts this level one support, the inquiry is resolved at level one, or a ticket is created with the inquiry and logged in a ticketing system. This type of service desk is not expected to solve every inquiry they get, but rather is a facilitator and coordinator of the end-user support process. This means they have the responsibility of resolving inquiries that can be solved at level one or dispatch the tickets to the appropriate level of support (Irizarry, 2012).

2.8 Public sector versus private sector in BPM

Since our thesis is based on a BPM project within the public sector, we have decided to look at some of the differences between the public and private sectors.
There is a difference in bureaucratic norms, culture, and organization structure between the two sectors. The public sector is often specified by rigid processes, bureaucracies, and often beset with sudden changes of policies as a result of changes in the government machinery. Some have referred to BPM as a solution to handle citizen's demand for better services from the government. The value of BPM as an enabler for performance and customer-centricity has been the reason public sector organizations across the globe have shown an interest in adopting BPM principles and practices. The concept of value creation is different in the two sectors, where it is the core goal for the private sector, and in the public sector they exclude cost and profitability concerns (Syed et al., 2018). *"It is problematic to simply transfer the private sector BPM experience to the established and ongoing commitment to Government Process management"*(Syed et al., 2018), with the definition of government process management as the use of BPM principles and practices in the public sector (Tregear & Jenkins, 2007).

There have been reported a 60% failure rate in E-government projects and an 85% overall failure rate due to the failure of achieving acceptable results (Syed et al., 2018).

Key differences between the public and private sectors displayed in *Table 9* below.

Table 9: Difference between the public and private sectors (Syed et al., 2018)

	Public Sector	**Private Sector**
Mission and vision	Focus on the public interest, societal objectives and results that may be difficult to quantify	Focus on maximizing the return on investment for the shareholders, profitability, and stakeholder value.
Aim	Realize societal objects, that are difficult to measure and quantify.	Realization of key performance indicators (KPI), production, and financial targets.
Customers	Groups of diverse and complex citizen.	Customer/user that are easily identifiable.
Culture	Often inflexible, driven by rules and regulations, hierarchical decision making. These are influenced by political factors. Highly resistance to change, with little attention to innovation.	Built on the marked and influenced by the customers and social changes. Flexible and reward and performance orientated.
Economy	Monopoly, with political legitimization.	Different variety of structures
Rules and regulations	Governments create and enforce the rules and regulations.	Organizations are the users and are complainant about the rules and regulations. Operations are affected by the regulations, and processes are designed to follow these.

2.9 What have others done in this field

Much of the prior research discovered focuses on identifying success factors of an entire BPM project, and little was found that focus on factors in different stages. There were some compelling findings that were of interest to us. The article *"Critical success factors for different stages of business process management adoption – a case study"* (Buh et al., 2015) discuss how critical success factors are not similar for different stages of a BPM project, and further research is needed for these stages. The case study that was conducted discusses and argues that not all critical success factors are critical for different stages, which is similar to our research. The article looks into reasons and objectives for adopting BPM, the adoption stages of BPM projects, and outcomes of BPM in a case-specific adoption. While the focus is different from ours, it is one of the few articles that focuses on identifying critical success factors for different stages of BPM. Further research mentioned, along with Trkman (2013) suggests that one case study is not adequate and that more research focusing on CSFs is

required. Further on in the next subchapters, we discuss the article that our holistic framework is derived from and list up identified success factors from our prior research.

2.9.1 Holistic framework

The holistic framework used in this thesis is based on the framework from the article *"Means of achieving business process management success factors"* (Bandara et al., 2009). Further research mentioned in the article mentions the need to further validate and re-specify the presented framework through empirical evidence from a case study (Bandara et al., 2009). The article's research question, being *"What are the success factors of BPM"* and *"What are the means of achieving these success factors within BPM initiatives?"* are similar to what we wish to research and this has given us an incentive for using their framework as a basis in creating our proposed holistic framework.

The framework presented in the article, shown under *Figure 7: BPM Success Factors framework,* consists of nine categories displaying BPM success and the success factors that they are composed of. This framework was further expanded on in our thesis, and the categories presented were used to help categorize our 127 discovered success factors from our literature search.
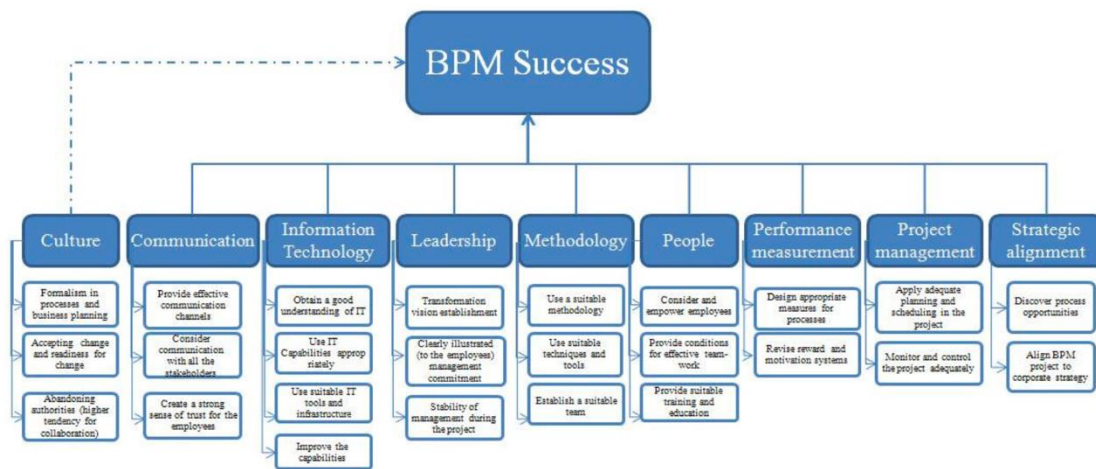
Figure 7: BPM Success Factors framework (Bandara et al., 2009)

The nine categories presented in Bandara et al. (2009) article are as follows:

Culture
Culture is a combination of people's values, beliefs, attitudes and behaviours that distinguish one group or category of people for another.

Communication
Communication is the interaction between different people, either in different levels or departments of the business.

Information technology
IT has a vital role in BPM, how to utilize IT in BPM is different in each project. How to implement IT in the project can be a success factor or an obstacle if not done right.

Leadership
Leadership is to drive, monitor, and control the activities related to the project.

Methodology
Methodology is a collection of procedures, techniques, and tools that has been developed for the BPM life cycle of the project.

People
The Individuals and groups in the organization affected by the BPM project.

Performance measurement
Measurement of the processes, project, and people that should be compared with the goals and benchmarks of the processes.

Project management
Management of the project and the tasks. Develop a schedule with clear milestones. Resource management, and identification of stakeholders are some of the tasks that are included.

Strategic alignment
Linkage with the business strategy of the organization and the BPM project.

2.9.2 Identified success factors from prior research

The following table is a list of the success factors discovered from our literature search, and a total of 127 success factors were found. These success factors are used as a basis for our revised holistic framework in the thesis and are mapped using the holistic framework by Bandara et al. (2009).

Table 10: Discovered success factors (Jensen & Eriksen, 2019b)

Article	Discovered Success Factors
Critical Success Factors in business performance management – Striving for success. (Ariyachandra & Frolick, 2008)	1. Champion, 2. Management of Resistance, 3. Management Support, 4. Sufficient Resources. 5. Team skill, 6. User support, 7. Effective Communication, 8. Clear link of business strategy, 9. State of existing data management infrastructure, 10. Evolution development methodology.
Exploring BPM Adoption Factors: Insights into Literature and Experts Knowledge (Gabryelczyk, 2018b)	1. Top management support, 2. Management involvement, 3. Leadership 4. IT,

	5. Development of service-oriented business applications, adapting IT infrastructure, 6. IS support 7. Strategic alignment, 8. alignment of processes to org. goals. 9. Governance, 10. clearly defined process owners, 11. appointment of process owners 12. Methods, 13. Methodology 14. Project management, 15. change management, 16. ability to implement proposed changes 17. Performance measurement, 18. measurement and control 19. People, 20. level of employee's specialization, 21. training, 22. empowerment of employees, 23. motivated employees 24. Culture, 25. communication, 26. teamwork, 27. social networks
Business process management success framework for transition economies (Gabryelczyk & Roztocki, 2018)	1. Strategic alignment 2. Project and change management 3. Governance, 4. Performance management 5. IT 6. Method 7. People 8. Culture 9. Communication
Increasing process orientation with business process management: Critical practices (Trkman, 2013)	1. Strategic alignment 2. Performance measurement 3. Organizational changes 4. IS support 5. Employee training 6. Employee empowerment
Propositions on the interaction of organizational culture with other factors in the context of BPM adoption (Indihar Štemberger, Buh, Milanović Glavan, & Mendling, 2018)	1. Culture
MEANS OF ACHIEVING BUSINESS PROCESS	1. Culture 2. Communication

MANAGEMENT SUCCESS FACTORS (Bandara et al., 2009)	3. Information Technology IT 4. Leadership 5. Methodology 6. People 7. Performance measurement 8. Project management 9. Strategic alignment
An exploration of BPM adoption factors: Initial steps for model development. (Gabryelczvk, 2018a)	1. Top management support 2. Management involvement 3. Leadership 4. Information technology 5. Development of service-oriented business applications 6. Adapting IT infrastructure 7. IS support 8. Strategic alignment 9. Alignment of process to organizational goals 10. Governance 11. Clearly defined process owners 12. Appointment of process owners 13. Methods 14. Methodology 15. Project management 16. Change management 17. Ability to implement proposed changes 18. Performance measurements 19. Measurement and control 20. People 21. Level of employee's specialization 22. Training 23. Empowerment of employees 24. Motivated employees 25. Culture 26. Communication 27. Teamwork 28. Social networks
The critical success factors of business process management (Trkman, 2010)	**CSFs based on contingency theory:** 1. Strategic alignment 2. Level of IT investment 3. Performance measurement 4. Level of employee's specialization **CSFs based on dynamic capabilities:** 1. Organizational changes 2. Appointment of process owners 3. Implementation of proposed changes 4. Use of continuous improvement system

	CSFs base on task-technology fit theory:
	1. Standardization of processes 2. Informatization 3. Automation 4. Training and empowerment of employees
Critical success factors for different stages of business process management adoption – a case study. (Buh et al., 2015)	1. Top management support, Management involvement 2. Strategic alignment (linkage to organization strategy, alignment of process to organizational goals) 3. People (capable and motivated employees, training and empowerment of employees, personnel commitment) 4. Methods, Methodology 5. Communication 6. Information technology, Technology support, Level of IT investment 7. Culture, Organizational culture 8. Project management, Change management, Champion 9. Performance measurement 10. Governance 11. Understanding the BPM concept, understanding the process 12. Continuous improvement, continuous optimization 13. Clearly defined process owners
A grey-based DEMATEL model for evaluating business process management critical success factors (Bai & Sarkis, 2013)	1. Strategic Alignment 2. Project Management 3. Information Technology (IT) 4. Performance Measurement 5. Collaborative environment 6. Top management support 7. User Focus 8. Culture

2.10 Revised holistic framework and Critical Success Factor analysis

The following section is our analysis of the categorized critical success factors discovered from our prior research. In this section, the identified 127 success factors are mapped into 11 critical success factors and are analysed. The results presented here are of our preliminary work done for this master thesis in our IS-420 report (Jensen & Eriksen, 2019b).

2.10.1 Success factor analysis of the new proposed framework

Culture

Culture is a complex phenomenon that can be divided into two different descriptions. First, culture is the values, beliefs, attitudes, and behaviours in people's minds that differentiate one group or category of people from another (Bai & Sarkis, 2013; Bandara et al., 2009). Second is organization culture, this is a complex phenomenon of values, beliefs, attitudes, and behaviours that exist only within an organization, and is in regards to the process-centered organization (Bai & Sarkis, 2013; Indihar Štemberger et al., 2018). In BPM research, there are arguments that culture in the organization is the creation of collaboration and facilitation environment for BPM. Adoption of BPM has a strong link to the cultural and human aspects (Gabryelczvk, 2018a; Gabryelczyk, 2018b; Gabryelczyk & Roztocki, 2018). Organization culture can be defined as *"a pattern of basic assumptions, invented, discovered, or developed by a given group, as it learns to cope with its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore is to be taught to new members as the correct way to perceive, think, and feel concerning those problems"* (Indihar Štemberger et al., 2018). BPM adoption must be compatible with the culture that the BPM initiative is built from, if not, the concept is likely to fail (Buh et al., 2015).

Communication

Communication has a strong link to BPM adoption and plays a vital role in the success of a project (Buh et al., 2015; Gabryelczyk, 2018b). Communication facilitates to the mutual understanding of the strategy and goals in the organization (Bai & Sarkis, 2013), and gives a shared understanding of the strategic direction between business and IT. Effective communication enables business and IT capabilities to be integrated effectively in an organization (Ariyachandra & Frolick, 2008). Clear and effective communication to levels of the organization is necessary both before and during and BPM implementation (Bai & Sarkis, 2013). Communication can support better alignment between business and IT, leading to effective development and execution of an organizational strategy (Ariyachandra & Frolick, 2008).

Information Technology

In BPM, *information technology* (IT) means the technologies and tools dedicated to modelling, analysis, simulation, controlling, automation, and process management (Gabryelczyk, 2018b; Gabryelczyk & Roztocki, 2018). IT is hardware, *information systems* (IS), and communication technology that provides individuals with the information required (Bai & Sarkis, 2013). IT plays a vital role in BPM and is generally the enabler and facilitator of change that is identified in a BPM project. The relationship between IT and BPM has a mutually beneficial, in that successful IT implementation also requires effective BPM (Bai & Sarkis, 2013). The state of the existing IT infrastructure has a crucial role in the deployment of a BPM initiative. Usually, the BPM effort builds on existing IT systems, and the satisfaction of the existing system can play a role in the motivation to change. However, satisfaction with current IT systems may prove to discourage motivation to change (Ariyachandra & Frolick, 2008; Gabryelczyk, 2018b). The development of such systems is

expensive and may require automation that is not technically possible, and this is a disadvantage (Trkman, 2013).

Challenges with BPM is frequently associated with the use of IS that supports business processes, and this can be automatically generating purchase orders or delegate tasks to the right person (Trkman, 2013). Aligning IT strategy and business strategy to face a competitive market successfully is acknowledged in the literature (Trkman, 2010), but there are no findings that support the level of investment in IT and service performance. Thus, organizations should not believe that IT investment by itself could give any improvements, and organizations that have implemented the latest IT have returns below the means. Core processes must be re-engineered from the customer perspective for IT to yield any competitive advantage (Trkman, 2010, 2013).

Leadership

Support from top management is essential and recognized as one of the most critical success factors in BPM and for organizational change projects (Ariyachandra & Frolick, 2008; Bai & Sarkis, 2013; Buh et al., 2015; Gabryelczyk, 2018b). This has been proven both by literature study and by experts in the field (Gabryelczvk, 2018a). Commitment to a project can help establish legitimacy and visibility for the project, and top management has the authority of the resources necessary for the completion of the project. They are a significant link in the cross-function in an organization and must approve and support all the decisions made. Leadership and support from top management can reduce resistance by taking part in resolving conflicts that may arise and create a shared organizational vision for the BPM project (Ariyachandra & Frolick, 2008; Bai & Sarkis, 2013).

Methodology

Methodology is methods and techniques that are suitable for BPM implementation and in all phases of a BPM life cycle. These methods can be business process modelling, analysis, simulation, and improvement (Gabryelczyk & Roztocki, 2018). Implementing a BPM in iteratively stages enables the organization to acquire quick rewards and further validation of the BPM project (Ariyachandra & Frolick, 2008).

People

An essential factor in BPM is the presence of a devoted and energetic employee, and this is called a project champion. A project champion supports and promotes the BPM initiative with information and political support towards the project. Generally, a visionary executive who is politically intelligent with knowledge on how to sell the values of the BPM project and build support among influential executives (Ariyachandra & Frolick, 2008).
Engagement from users ensures that requirements are heard and communicated to the development team. Involving the users enables them to be a part of the process to gain a better understanding and appreciation of the BPM solution (Ariyachandra & Frolick, 2008). Processes have users either internal or external to the organization, and meeting their requirements in the process could give the organization a competitive advantage (Bai & Sarkis, 2013).
Employees that conduct a process must be educated and trained to raise their competence in the area. Empowering the employee and giving them motivation, combined with involvement can help with acceptance of the change (Bai & Sarkis, 2013; Gabryelczyk & Roztocki, 2018).

Empowering the employee to take individual decisions can shorten the operations time and have smoother execution. Education gives the employee a better understanding of the entire process and the connection with other parts of the whole process, not just their activity. Employees involved in a process should understand how their work contributes to the process and the organizational goals (Trkman, 2013).

Performance Measurement

Performance measurement is the undertaking of measuring time, cost, quality, productivity, and customer satisfaction, and this forms feedback utilized for continuous improvements (Gabryelczyk & Roztocki, 2018). The importance is *"You cannot manage what you cannot measure"*, and this is especially true for BPM. Progress in an implementation must often be measured for efficient and effective control to ensure that the goals are achieved, with the help of auditing tools and appropriate decisions (Bai & Sarkis, 2013). The need for measuring the processes is essential for a high level of BPM adoption and maturity of the organization (Gabryelczyk, 2018b). Critical processes in an organization should be measured at critical steps of the process. There is a possibility that there are too many in-progress measures without focus, which may prevent the process owner from making effective use of the information. Future goals or improvements are determined using measurement information, and the organization must dedicate to performing this practice (Trkman, 2013). New processes must be measured and compared to the process it replaced (Trkman, 2010).

Project Management

BPM projects must have a clearly defined plan and objective purpose (Buh et al., 2015). Project management defined as establishing and planning activities to help and ensure that the implementation processes are managed (Bai & Sarkis, 2013). Different functional groups are essential in a BPM project. This type of project has a high level of uncertainty, and to counter this solid management knowledge and planning in projects are required (Bai & Sarkis, 2013). There is a combined definition of project and change management, which is a system inside the organization with the task of developing and managing projects that change the organization consistent with the organization strategy. The reason is maintaining a presence in the changing market (Gabryelczyk & Roztocki, 2018). Knowledge and expertise of planning, organization, follow-up, and control of the project phases are necessary considerations to project management. Experience and skill to recognize and overcome difficulties in the project are essential (Bai & Sarkis, 2013). Governance in project management refers to orders, documents, standardized operational processes, decision-making processes, and responsibilities (Ariyachandra & Frolick, 2008).

Strategic Alignment

Strategic linkage between organization strategy and the operation function is crucial. It will help organizations achieve higher Business Process Orientation (Trkman, 2010, 2013) Definition for strategic alignment is: "*The continual tight linkage of organizational priorities and enterprise processes enabling the achievement of business goals*" (Bai & Sarkis, 2013). Awareness and understanding of BPM are required to build a structure with business process goals obtained from the organization strategy, with a strong link between them (Gabryelczyk & Roztocki, 2018). Aligning strategy with the BPM project is essential to achieve long-term success, improved performance, and maximize the value of process improvements (Bai &

Sarkis, 2013; Trkman, 2010). Processes have to be designed, executed, managed and measured according to strategic priorities and situations (Bai & Sarkis, 2013).

Organizational Change

In BPM initiatives, there are an in-depth analysis of the organization and often changes in the organization structure. Organizations may have a culture that is inconsistent with the desire to organize around the customer, and processes are siloed in departments and not in the customer lines. Departments in an organization often operate as individual silos, and horizontal end-to-end processes are not well understood (Trkman, 2010).
There is a difference between an organization that has implemented BPM, and a traditional organization is the existence of process owners. Each process should have a clearly defined owner, that assess the performance of the process and have the reasonability for the continuous improvements. This role must be permeant, with authority over designing, training frontline workers, and measuring. This role usually is given to an employee with a senior executive and supervisory or frontline level. *"Success in implementation organizations changes is dependent on the quality of the implementing process"* (Trkman, 2010).
The achievement of success is a combined effort between a manager and *change agent*. A change agent could be middle management, employees, or both. Unpredictability during the pre-implementation stage of a BPM project is a focal point on the strategic concept of change in later stages. This mainly relates to the appropriate procedures in implementing changes. Projects often focus on critical processes since the simultaneous change in all identified processes are bound to fail (Trkman, 2010).

Processes

To qualify as a capability, something at a minimum must work reliably. This is the reason standardization of processes is desirable, especially in service industries. Standardization offers technical interchangeability, compliance with regulations, and improved customer confidence. A standardized process is the only process that can be supported by a proper technological solution. BPM systems can lead to increasing standardization because processes are executed after defined specifications and rules. Too strict regulations on the process can decrease innovation, reduce accountability, and harm performance. "*Many processes are more art than science*" (Trkman, 2010) and not over-standardizing these more artistic processes (Trkman, 2010).

2.10.2 Proposed holistic framework

Our proposed framework consists of the inclusion of two newly discovered critical success factors *Organizational Change* and *Processes.* These two CSFs have been included since the discovered success factors from our research did not match any of the nine categories presented in the framework by Bandara et al. (2009). In total, our new revised framework consists of 11 categories, which are the critical success factors for BPM success, and underneath are the success factors associated with each category. The articles used for the success factors and categories are found under *Appendix A.*

BPM Success — New proposed categories

Culture	Communication	IT	Leadership	Methodology	People	Performance measurement	Project management	Strategic alignment	Organizational Change	Process
Culture Organizations culture	Effective Communication	State of exisiting data management infrastructure	Management Support	Evolution development methodology	(Champion)	Performance measurement)	Management of Resistance	Clear link of business strategy	Organizational Change	Standardization of processes
	Communication	Information technology	Top management support	Methods	Team skill	Measurement and control	Sufficient Resources	Strategic alignment	Clearly defined process owners	
		Development of service-oriented business applications and adapting the IT infrastructure	Management involvement	Methodology	User Support	Performance management	Governance	Alignment of processes to organization goals	Appointment of process owners	
	Social networks	IT and/or IS support	Leadership	Use of continous improvement system	People	Continuous improvement	Project management		Implementing of proposed changes	
	Collaborative working environment	Adapting IT infrastructure			Level of employee's specilization	Continuous optimisation	Ability to implement the proposed changes			
		Level of IT investment			Training and empowerment of employees		Project and change management			
		Informatization			Motivated employees					
		Automation			Teamwork		Change management			

Figure 8: Proposed holistic framework

3. Research approach

This chapter describes the research design, process, conceptual framework, strategy, data generation and analysis. In the research design and conceptual framework, we display the structure of the thesis and the processes undertaken in answering our research question. Afterward, we explain the research strategy, how we generate the data and how this is analysed. We discuss our limitations of the research process and potential ethical issues. This chapter concludes by explaining the steps undertaken in gathering the data and our validation.

3.1 Research design

To illustrate the thought process of this research, a figure was created to display the different stages that were undertaken in answering the research question. The first step was conducting a literature study that was used in discovering source material. In the literature study was where the framework by Bandara et al. (2009) was discovered, and used as a basis to analyse and map out the discovered success factors. Once this was done, the proposed framework was created and used as the basis for creating the interview guide. After the interview guide was created, we began by gathering data through the use of interviews. These results were afterward analysed and used in answering our research question.
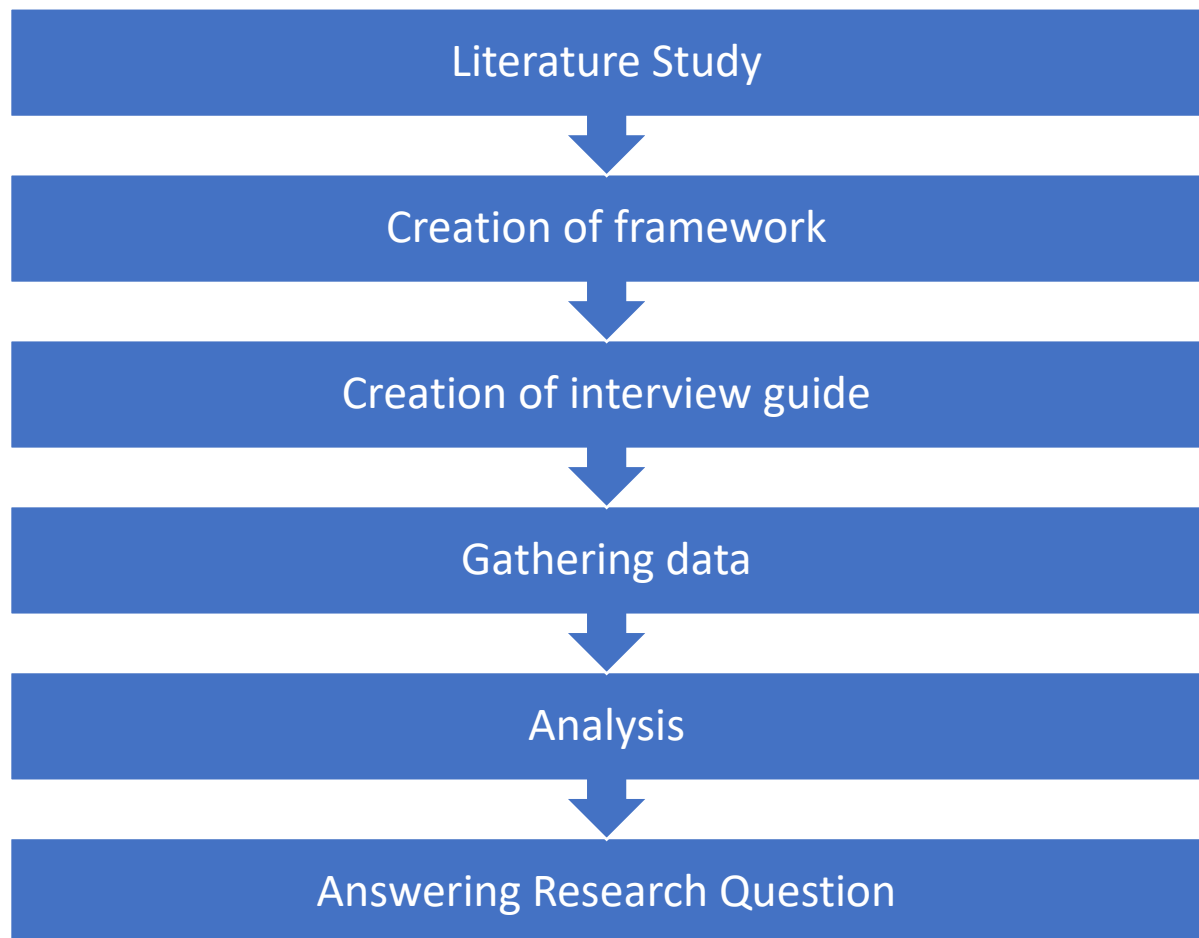

Figure 9: Research design with steps undertaken for this thesis

3.2 Research process

To illustrate the research process, a research process model was created. The model consists of the components in our thesis and gives an overview of our entire research process. Our presented research process model is based on the model described in the book by Briony J Oates (2005, p. 33)
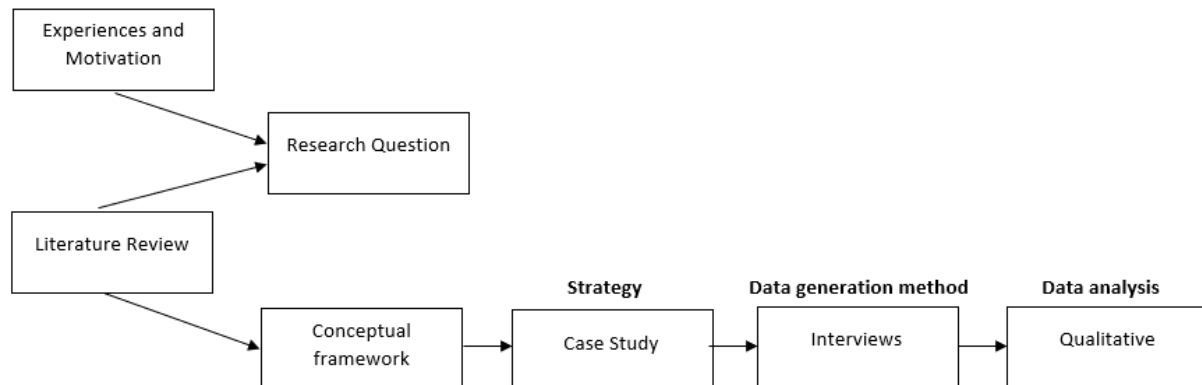

Figure 10: Research process model

The model displays how the research question was derived from experiences, motivation, and literature review. Experiences and motivation are included since our master thesis is written about a topic that interests us and has had an effect on us as well. Our literature review was the second part where we look at previous work done on our chosen field. A literature review was chosen since it allows researchers to look at the strengths and weaknesses of prior work done. This helps to show that the researchers are aware of the previous work conducted in this field and point to gaps that have previously been unidentified or weak (Oates, 2005, pp. 71, 72). These points were especially crucial for our research as we did not want to repeat previous work done by other researchers, and we wanted to add to the research gap of our chosen topic.

3.3 Conceptual framework

A conceptual framework allows researchers to structure their thinking about their research topic and show in greater detail the process undertaken (Oates, 2005, p. 34). For our research, we have used a single explanatory case study as our research strategy, an interview for data generation, and qualitative data analysis. *Figure 10* displays the framework created based on our prior research and the results from our literature review.

3.3.1 Strategy – Case Study

A case study is defined as *"An empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident"* (Oates, 2005, p. 142).
A single-case study allowed us to focus on one investigation thoroughly and was our chosen strategy for the thesis. We believe that a case study suits our research as in-depth research conducted through a chosen data gathering method, a qualitative interview in our case. We obtain a detailed aspect of people's thoughts, opinions, and general perception within the organization (Oates, 2005, p. 141).
We also focus on depth rather than breadth, which consists of us obtaining as much information as possible about one instance under our research (Oates, 2005, p. 142). Since we

are looking into a specific phase, we believe that a case study fits well for our research. Our research may be considered as a holistic study since our focused success factors interconnect closely to one another. There are three main types of case studies, *exploratory*, *descriptive*, and *explanatory*. An exploratory case study is used if there is little literature and real-life instances are needed to cover the topic. A descriptive case study consists of analyzing in great detail a phenomenon and its context, and explanatory is similar to descriptive as it tries and explain why certain events happened and their outcomes (Oates, 2005, p. 143).

The type of case study conducted for our thesis is explanatory. We have chosen this type of case study since we wish to both analyze and discuss in great detail of what occurred during the implementation phase and try to identify the success factors. We want to compare what was found in the literature to see if our identified factors match prior research. Our case study can be considered as a historical study since we ask individuals about what had happened in a previous time and their recollections of the events.

3.3.2 Data generation method and data analysis

A qualitative interview was used as our primary source of data gathering. Qualitative interviews have been used in many different kinds of research (Myers & Newman, 2007) and are considered as one of the most common and important data-gathering tools for qualitative research. This method was chosen since we wish to gain insight and inside information about the employee's thoughts and meanings. Qualitative interviews gives the possibility to see things that are there but not easy to see: "*Permitting us to see that which is not ordinarily on view and examine that which is looked at but seldom seen*" *(Myers & Newman, 2007).*

The type of interview that we decided to use is a *semi-structured interview.* Since semi-structured interviews are conducted with an incomplete script, this helps us focus on allowing the interviewee to speak as much as possible about a specific subject without interference. Semi-structured interviews enable us to obtain open-ended answers and gives the interviewee room for discussion. Due to these reasons, we did not see it fit to use a *structured interview* as this requires a prepared script beforehand and gives no room for improvisation (Myers & Newman, 2007).

While qualitative interviews have many benefits provided to data gathering this type of interview presents multiple problems and pitfalls, as mentioned in Myers & Newman's (2007) article. In this thesis, we want to limit potential problems and pitfalls and tried to follow their finding on this. *Table 11* consists of a summary by Myers & Newman (2007)of the problems and pitfalls and we include our countermeasures to combat them.

Table 11: Problems and pitfalls in qualitative research (Myers & Newman, 2007)

Problems and Pitfalls	Countermeasures
Artificiality of the interview: This type of interview interrogates someone that is a stranger to us. We will ask them to give us an opinion under time pressure.	The length of an interview was informed that it could take up to an hour. Give interviewees a brief description of the project, what we are looking for, and why they were chosen to participate in the project.
Lack of Trust: As the interviewer is a unknow stranger to the intervieee, this can raise concern on how much they can trust the interviewer.	When we reach out to our interviewe, there will be information on how the project will be conducted, what rights, and how we will use the data gathered. Interviewees have a right to withdraw their consent.
Lack of time: The time set aside for the interview may mean that the data gathering can be incomplete. Under time pressure, the interviewee creates opinions and make the data not entirely reliable.	Before the interview, they will receive information about the project to help them prepare for the interview. With interviews set to 60 minutes, this will give them time to think before they answer
Level of entry: Which level the researcher enters the organization. The researcher must not enter on a too low level, because this may prove challenging to interview senior staff later.	With us working at UiA, and having knowledge of the project, we have direct contact with the project manager and people of the project group.
Elite bias: Interviewing only a particular type of people in an organization, may fail to give the researcher an understanding of the broad situation.	We plan to interview the project group and the department leaders in the departments that are involved in the project. We believe this will give us a good overall understanding.
Constructing knowledge: Naïve interviewers may believe that it easy to collect and remember data that is already there. In an interview, interviewees typically want to appear knowledgeable and may construct a logical story. This is a result of that they may reflect on an issue that they never have considered before.	With our involvement in the project and the knowledge that we have acquired, we believe that our constructed knowledge is accurate. Adding with the stories that we will hear on the project from the interviewees from our open questions.
Ambiguity of language: The meaning of words are often ambiguous, and it is not always clear for the interviewee. This can lead to the interviewee maybe not fully understanding the question.	Interviewees can answer our question without using BPM terminology and using language that they understand and getting their thought on what has positively contributed to the project.
Interviews can go wrong: Interviews are full of fears from both sides, problems, and pitfalls. Interviewees can be offended or unintentionally insult an interviewee. In the worst case, the interview may be abandoned.	Our semi-structured interview is designed to let the interviewees talk with adequate time in answering open questions. We must read the interviewee and not push too hard to get an answer.

Myers & Newman (2007) also provides a figure that views guidelines on qualitative research to help us conduct the interviews.
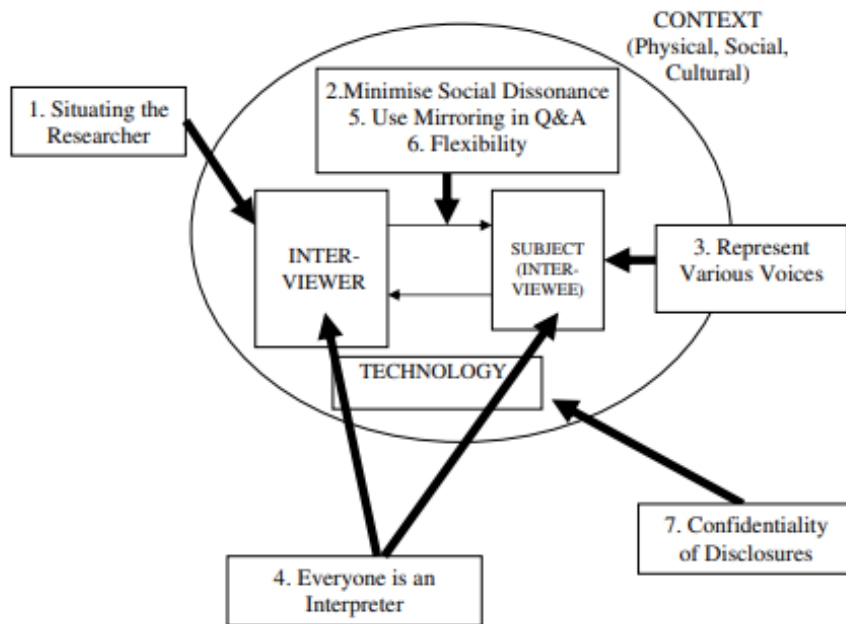
Figure 11: Guidelines for qualitative research interviews (Myers & Newman, 2007)

3.4 Limitations of research design and potential challenges related to data collection

Several limitations have come about conducting the interviews for data gathering in this master thesis. UiA help project has a limited number of people working on the project, so people with the knowledge and experience of the project that have the time and will to be interviewed are in low numbers. In our calculations, there were around 15 employees that were interesting for us to interview. Variation in the people at UiA help is limited, with most people having low or no knowledge on BPM and success factors in general. The project leader, project workers, and department heads are the variation of people that are of interest to us. Even though they do not all have an understanding or knowledge of success factors and BPM, they can still tell us what they think and what was positive that helped the project in this specific phase.

Employees at UiA's administration, from our prior experience, have some difficulties in agreeing to an interview. Limitations on people accepting are something that we must account for to have enough possible interview objects. This study is also a historical study that poses several limitations. The main limitation of this is that we are dependent on peoples recollections and memories of the implementation phase. Documents that we may come across about the phase may have a different audience in mind and have to be interpreted by us, which can cause issues with validation.

3.5 Data processing

The data gathered will be processed through several ways to both validate and keep the data anonymous and safe. The personal data that will be processed will only be the essentials needed for us to conduct our interviews. We have chosen to process only email and sound recordings, though other data that can identify the person still may be present. This includes data where the interviewees are working, what role they have, and the role that they have in the project. Ensuring that identifiable data stays anonymous, there will be no mentioning of the interviewees role or position in this thesis and will be anonymized through a coding system. The coding system will consist of only what authority they have had in the project and will be given a rank of 1 to 3. Rank 1 will be given to interviewees who have had little authority in the project, rank 2 middle authority, and rank 3 high authority. The way we determine who has what authority will not be disclosed in this thesis to preserve anonymity since our interview pool is limited in size. Other identifiable personal data, such as names, will also not be mentioned in the thesis and will be coded out.

The sound recordings of the interviews will be stored on the universities official cloud storage platform. The platform will have restricted access to only the authors of this thesis and the supervisor if needed. Sound recordings themselves will be deleted after our thesis has been conducted. Interview transcriptions will be stored on the cloud storage platform with the same restricted access rules.

3.6 Interview guide

The interview guide was made in a preliminary course to the master thesis. We decided to have a semi-structured interview and had two interviews in this course that we used as test interviews. Small changes were made to the interview guide with some language changes to the questions and a change to the success factors that are in our framework. Questions in our guide were divided into two parts. The first part asked the interviewees about their opinions and perception of the implementation phase. The second part asked their opinion on how or if each success factor has had an influence on the implementation phase. The interview guide that was used for this master thesis is found under *Appendix B*.

Limitations with our interview guide may be that some interviewees may need some encouragement to talk freely on the subject, and we must be careful not to influence their answers to get their honest opinion. Mirroring answers the interviewee is a method to counter this problem. Researchers should be flexible and not be sticking to a guide at all cost to explore and look for surprises in the interview (Myers & Newman, 2007).

3.7 Potential ethical issues related to the project

Since researchers in this thesis were employees at UiA help in the time period of conducting the interviews, we have been careful with personal bias from our side. Hands-on knowledge and experience with the organization and project means that we have a pre-existing interpretation of the project and the phase. In conducting our interviews, we have been working towards not bringing our bias and own opinions on the project and phase. Semi-structure interviews with few and open questions are our way to keep the interviewees talking during most of the interview and let them give their own opinion without our influence.

To be allowed to conduct these interviews, we must get approval from the *Norwegian centre for research data* (NSD). In this application, we must describe how we are going to gather the data and how to handle the data that we collected, as this research must comply with the Norwegian GDPR laws. With project approval from NSD, there are guidelines on what rights the interviewees have by participating in our project. There is a consent form given to the interviewees that must be signed before conducting an interview. They have rights to access, edit, deleted, and copy the personal information gathered on them and, can send a complaint to our data protection officer if needed. The data must be stored at a secure database at our university that complies with the guidelines of storing data from NSD and will be deleted when our master project is completed.

Personal information that we collected with our interviews will not be written in the thesis to comply with GDPR laws and gives our informant the freedom to be honest in the interviews.

3.8 Gathering the data

There was a total of nine completed interviews with various individuals who were involved in the BPM project. The project owner, project leader, department heads, and project workers were interviewed to give us a complete picture of the factors in the implementation phase. Out of the four departments involved in this project, we interviewed employees and department heads in three of them. The individuals interviewed were from three different departments within the university, the Library, IT, and Service departments. Unfortunately, we did not obtain an interview from the Operations department due to cancelled interview and limited personnel who has had any involvement in the project. All the interviews were conducted in person and recorded through an offline recording device.

Table 12: Overview of conducted interviews

Interviews	Duration	Authority
Interview 1	55:26	2
Interview 2	24:47	3
Interview 3	1:00:37	3
Interview 4	45:29	3
Interview 5	53:50	2
Interview 6	16:50	2
Interview 7	24:06	1
Interview 8	45:07	3
Interview 9	23:08	1

There were several positives that we are satisfied with when it came to our data gathering process. First is that people interviewed knew a lot about the implementation phase and the project. They were very honest with their answers, and it did not feel as if they were trying to hide information or talk around certain areas. They were open and stated their opinions and thoughts on what was asked. Interviewees were willing to speak, and they seemed generally interested in our research and liked that we researched within the university. The responders were honest if they did not understand a specific question and did not try and answer if they were confused. We believe that the right type of interview was chosen, as the open structure of a semi-structured interview gave us room for open discussion. Our interview guide worked well as it was split up into two main parts. The first part was an open discussion where people could speak freely about what they believe went well in the implementation phase. This went

well and we felt as if people could first openly state their opinions without us leading them in any way. The second part consisted of us asking about our critical success factory categories one by one, and we believe this also went well. While some confusion arose on some of the success factors, respondents always asked us to elaborate if something was misunderstood.

There were however, only nine conducted interviews in total. The tenth interview with operations department was booked, as well as two interviews with employees that were directly impacted by the changes. These interviews were cancelled or not further booked because of the Covid-19 shutdown of the university. Some people involved in the project that worked a lot on the processes, and process mapping, did not have the time to be interviewed, giving us some limitation on the range of views from the organization. Unfortunately, there was one department we were not able to interview.

3.9 Validation

After the interviews were conducted, all the nine interviews were transcribed. This step is especially important, as transcribing the interviews allowed us to narrow down what was said and helping us in analyzing. Once the interviews were transcribed, a data analysis program, NVivo, was used to help us analyse the transcribed material. NVivo was an especially important tool as this allowed us to code, categorize, and visualize our findings. To code our interviews, we created nodes in the program representing each success factor category and going through each interview one by one. During this step, anytime a success factor was mentioned, we would connect what was said to a corresponding node. If an existing node did not match what was said in the interview, a new node was created. In the first round of coding, the interviews were coded individually. Once this was completed, we met and discussed our coded nodes. The nodes were cross-checked between our versions, and we went through each reference and discussed if the reference reflected the node. This was done to see if we were in compliance with one another of how we perceived what was said in the interviews. This was an essential step as we prepared to write our results and discussion of results. The number of references after cross-checking the nodes are displayed in *Table 13*. It is also important to state here that the amount of references per node is not an indicator of how important a specific success factor is, instead it is just a display of how many times that our interviews referred to each of these factors. What was said about each factor is discussed in greater detail in Chapter 4 and Chapter 5.

Table 13: Summary of amount of references for each node

Nodes	Amount of references
General impressions of project	10
Culture	57
Communication	97
Information Technology	35
Leadership	68
Methodology	27
People	66
Performance Measurement	45
Project Management	56
Strategic Alignment	24
Organizational Change	36
Processes	55

Throughout our research process, bias was a constant issue that we were aware of. The topic of bias came up before beginning with our research since, at that time, we were employees at the university. It was made clear that this could be an issue if we are to choose a case-study at the same university. However, it was decided right from the start that we will have to be extra aware and critical of our own bias throughout our research. In conducting our thesis, we were cautious as to not allow our personal opinions to interfere in the research. We frequently discussed with one another and reminded ourselves that we are to stay neutral and to only focus on our gathered data.

4. Result of findings

This project was not without problems. There were some impressions that there was more work and mapping done before this phase. Creating a sense of urgency and an understanding of why they must change was difficult. UiA help did not have an economic incentive at the start of the project, but the reality is different today than it was three years ago. The situation that the organization is in now has changed the reason for UiA helps existence

Some employees found the project hard to relate to and felt that too much was demanded from them and their department. Other employees saw the benefits of this project and worked towards changing these negative views.

> "*Now we have done a change, and we have laid a bit low when we did it. Not to create a revolution, but an evolution*" *(Respondent 2)*

4.1 Culture

Culture has been a significant influence and was crucial for this phase. Culture had some issues, and was not all positive. Quickly there became a divide in cultures between who were for and those who were against the project.

Some employees meant that this had been one of the most critical success factors for the succession of this phase. There is a good culture in the department that is subject to the main change in this project, though other departments have had a silo mindset in their culture. This type of mindset made it more difficult to handle change and creating a culture for change. Striving for a common service-minded culture across the four departments has been a priority to help everyone understand why UiA help must exist, and what it symbolizes for UiA.

Department managers have been positive in working with each other from the start and worked closely together in creating a positive common culture across all four departments.

> "*The culture we tried to create in the project or with the colleagues is the understanding that we are here to deliver a product for the students. How we delivered, it was not always logical, and they had to move from counter to counter to get help for anything. To try and work with this sour culture was rather important in this period.*" *(Respondent 1)*

4.2 Communication

Communication has been one of the most mentioned and positively discussed success factors by our respondents. Respondents stated that communication had had a large impact but at the same time was difficult.

> "*Communication has a very big impact and is very challenging*" *(Respondent 5)*

Communicating with employees was important as this avoided people coming up with their own information and perceptions of the ongoing project.

All of the nine respondents considered communication as a success factor for the implementation phase. During this phase, they have also included the use of a new communication platform. This new platform is a way for project stakeholders to communicate with each other in an open forum, which was very beneficial for both employees and the project leader. This made people feel comfortable that there were no hidden agendas, as stated by one of our respondents:

> *"I think it made people feel much more confident that the communications were completely open and there were no hidden agendas behind this, so I think it was actually successful."* (Respondent 2)

Communication as a success factor has had a number of positive comments, and some respondents had stated that it was much more important than first anticipated:

> *"I see that it could have been better, and it has had more significance. Even though I thought it was of great importance, it is even more important than I thought"* (Respondent 4)

Communication played a vital role in reassuring the stakeholders of what is going in the project and what can they expect to happen in the future, both reassuring any doubts and making them feel more connected to the project itself.

Communication was not always beneficial, and specific issues were present during the implementation phase. Some of the respondents stated that sometimes information that was communicated out to employees was misunderstood, which caused both confusion and frustration. These misunderstandings had caused opposition for the project as stated by one of our respndents:

> *"If you are not good at it, then it created resistance in the short term, so it does not take many days before you feel that it is for and against people in the organization,"* (Respondent 4)

4.3 Information Technology

With a change project like this, and in the phase where they implemented UiA help, IT has been an influencer. They have a need for IT tools, and without them they cannot do their job. Existing digital platforms have been important, and it was stated that without this, they would have never reached the finish line. IT, hardware, and infrastructure must work. Without the *enterprise service management system* (ESMS), it would have been much more difficult. The infrastructure on how the connections in the ESMS between the front line and the second line for UiA help and the IT department was designed and implemented during this phase. IT played an important role, and one of the respondents stated that it had to be there, otherwise it would have been impossible.

> *"Has it been a critical success factor? It is more like Maslow; it has to be there to make it happen, if it is not there, then it is impossible."* (Respondent 2)

Usage of the knowledge management system in the ESMS helped to have a more systematic approach to the way they mapped their processes. IT also helps to maintain and create flexible

processes with the users in mind, which were seen as critical for this phase. IT has given more value for the users since users expect these types of flexible processes.

> *"IT is, today, a very critical factor in getting the solution we want, especially with a view to providing flexible services to users" (Respondent 5)*

Some of the negatives concerning IT was how different user groups perceive the use of IT. Developers and end-users have different desires for the use of IT, and their desires came into conflict. The end-users do not always have the competence or know what can actually be implemented, and in the end it was up to the developers that had to make these decisions.

"People have desires, those who are going to work with it have desires, those who are going to use it and the user has desires, but none of these groups have any competence to be able to point out how things should be done or what is possible or not so. It is in a way up to those who are going to develop this here" (Respondent 5)

Other challenges with IT were the digital competence of the users, as there were different digital maturity levels in the different departments. One of the responders stated that IT was not important because it just worked for them.

> *"IT has not been so important to us. Because it just works" (Responder 7)*

4.4 Leadership

Leadership from top-level was significant for the success of this project, but not so much for the implementation phase. It was a widely discussed factor, and people have had mixed responses. Some of the respondents deemed it as alpha omega, yet some had difficulties with the way the project was managed before the implementation phase. The project had a rocky start, and some respondents felt as if the leadership from the top level was lacking. One respondent felt that the project owner only got involved to resolve disagreements for important decisions and that the project owner did not have time or prioritized this project.

> *"It has been a bit lacking at times, and after all, many have responded to this."* (Respondent 6)

Support is indeed very much needed from the top level, though one needs to be careful with not being too involved. Too much involvement made things difficult in the project and, at times halted the overall progress.

> *"We had a project owner who was very involved in the process, almost a little too involved in fact, and sometimes became so close that it simply did not create room for development, so you also have to be careful." (Respondent 2)*

Some believed that leadership from the top level was vital and is to be considered as a critical success factor. It was stated that if there were no support and boost from top-leadership, then there would have been no project at all.

> *"I think that is crucial too because if it hadn't been support it would have been difficult." (Respondent 8)*

4.5 Methodology

The methodology for project management was not advanced for this phase, but it worked for them. To the extent a methodology was used, the project leader used Prince 2. Several mention the usage of Prince 2 as a project method. One respondent mentioned that they tried to incorporate the *Agency for Public Management and eGovernment* (DIFI) project template but thistemplate was more suitable on a drilling platform than an organization project.

The usage of Prince 2, in theory, is easier than it is in practice as there is a long way from theory to practice. They do not know whether this reason is because Prince 2s methodology was difficult to use or if it was because of a lack of knowledge on Prince 2. Theory is always limited to possibilities, variables, and stakeholders, but in reality, there are many more variables. Project management techniques did not consist of any advanced methodologies, but whenever a method was used, it was Prince 2, and this worked.

> *"Method is important, but I believe what succeeded for us was to find the right tool, and the right framework that this project fits into." (Respondent 3)*

Some mentioned that they did not think that methodology had any influence on the day to day project work, and do not believe anyone has had a special relation to methodology. Learning by doing and innate characteristics was how one of the respondent's approached methodology.

> *"I do not believe that methodology has any influence on the way of life at all. I do not believe that anyone has a relation with methodology. I do not believe that the project leader had any special association with methodology, I do not have any special association with methodology, I do not have an education for it, but we probably do some methodology activities without us thinking about it." (Respondent 1)*

4.6 People

People have been a highly spoken of success factor. It was one of the most vital factors mentioned that made the implementation phase a success, to begin with. Without the right people, with the right mindset, and the right competence, the implementation phase would not have succeeded. The respondents believed that several key people were essential for this phase to succeed. People needed to have the right mindset, be enthusiastic, accepting of change, and willing to put in the work required in this phase to succeed. There can be a lot of documentation and on-going projects, but if people are not convinced and backed up, then the phase will not succeed. When asked what was it that makes people so important, the following statement was given:

> *"Enthusiasm for action, a willingness to give a little extra, a willingness to get into things, even if you cannot do what you have done, there has not been an obstacle to getting it done, people are willing to learn." (Respondent 1)*

We see that a large emphasis was put upon choosing the right people for this type of project. People were needed who had the right competencies, right personality, service-minded, and technically able. Technically able individuals seemed to be very important for this phase as it was mentioned multiple times from different responders. The technical know-how of the

system that they are working with was great importance for succeeding, as stated by one of the respondents:

> *"So, in fact, a third success criteria is high IT competence if there is an IT product involved, which was service now, then the employees must have good IT competence." (Respondent 3)*

Some negative associations mentioned include people who are unwilling for change, misunderstandings, wrong priorities, different desires, and different skill sets that may not be suited for the project. For the implementation phase to be a success, these need to be addressed as the right people must be present for such a project to succeed.

> *"It is very important to find the right people to work, in relation to the type of people, people who have the right competencies, real personalities, that they are service minded, technical competence, structure, important to have the right composition in the project group, both in relation to what kind of formal roles they have" (Respondent 4)*

4.7 Performance Measurement

In the public sector, there has not been a tradition to measure performance. Several respondents said that they do not measure performance, and there has not been much focus on it. UiA has some measurements on inquiries from phones, chats, and solved inquiries in their ESMS, but have not used these measurements in this phase. To not focus on the numbers in this phase was an intentional choice to not put extra pressure on employees in this already strenuous phase.

> *"It is clear that as an organization, we have a big challenge when it comes to measurement, and to know what we are doing. And this is in the nature, this science and academical freedom are deeply embedded in the university's culture, to not be monitored, and not to be governed." (Respondent 5)*

Others believe that *performance measurement* (PM) is important, even critical, but not used enough. PM can give them motivation by showing that they have better service now than before. One departments use of PM has given them a positive awakening on the knowledge level in the organization on the use of PM. UiA help wants to use PM at a later time to measure how they deliver their services.

> *"I mean that it is very important even if it is difficult, even if it is painful, and it points out that there is used a lot of time on something. That we are not effective on something, that there are tasks that are to a certain degree needless, something technical that we can do better, faster. Even if it is unpleasant, we must do it, it is a leader's responsibility and a project's responsibility to implement." (Respondent 5)*

4.8 Project Management

The way the project was managed played an important role in the success of the implementation phase. Responders had a lot to say about how the project before the implementation phase was managed and the implementation phase itself. There were in total two project leaders, as the previous project leader had to leave due to personal reasons. A new

project leader as assigned at the start of the implementation phase, and some employees felt as if the project had gotten a new spark.

> *"When the project got a new project manager in February, the project got a new start, you can say. One scraped away a lot of the old fun and started over again" (Respondent 1)*

During the phase, the project leader was stricter on getting things done, and this was reflected upon from a number of responders. They felt that the new project group and employees were doing their work well and delivered on time, something which was lacking during the previous phases.

It was important for the employees that the project leader was partaking in project work, address difficulties immediately, and continuously following up on the work being done. One respondent stated that if the project had not received a new leader, then this phase would not have been successful.

Some negatives also arose as many of our responders felt that their assignments were unclear. Responders from different departments felt that communication could have been better between the project leader and departments and that this part was a bit weak. Lastly, responders believed that a much better mandate was needed. This had caused several issues throughout the implementation phase, since assignments given to the different departments were unclear, and people did not know who exactly was responsible for specific tasks.

4.9 Strategic Alignment

The university strategy and vision has been a central piece in the project and is the reason that the project owner started the project. The vision of the project is that users can come to one location to receive help with almost everything or be referred to the right person. This builds on UiA's vision to become more accessible, open, and transparent. Later in the phase, they did get a formulation that this was to simplify the processes, improve the services, in a degree streamlining, and creating a forward-looking organizational model.

"UiA's strategy, and vision have been a part of the project, which is why the project owner started the project that would streamline how we welcome customers, users, or guests."(Respondent 1)

Several respondents do not believe that strategic alignment has had an impact on this phase, and the goal and strategy of the university were not explained well from the top management.

> *"Organization goals and vision, I do not feel it is that critical." (Respondent 6)*

4.10 Organizational Change

Organizational change has been an important success factor throughout the implementation phase and the project itself. Respondents have many opinions about the importance of organizational change within the university and how it was conducted in the project.

Organizational change had a few positives, and people have stated that it affected the implementation phase to a high degree. The way change is handled been very important since this project affects many people. One of the respondents had the following to say about organizational change:

> *"Although this is a lot about processes and IT and about process orientation, it is first and foremost an organizational change project, and it has been of great importance, to take care of all the things that come up in an organization change project, that people are afraid of losing their job, people are insecure, they have to learn new things, so everything that is very important to focus on in such a project."*
> *(Respondent 4)*

Many of the respondents see the need and benefit to manage organizational change in the best way possible, since it affects people directly as stated in the quote above. One respondent also mentioned that they analysed and mapped all employee knowledge and skills that were in the organization which was very beneficial. Organizational change was also very important for people to accept their new role and learn that their everyday tasks will be different.

 However, while people see the importance, the way organizational change was conducted and perceived has been varied, and many people felt that the way change was handled in the project could have been better. Some respondents did not like the fact that what was promised to them at the start of the project changed during the implementation phase. For some respondents, the need for change was difficult to accept. There was still a silo mindset in some departments and cultural differences, which made it difficult to accept change.

4.11 Processes

In this phase, the four departments have mapped their processes individually with help from the *service development team* (TuT) and worked to develop a digital solution for some of the processes to get a better flow. Working to standardize the processes at the two locations makes it easier to describe them, have knowledge management on them, and ensure quality. Responders mentioned that it was valuable to standardize their processes. This has helped the departments to easier find out which processes each department is responsible for and in building a knowledge base to assure the quality of the processes. This seemed easy in theory to accomplish, but in reality, it was much more difficult.

> *"This is, in a way the basis for digitalization, quality control, and to gain realization. If we don't know about our services, it will be impossible for digitialize them, and hard to quality assure if we don't know about the conditions on what we deliver and getting gain realization on it. Services is important"* (Respondent 5)

Two of the departments managed to map their processes and services before the summer, with details and approximately how much resources each required. A lesson they learned was that they often underestimated when estimating resources for each process.

> *"This service mapping that has been done, definitions, and descriptions, that do I believe if you do not do it, you won't succeed" (Respondent 2)*

This process of mapping has increased the knowledge in the departments of their processes and services, which increased their maturity. One department manager wanted to get a broader perspective of their services and processes but did not manage this because the department was pushed to changes that they did not want. This is the reason as to why the processes in this department have not been changed as much.

4.12 Maturity

While conducting our interviews, we noticed that several of our respondents had spoken about how the maturity of the organization helped succeed not only in the implementation phase but the whole project.

Maturity was an important point mentioned, and respondents spoke about how well change was handled in the different departments and how quickly the organization copes with the ongoing changes. The level of maturity impacted the success of the phase.

> *"I can say that I think we have a certain advantage in the technical, some good expertise in the tut team and the work they do, I think it is very important, an important factor for change" (Respondent 5)*

Respondents also stated that because of the organization's maturity, it made it easier to conduct this type of project.

> *"Yes, there I think since we had a mature organization already around this, I think it was organized what was needed to get this done" (Respondent 2)*

Departments with a higher maturity handled the project with a lot less trouble as opposed to those with a lower maturity. The IT department is an example of a higher maturity department. Respondents associated with this department handled ongoing changes well and knew what their role was for this project.

> *"Yes, again I look at what we have had in the IT department, and what we have had here that we have long focused on this that we must be tuned for changes in some form, so it has been a part that we have been working on for a long time and that is part of the changes that have to come." (Respondent 9)*

Departments with a lower maturity level had a harder time in the project. The library department did not have high maturity in both handling change and the technical aspect. This department and the employees within struggled a lot more to deliver on what was assigned to them and needed to use more time and effort as opposed to higher maturity departments.

4.13 Summary of findings

Table 14 displays a summary of our findings. We were generally pleased with our results and some results stuck out to us, such as methodology not being seen as critical. We were also surprised just how important people and culture were, as these were mentioned many times, and it had a large impact on the success of the implementation phase.

Table 14: Summary of findings table

	Summary
Culture	Large impact on the success of the implementation phase. UiA has had challenges with negative attitude cultures, and a new culture was needed to change this. A "*get things done*" culture emerged, and this had a large impact on success.
Communication	Played a vital role in the implementation phase, one of the most important factors but it was difficult.
Information Technology	IT has been an important tool for success, process mapping, communication, and knowledge management Existing systems such as service now have been there to facilitate and enable the change because of the previous work that the IT department has done IT department has been very proactive. IT has to be there for the whole project to work If it was not there, then there would be a much bigger challenge
Leadership	Respondents had mixed attitudes. Some said that top management has not been present in this phase and was almost not visible for this phase. Some mentioned that it had been good support from top management. One respondent felt that the project owner was only there to resolve important disagreements, otherwise not involved. Some respondents believed it to be a critical success factor
Methodology	It was difficult to go from theory to practice. Considered methodology as important, though not critical. They have tried to use Prince 2, but it was difficult, and the DIFI project template but was not suitable at the end. Some people meant that this factor had no impact and was not important
People	One of the most mentioned success factors. Several key people were essential for the success of this phase and were seen as champions. It was crucial that the project had people with the right mindset and competence. Negatives of this factor include people unwilling to change, wrong priorities, different desires, different skillsets, and misunderstandings.
Performance Measurement	This was not focused as much on the project. They had had some measurements from before, such as the number of phone calls received, chats, and solved inquires, though these were not used during the implementation phase. Some respondents meant that it was a good decision to not focus on this factor as it may put extra pressure on the employees.
Project Management	Not considered an important factor, felt as if the project got a new spark with a new project leader. The new project leader was stricter

	on getting tasks done and closely followed up on work being delivered, which was well received by some respondents. Communication and unclear assignments were some of the criticisms received to the way the project was managed
Strategic Alignment	A central piece in the initiation of the project itself, and it was the reason why the project owner started the project. However, for the implementation phase, several respondents do not believe this factor has had an impact on the phase whatsoever.
Organizational Change	Respondents see this factor as very important as it affects people directly. There is however, still a silo mindset and differences in department cultures, which has made it difficult to accept change.
Processes	Departments mapped their processes, which was important and positive. Worked to get these processes built into a knowledge base to assure quality.
Maturity	The level of maturity in the different departments had an impact on this phase. Departments with lower change handling and technical aspects had a harder time in delivering assigned tasks as opposed to higher maturity departments.

5. Discussion

This chapter is the discussion of our findings, data gathering, and research question. In our discussion of the factors. We take a look at our prior research of the different factors and summarize what we had retrieved from our literature. We then discuss our findings and relate these to the literature and explore whether the literature and our findings are similar. We address whether or not the success factor was critical for the implementation phase or not based on our interview findings. Lastly, we answer if our prior research relates to our actual findings and discuss possible reasons as to why our results differ or were similar to the prior research.

5.1 Culture

Culture had a significant impact on the success of the implementation phase. There were in total four different cultures that needed to co-exist and work together for the phase to become a success. From our literature, it is stated that BPM adoption must be compatible with the culture that the BPM initiative is built from, or it will fail (Buh et al., 2015). Based on our interview findings, we perceive this statement to be true. The four departments have all had different cultures, and our interview results indicate that they saw it as a must to have a compatible culture for this phase to be a success. There has been a negative culture towards the project at times, and ha a need ot establishe a new culture. It was crucial that a *"get things done"* type of culture was present and played a large role in the succession of this phase. Syed et al. (2018) stated that in the public sector, cultures are highly resistant to change, with little attention to innovation. The fact that there were different cultures was not a good enough indication that the cultures were resistant to change and little focus on innovation.

5.2 Communication

Communication has played a vital role in the success of the implementation phase. Prior research has indicated that it is a key role for the success of a BPM project (Buh et al., 2015; Gabryelczyk, 2018b) and helps facilitate the mutual understanding of the strategy and goals for the organization (Bai & Sarkis, 2013). There is a need for clear and effective communication to various levels of the organization, and it is necessary for the phases before and during the implementation of a project (Bai & Sarkis, 2013). We find from our results that communication played a vital role and indeed was one of the most important factors during the implementation phase, which is consistent with previous research. We also find that it has a significant impact during this phase, though it is difficult. One particular reason as to why communication has been difficult was that information was misunderstood by employees. The information that was sent out was at times not concrete enough, and as stated by some of our responders, information must be concrete. Misunderstood information had caused confusion for employees, which lead to a negative attitude amongst the employees.

5.3 Information Technology

Information Technology plays a central and important role in BPM and communication. It is both an enabler and facilitator for change in a BPM project (Bai & Sarkis, 2013). We also find from prior research that existing systems can play a crucial role as a motivator for change, or as a demotivator to change (Ariyachandra & Frolick, 2008; Gabryelczyk, 2018b). Existing systems play as a motivator in that, if you have a good existing IT system it is easier

to conduct a BPM project as this will most likely be built upon this existing system, but at the same time, if the previous system is good enough then this could act as a demotivator to change. From our results we see that existing systems have had an impact, as the existing ESMS was a facilitator and enabler of change. The IT department has been very proactive in this phase, and it was stated that IT has to be there for this to work, otherwise it would have been a much bigger challenge. IT has been a valuable tool and is considered as an important success factor for the project. IT was used for communication, mapping, and knowledge management. For communication, Microsoft Teams was used, and people considered this as a good way of communicating. Service Now was used for knowledge management and mapping processes and resources. Because of these systems, the project has had an easier implementation phase, as it was stated that it would be much more challenging if not for these. One respondent mentioned that IT was not that important because *"it just worked"*.

5.4 Leadership

Support for the top management in a project is essential and acknowledged as one of the most critical factors (Ariyachandra & Frolick, 2008; Bai & Sarkis, 2013; Buh et al., 2015; Renata Gabryelczyk, 2018b). It is a vital connection in the cross-function in the organization with decision and support. This can reduce the resistance in the project by being involved in the resolving of conflicts that may arise and build a common organization vision (Ariyachandra & Frolick, 2008; Bai & Sarkis, 2013). Several of the project participants said that top management support in this phase has been lacking and almost not visible, and were there only to resolve important and urgent disagreements or decisions. Respondents felt that this project and phase were not prioritized from top management. While others saw the support as being good in this phase and mention that top management support was a critical factor. We conjecture that support from top management was a critical factor for this project, but not critical in this specific phase. Mandate and decisions were made in the prior phases and because of this, our finding points to low participation from top management in the implementation phase. Respondents who felt that there was a good support in this phase, were respondents with higher authority and who normally works closely with the project owner. Those with lower authority, who work closely with customers, do not have a strong connection to the owner, and they do not feel they have the support from the project owner. The position that the project owner has in the organization requires a lot of time and has little time to focus on this project. This is reflected upon in our findings as several have stated that the project owner was not present, perhaps due to time restraints.

5.5 Methodology

Methodology are methods and techniques that are suitable for implementation in this type of project (Gabryelczyk & Roztocki, 2018). Prince 2 project methods have been used during this phase with the attempt to convert a project template from DIFI. The use of the Prince 2 method was difficult to implement in practice as opposed to theory. Lack of knowledge of the method or the difficulty of using this method were mentioned as possible reasons as to why it may have been difficult.

We argue that the choice of methods did not have a large impact on this phase. Respondents mentioned that methodology was important, but did not have a large impact, while others did not believe it had any impact at all in this phase. Since respondents never mentioned any sspecific BPM methods, we argue that the lack of focus on specific BPM methods is the reason for the little impact that methodology has had during this phase.

5.6 People

People are seen as an essential factor in BPM. The presence of a champion, employees who are committed and energetic, are both factors that emphasize why people are so important (Ariyachandra & Frolick, 2008). Some of the respondents mention that people have been one of the success factors for the implementation phase, and it was crucial to have people with the right mindset and right competence. A number of champions were present in this phase, and they were seen as essential for success. There also appeared some negatives in that there were people who were unwilling to change due to wrong priorities, different desires, different skillsets, and misunderstandings. We see this factor as a critical success factor since the project revolved around people. They have chosen the right people for the tasks, which explains that there were a number of project champions. The new project leader was also considered as the correct choice. The competencies of selected people were also important, as many respondents mentioned that competencies with what they are tasked with were vital, such as digital competence if working with IT tools. This factor also goes hand in hand with culture. As it is people who facilitate different cultures, and these two factors are closely intertwined. An explanation for the negativities that were mentioned about people can be poor communication between people, which can quickly create these negative views. To summarize, people have definitely been a critical success factor and are closely affected by several other factors such as culture and communication.

5.7 Performance Measurement

The task of measuring time, cost, quality, productivity, and customer satisfaction is the basis of performance measurement. One needs to use the feedback from measuring to facilitate continuous improvements (R. Gabryelczyk & Roztocki, 2018). It is not possible to manage what you do not measure, and this is especially true for BPM (Bai & Sarkis, 2013) and measuring processes is key for a high level of BPM adoption (Renata Gabryelczyk, 2018b). Given the tradition of not measuring performance in public sector organization, we argue that implementing effective and satisfying processes are difficult. UiA help does have numbers on their processes but has deliberately not used them in this phase. To our understanding, they plan to use performance measuring more in later stages of the UiA help project. Our findings show that PM was not a critical factor in the implementing phase, but we believe that PM will have a bigger impact after the implementation of UiA help. The focus on people in this phase supports that it is an important factor in this phase. Some respondents said that they think of PM as critical to determine what level of services they deliver, and they definitively would use PM later.

5.8 Project Management

If BPM projects are to succeed, they must have clearly defined objectives, purpose, and plan (Buh et al., 2015). This explains the need for project management in BPM projects, as project management involves establishing and planning activities that help ensure that the implementation processes are managed (Bai & Sarkis, 2013). From our interview results, many of the respondents stated that project management was an important factor for the implementation phase. Once the new project leader took over, it felt as if the project had gotten a new start. The new project leader was more strict on getting tasks done and this was well received. The new leader also focused more on closely following up on work being done and employees felt that the new leader did a good job with their involvement. It was important for some respondents that the new leader was a part of the front line rather than

staying at the back. Some criticism did come from some departments in that communication and assignments were unclear.

We believe that this success factor is very closely related to people, as it was because the right person was chosen that had an impact rather then the project management skills used. Even though there was a bit of criticism towards the objectives not being clear enough, other difficulties that arose during the phase were handled well, which in turn lead to a successful implementation phase. We therefore see this to be an important factor, but not critical for this specific phase. The phase was still a success, but as stated by one of the respondents, it was most likely due to the project leaders ability to resolve problems that arose and not because of clearly defined objectives, purpose, and planning.

5.9 Strategic Alignment

Linkage between the organizational strategy and the operational function is the strategic alignment in an organization. This linkage will help the organization achieve higher Business Process Orientation (Trkman, 2010, 2013). Aligning strategy and the project is essential to achieve long-term success, improved performance, and maximize the value from process improvements (Bai & Sarkis, 2013; Trkman, 2010). In the creation of this project, UiA's strategy and vision were a key reason that this project was started, but we argue that this alignment did not have much impact on this phase. We see similarities between strategic alignment and top management that they were both critical for the making of the project but did not have much impact on this phase. Some respondents do not believe that this linkage had any effect on this phase. We argue that the goal to become more accessible and open has had an impact on the employee's attitudes towards the project and that strategic alignment, therefore, had some impact on the implementation phase.

5.10 Organizational Change

Analysis of the organization and changes to the organization structure are common in BPM initiatives. A visible change in an organization that has implemented BPM is the existence of process owners, with each process having a clearly defined owner. The cultures in an organization may be inconsistent with the desire to organize around the customer, and processes are siloed in departments and not in the customer lines. Horizontal end-to-end processes are not well understood in these individual silos, were departments often operate (Trkman, 2010).

Throughout this phase, UiA has analysed the organization with each department's processes and its employees experiences. The respondents confirmed that organizational changes were an important factor in the implementation phase, and how these changes were executed. The influence on employees was an important focus in this change, as well as helping them to become comfortable with the changes. Consistent with prior research, there were multiple departments that operated as individual silos, and some may not have the desire to change. One part of our finding here is the large focus on people and facilitating the ease of change for the organization.

5.11 Processes

Standardization of processes is desirable, as something must work reliably as a minimum to be considered as a capability. BPM can lead to increased standardization when processes are executed after defined specifications and rules. Standardization offers technical

interchangeability, compliance with regulations, and improved customer confidence (Trkman, 2010).

During the implementation phase, the departments mapped out their processes, and this was seen as an important step. It was important as they received an overview and knowledge of their processes, which in term had also increased their process maturity. They had also used these mapped processes to build them into their knowledge base to assure quality. We see this as a critical success factor since responders felt that if this were not done, they would not have succeeded with the implementation phase. We agree with Trkman's (2010) statement on processes since the project leads to increasing standardization. With increased standardization at UiA, customers receive standardized help at the new help desk, and it is easier for employees to deliver their tasks. This also leads to less time being used on standardized processes and opens up more resources to use in other areas.

5.12 Maturity

Complementary to the success factors in this research was our findings of maturity. Every organization has numerous business processes, and every organization manages its processes in its incorporated departments. There are several models to measure BPM maturity, and the list over models is rapidly increasing (van der Kamp, Smit, & Ravesteijn, 2019).

Closely related to BPM maturity are capabilities. Capabilities deals with the same phenomenon as processes, processes focuses on "*how*" and capabilities on "*what*". An organization's collection of resources is divided into tangible assets and intangible capabilities. The definition of capabilities is: "*Capabilities are repeatable patterns of action in the use of assets, including technical and managerial skills*"(Kerpedzhiev, König, Röglinger, & Rosemann, 2020).

We define the maturity that was mentioned from the responders as capability maturity at UiA. Respondents mention maturity in how well the different departments responded to changes during this phase. We believe this can be culture, people, and how the project was managed. Several respondents mentioned one department that had a higher difficulty to adapt to the change for this phase. A reason for this may be that the culture and people in this department have a lower capability maturity than the other departments. Knowledge and education of the processes that these departments were low, and combined this with their silo culture gave this department a larger disadvantage than other departments. We believe that the creating of a common service-minded culture may not have been as successful and did not receive the results that they wanted. On the other hand, TuT and the IT department had higher maturity in methods and technical experience.

From prior experience and through our conducted research, we believe that UiA is a capable organization with a good understanding of how to utilize their assets. We argue that having an organization that is mature in how they use their assets is positive for a successful implementation phase. *Figure 12* below illustrates which CSFs maturity has had an effect in the implementation phase based on our findings.
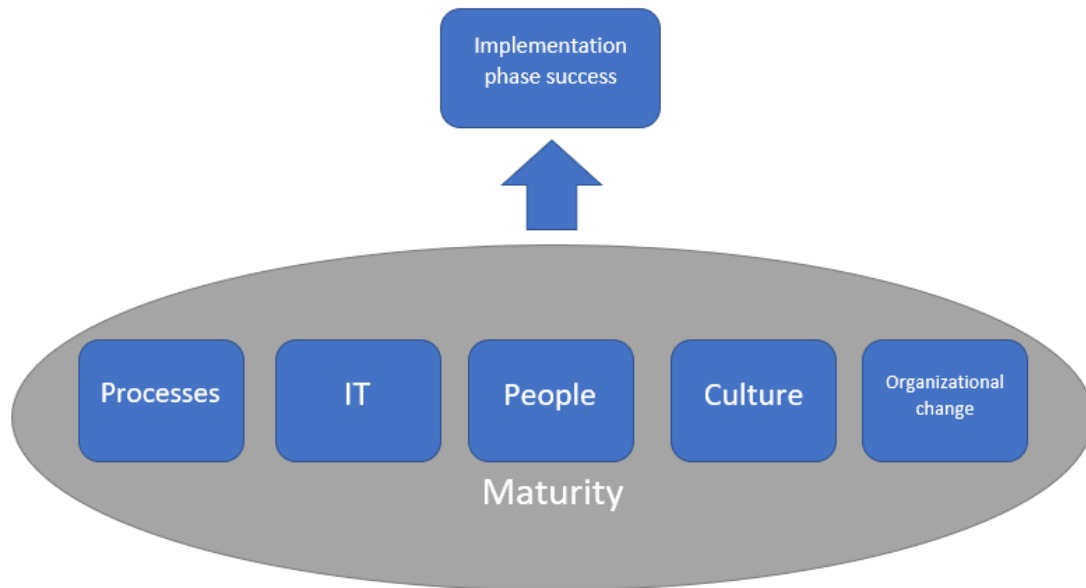
Figure 12: CSFs that were impacted by maturity

5.13 Identifying the critical success factors in the implementation phase

In this section, we discuss the factors which we believe have been critical for the implementation phase. In answering our research question, we take into consideration prior empirical research and our interview results. The factors that we believe have been critical for the success of this phase have been people, culture, communication, and processes. We conjectured that people were the most important critical success factor. Our respondents indicated that this factor had impacted the implementation phase greatly. It was crucial that the right people with the right mindset and competence were chosen for the succession of this phase. People has also had a direct effect on other success factors such as performance measurement. The project leader decided to not focus on performance measurement as to not put extra burden or stress on the people involved. Organizational change was also directly affected as changes in the organization can cause people to be insecure about learning new things and have a fear of losing their job. If people had not been taken into such high consideration, we believe that the implementation phase would not have succeeded, as this actor could have caused a ripple effect for the impact of the other critical success factors. *Figure 13* displays which success factor that we believe people have had a direct impact on.

Figure 13: Factors directly impacted by People in the implementation phase

We found culture to be one of the other critical success factors in the implementation phase. Different cultures in the different departments had caused a few issues throughout this phase, but their striving to have a common service-minded culture across the departments was very important. We relate this factor again to people, as it was because of people that common culture was crucial. The cultures present in the different departments also directly impacted communication since the silo-culture departments had more issues in communication. *Figure 14* displays which factors were directly affected by culture in the implementation phase.
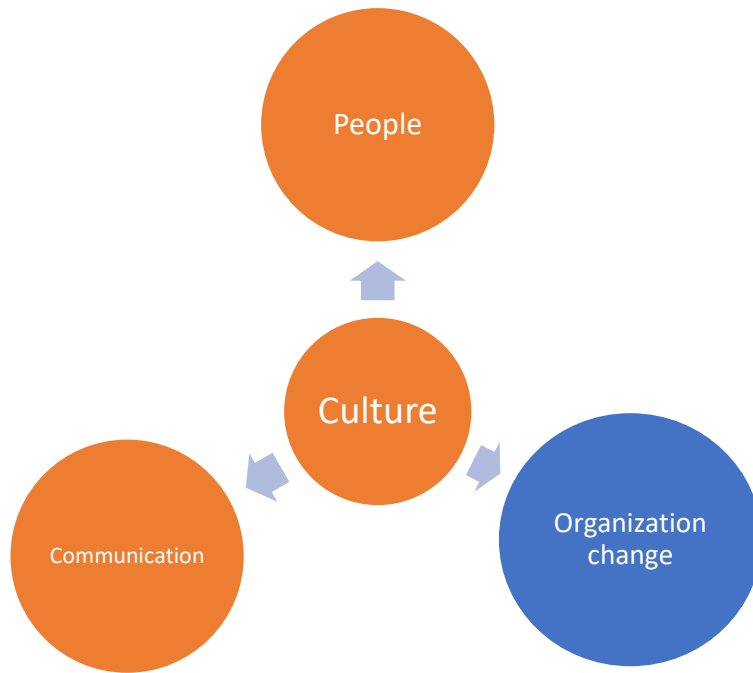
Figure 14: Factors directly impacted by Culture in the implementation phase

Communication is another critical success factor, and it directly relates to people and culture. Communication made people feel more confident since the project leader tried to be as transparent as possible. People felt that they were being heard because of an open platform type of communication. *Figure 15* illustrates the success factors that were directly impacted by the implementation phase.
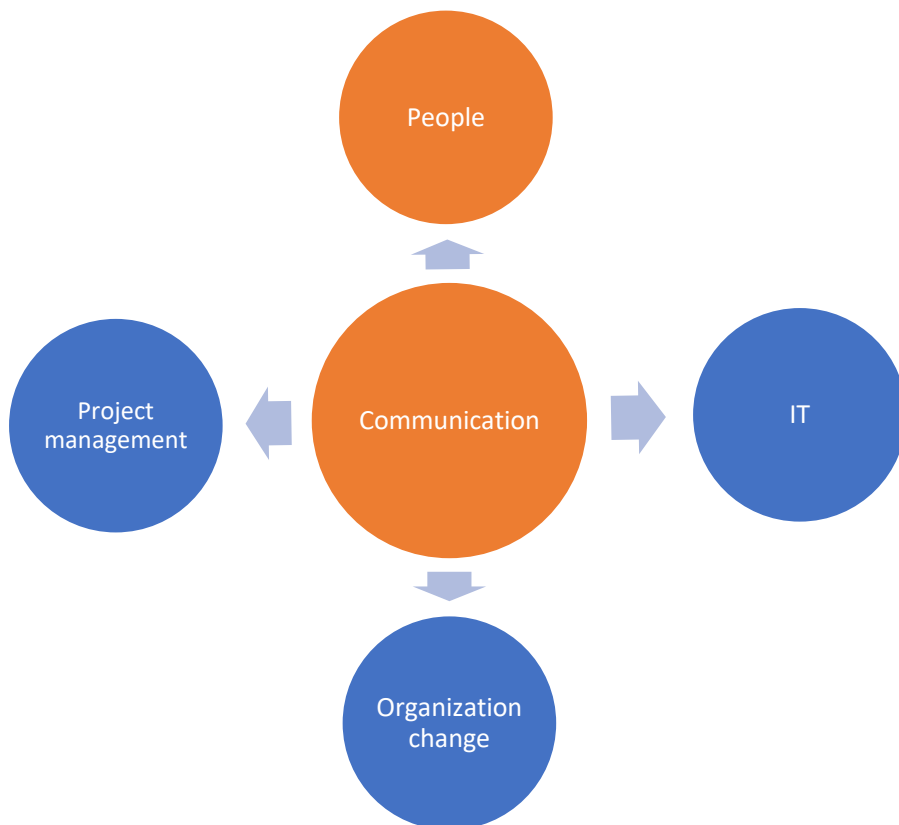

Figure 15: Factors directly impacted by Communication in the implementation phase

We conjectured that processes were another critical success factor. We argue that the standardization of processes leads to several positive outcomes during this phase. Some responders mentioned that the mapping of their processes was very important to both create a knowledge base and ensure their quality. We observed that the standardization of these processes has helped with getting a clear overview of what each department is responsible for and noticed that it had a direct impact on other success factors. Processes directly affected both project management and organizational change in that it made it easier for the team leader in managing the project. They had a clear overview of what tasks were to be taken by UiA help and which tasks would remain as they were. This was very important for managing the project and avoid misunderstandings amongst other departments, which again would affect the other critical success factors. *Figure 16* illustrates the factors which were directly impacted by processes in the implementation phase.
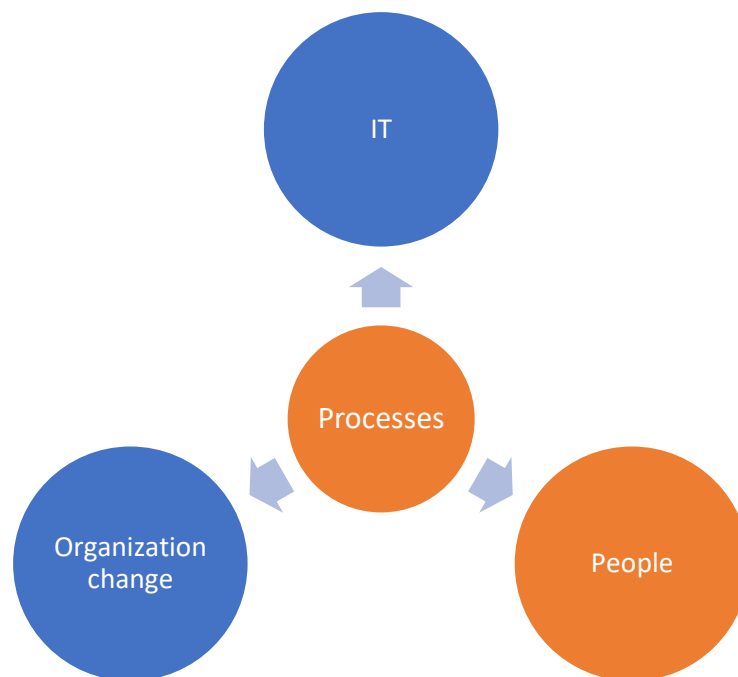

Figure 16: Factors directly impacted by Processes in the implementation phase

The other success factors, such as IT, leadership, project management, and organizational change, are important success factors, and all had an impact on the implementation phase. These factors were important, and we agree with prior research that they are critical for the whole entirety of a BPM project. This thesis focuses on the implementation phase, and for this phase, we cannot deem them as critical. We base this statement on our interview findings and our interpretation, as we felt that these success factors were highly regarded for the phases before, but not during the implementation. It was due to the right people, communication, culture, and processes, which also had a direct impact on all of the important success factors that were critical for this phase.

The remaining success factors, methodology, performance measurement, and strategic alignment, were not deemed to be important for this phase. The methodology used in this phase was Prince 2, and to some extent the DIFI project template. With this in mind, and from multiple answers given from our respondents about methodology not having an effect, we agree and therefore consider it as not important for this phase. Performance measurement was also considered but was not taken into consideration as not to put a strain on employees and is

therefore not seen as important. Strategic alignment was considered important for the initiation of the project but since the project was grounded in the previous phases, we argue that it is not considered as important in the implementation phase.

5.14 Summary of discussion

Out of the 11 critical success factors that were discovered prior to conducting our research, four of these are deemed as critical for the implementation phase, these being culture, communication, people, and processes. These critical success factors that were discovered for the implementation phase all relate either directly or indirectly to one another. *Figure 17* summarizes how each of the discovered CSF for the implementation phase, highlighted in orange, relates to one another. This also illustrates the importance of people, as this CSF directly impacted nearly all of the other CSFs and success factors.
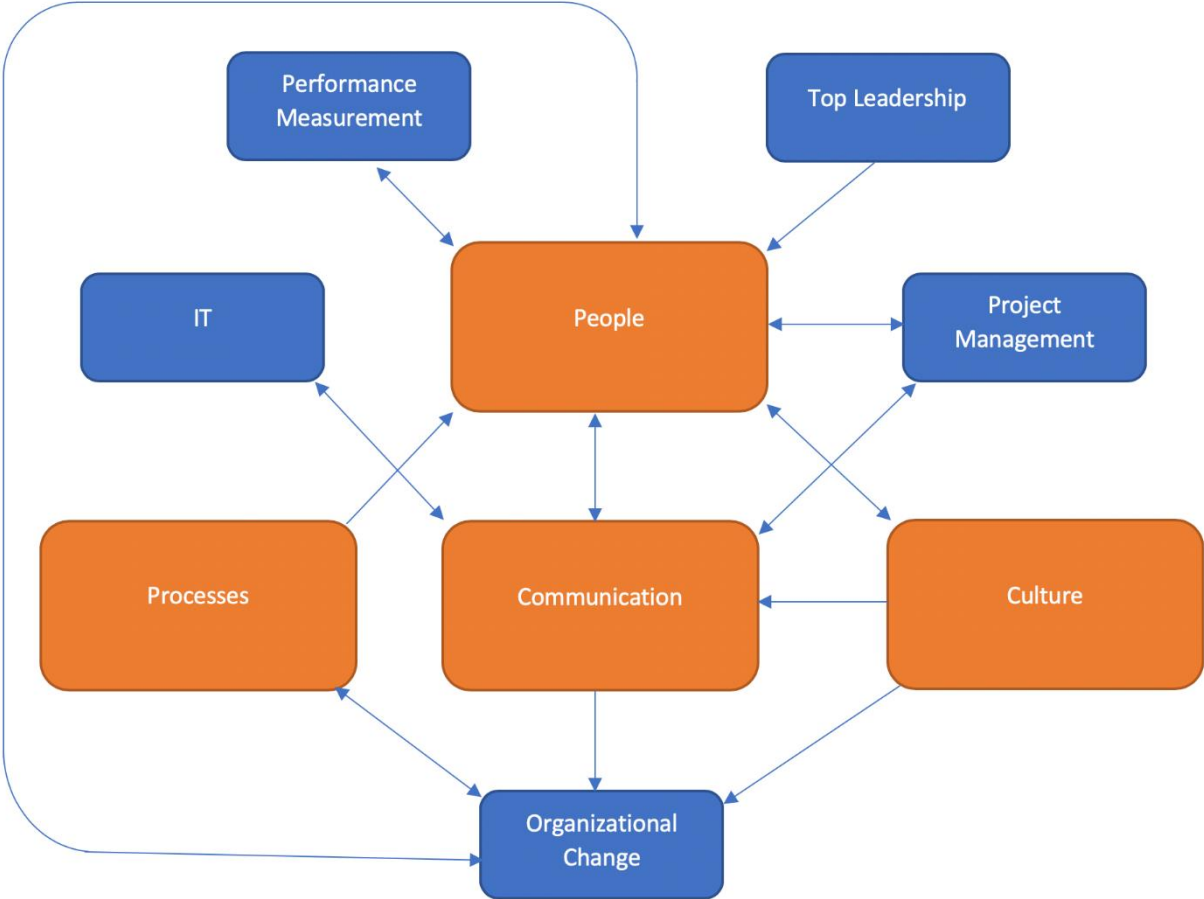

Figure 17: Summary of relations between CSFs and success factors

Four success factors, IT, leadership, project management, and organizational, were not considered as critical but important for the implementation phase. These factors had an important role in the success of this phase, but if they were not present, we argue that the implementation phase would have still succeeded. Methodology, performance measurement, and strategic alignment are considered as not important for this phase as these either were not taken into consideration at all or specifically chosen to not focus on in the implementation phase. We argue that these did not have any impact on the success of the implementation phase. *Table 15* displays the summary of which factors are considered critical, important, and not important.

Table 15: Summary of which factors were critical, important, and not important for the implementation phase

Success Factors	Critical Success Factor	Success Factor but not critical	Not considered important
Culture	X		
Communication	X		
IT		X	
Leadership		X	
Methodology			X
People	X		
Performance Measurement			X
Project Management		X	
Strategic Alignment			X
Organizational Change		X	
Processes	X		

6. Limitations

There were several limitations in our research, the first being that we did not manage to obtain an interview from the Operations department. While this department had the least involvement in the project, we still felt that it was important to interview the people involved in this department. Unfortunately, the interviews were cancelled due to the outbreak of Covid-19, and we could, therefore not get their perspective. We also wanted to interview someone from TuT, but we did not manage due to the mentioned reasons. There were a limited number of people that were involved in the project, and we were fortunate to have nine interviews. We would have liked to interview more individuals from the organization with a broader spectrum. Another limitation was that not everyone had thoroughly read our project information sheet that was sent out prior to conducting the interviews. This had caused a minor inconvenience as we sometimes had to explain our research before conducting the interviews. Lastly, there is limited generalizability, since it is only one case that we have looked into. Getting data from several public organizations would have provided a better basis for generalizability.

6.1 Reliability and validity

Since our interviews were conducted in Norwegian, the quotes that were used in this thesis were translated into English. This can cause some issues with validity as certain things may be lost in translation, or the tone might be a bit different when translated to another language. We translated the quotes to the best of our capabilities, but it must be stated that this can cause issues in the reliability of the data. To combat this, we cross-checked the translations and agreed upon whether this represents to the best extent possible. Another issue that presents itself here is our personal bias. Personal bias, regardless of how hard we tried to be as neutral as possible, may still be present without us even being aware of it.

7. Conclusion

The purpose of our master thesis was to identify which success factors are the basis for the success of the implementation phase in a BPM project. To answer our research question, we have conducted a literature review, created a framework about existing success factors, and conducted qualitative interviews at the University of Agder. We have interviewed nine people from three different departments who were a part of the implementation phase in the project. Throughout our research, we have discovered which success factors were critical, important, and not important for this phase.

Our proposed framework is a revision of an existing holistic framework by Bandara et al. (2009) with the addition of two new critical success factors. The new factors that were included, organizational change and processes, are a result of analysing existing literature of BPM CSFs. This framework was used as a basis for our interview guide and answering our research question.

Our results indicate that there were four critical success factors in the implementation phase, culture, communication, people, and processes. Out of these CSFs, people had the most significant impact on the success of this phase, and it was crucial that the right people with the right mindset and competence were chosen. Culture was also directly impacted by people, and we discovered that a common service-minded culture across the four departments was crucial. Communication is also a critical success factor since the transparent communication throughout the project made people more confident in the project and the project leader. Processes were critical as it was vital to get an overview of the tasks in the different departments and which tasks were to be implemented at UiA Help.

IT, leadership, project management, and organizational change are seen as important though not critical. These factors are considered as important in the implementation phase since they all had a direct impact on the CSFs. These success factors were highly regarded in the phases before the implementation phase and can be seen as critical for the entirety of the BPM project, but we discovered that these factors are not critical for our specific phase.

Methodology, performance measurement, and strategic alignment were not seen as important for this phase. The implementation phase was conducted without taking these factors into consideration, and it was still successful. Our responders were aware of these factors throughout this phase but chose not to use time or resources to focus on them.

We conclude our thesis by providing an answer to our research question:*" Which success factors are the basis for a successful implementation phase of a BPM project"* as people, culture, communication, and processes. IT, leadership, project management, and organizational change as important and directly impacted by critical factors. Methodology, performance measurement, and strategic alignment are seen as not impactful for the implementation phase of this BPM project.

7.1 Implications

Our research contributes in two ways. The first contribution lies in validating and re-specifying conducted prior research bout the topic of BPM, which resulted in our proposed CSF framework. BPM projects have many different success factors and frameworks, and we wish to summarize these to make future research easier. We discovered overlapping material in our literature review since many success factors were similar but had different names or descriptions. In creating our holistic framework, we have standardised the names and created descriptions for each CSF. This may help future researchers to find and use BPM CSFs for their research.

The implication for practice could be to point other organizations in a similar implementation phase to the CSFs. We believe that our findings can be used in both the private and the public sector since this type of project and phase is people-intensive. A stronger understanding of people and how they affect other factors will be positive for project success.

7.2 Future research

The following section addresses several points to help researchers conduct further research on this topic. Since our research consists of a case study within one organization and one phase of a BPM project, further research is needed. For future research, we recommend researchers to conduct similar research and focus on other phases. This contributes to the limited amount of research conducted about the critical success factors within the different phases of a BPM project.

We recommend addressing the limitations of this thesis by expanding to a multiple-case study with a larger interviewee pool. This could be done in a different setting as well such as the private sector, and be compared to see whether findings are similar to the public sector.

Future researchers may use quantitative methods to identify which factors were most impactful in a specific phase of a BPM project. We recommend using the AHP method or other similar quantitative methods to classify which critical success factors are the most prominent.

Lastly, we encourage continued research on our framework and the relations between the critical success factors to validate our findings in this thesis.

Our findings contribute to future research about the success factors in the different phases of a BPM project. This thesis lays a small foundation for future research on what CSFs are important in each phase of a BPM project, with our findings focusing on the implementation phase. We believe that identifying the CSFs for this phase, describing the relation, interaction, and effects, gives a new perspective for BPM research.

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Appendix

Appendix A - Articles used in proposed holistic framework

Articles	Critical Success Factors										
	Culture	Communication	IT	Leadership	Methodology	people	Preformance measurement	Project management	Strategic alignment	Organiztional change	Process
Critical Success Factors in business performance management – Striving for success.		1	1	1	1	1		1	1		
Exploring BPM Adoption Factors: Insights into Literature and Experts Knowledge	1	1	1	1	1	1	1	1	1		
A FRAMEWORK FOR ASSESSING BPM SUCCESS											
Ten Principles of good business process management											
BPM for change management: Two process diagnosis techniques											
Increasing process orientation with business process management: Critical practices			1				1		1		
Business process management – at the crossroads.			1							1	
Process management tasks and barriers: functional to processes approach											
Propositions on the interaction of organizational culture with other factors in the context of BPM adoption	1										
Business process management success framework for transition economies	1	1	1		1	1	1	1	1		
A qualitative research perspective on BPM adoption and the Pitfalls of business process modelling.											
An exploration of BPM adoption factors: Initial steps for model development.	1	1	1	1	1	1	1	1	1	1	
The critical success factors of business process management			1			1	1		1	1	1
MEANS OF ACHIEVING BUSINESS PROCESS MANAGEMENT SUCCESS FACTORS	1	1	1	1	1	1	1	1	1		
Critical success factors for different stages of business process management adoption – a case study.	1	1	1	1	1	1	1	1	1	1	
A grey-based DEMATEL model for evaluating business process management critical success factors	1	1	1	1		1	1	1	1		
Total.	7	7	10	6	6	8	8	7	9	4	1

Intervjuguide og forberedelser
IS-501, Masteroppgave

Ola S. Eriksen, John Jensen

Formål med prosjektet/masteroppgaven:

Finne ut sukseefaktorer i implementasjonsfasen av et BPM prosjekt.

Viktige konsepter og teorigrunnlag:

BPM – Business process management

Sukseefaktorer

Forskningsdesign:

Casestudie

Datagrunnlag: kvalitativt, semi-strukturerte intervjuer

Sekundære kilder: Dokumentasjon av fellesførstelinje prosjektet

Type bedrift: Universitet

Bakgrunnsinformasjon – informant/deltager

Kodenavn:
Nåværende posisjon i bedriften:
Rolle i prosjektet:
Informasjon om bedriften
Universitet i Agder, Servicetorget
Hvor bedriften har sin virksomhet: Kristiansand og Grimstad, Norge

Intervju
Dato og tidspunkt for intervjuet:
Intervjuets lengde:
Type intervju og lokasjon:
Digitalt opptak eller lignende:
Form for transkripsjon:

Spørsmål

Åpningsspørsmål –

Hovedformål: Forklare etiske faktorer og konfidensialitet; at digitale opptak og

transkripsjoner blir oppbevart på en forsvarlig måte og vil ikke bli distribuert til andre uten

informantens samtykke. Sitater kan kun brukes hvis informanten er enig og eventuelt

ansvarlig kontaktperson for bedriften gir sitt samtykke til bruk av sitater og annen

informasjon om bedriften. Hvis ønskelig, skal oppdragsgiver få anledning til å lese gjennom rapporten før innlevering av oppgaven. Dette gjelder spesielt sitatbruk og annen informasjon som kan være sensitiv.

- Hva er dette prosjektet – Hva går vår masteroppgave utpå
    a. Spesifisere hva vi leiter etter
- Hva går prosjektet utpå
    a. Spesifisere at vi spør om <u>bare</u> fra februar til november
- Hvorfor vi intervjuer deg
- Bekrefte om å ta opptak
- Informere om personvern og hvordan data blir behandlet

Hoveddel 1: *Spørsmål som er relatert til problemstilling*

Hovedformål: Få ærlige meninger om hva de mener er positivt for dette prosjektet
1. Success factors in the BPM project
- Hva er dine tanker og meninger om implementasjonsfasen til UiA-Hjelp prosjektet
- Hva mener du har påvirket positivt i denne fasen av UiA-Hjelp prosjektet
    o Er det noen du mener har påvirket mer enn annet

Hoveddel 2:

Hovedformål: Presentere «common success factors» som vi har funnet fra litteraturen

a. Culture / kultur

b. Communication / kommunikasjon

c. IT

d. Leadership / Top ledelse

e. Methodology / metodologi og metoder

f. People / mennesker

g. Performance measurement / ytelses måling

h. Project management/prosjekt ledelse

i. Strategic alignment

j. Organization change / Organisasjons endring

k. Prosesser/tjenester