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Analysis of Kaefer Energy's implementation of Power BI

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Abstract

In this thesis, the process of implementing Power BI at Kaefer Energy, a company specializing in ISS solutions within the energy industry. The problem question addresses the digitalization journey of Kaefer Energy, focusing on the transition from multiple small data solutions to a unified data solution platform. The study analyzes the transition from multiple small data solutions to a unified data platform using Kotter's 8-Step Model and the Technology Acceptance Model (TAM). A case study based on in-depth interviews was chosen as an appropriate method examining this question.

The research reveals that while Kaefer Energy has made strides in digitalization, there are gaps in aligning with Kotter's model in this implementation process. A sense of urgency was not uniformly felt across the organization, and communication and creation of the change vision was inconsistent and unclear. The guiding coalition was limited in active involvement, not focused on removing barriers and documentation was lacking. Short-term wins were not clearly communicated, and there was a lack of measures to sustain acceleration and enthusiasm. To make Power BI part of the culture at Kaefer Energy there are some shortcomings, that relate back to the previous steps.

The study also finds that employees' perceived usefulness and ease of use of Power BI were positive, affecting their willingness to adopt the technology. Despite challenges, there is a belief in the permanence of Power BI within the company. The thesis concludes that while the implementation has been successful in some respects, there is room for improvement in planning, communication, involvement from leadership, and following Kotter's steps more closely. Recommendations include better planning, clear communication channels, and strategic evaluation for future projects.

Abstrakt

I denne avhandlingen undersøkes prosessen med å implementere Power BI hos Kaefer Energy, et selskap som spesialiserte seg på ISO-løsninger innen energibransjen.

Problemstillingen tar for seg Kaefer Energys digitaliseringsreise, med fokus på overgangen fra flere små dataløsninger til en enhetlig plattform for dataløsninger. Studien analyserer overgangen fra flere små dataløsninger til en enhetlig dataplattform ved hjelp av Kotter's 8-trinns modell og Technology Acceptance Model (TAM). En casestudie basert på dybdeintervjuer ble valgt som en passende metode for å undersøke denne problemstillingen.

Forskningen avdekker at selv om Kaefer Energy har gjort fremskritt innen digitalisering, er det mangler i å samsvare med Kotter's modell i denne implementeringsprosessen. En følelse av hastverk ble ikke jevnt delt over hele organisasjonen, og kommunikasjonen og skapingen av endringsvisjonen var inkonsistent og uklar. Den styrende koalisjonen begrenset seg i aktiv deltakelse, ikke fokusert på å fjerne hindringer, og dokumentasjon manglet. Kortsiktige gevinster ble ikke klart kommunisert, og det var mangel på tiltak for å opprettholde akselerasjon og entusiasme. For å gjøre Power BI til en del av kulturen hos Kaefer Energy, er det noen mangler som knytter seg til de tidligere trinnene.

Studien finner også at ansattes oppfatning av nytteverdi og brukervennlighet av Power BI var positiv, noe som påvirket deres vilje til å ta i bruk teknologien. Til tross for utfordringer er det tro på at Power BI vil være varig i selskapet. Avhandlingen konkluderer med at selv om implementeringen har vært vellykket på noen områder, er det rom for forbedring i planlegging, kommunikasjon, deltakelse fra ledelsen og tettere oppfølging av Kotter's trinn. Anbefalinger inkluderer bedre planlegging, tydelige kommunikasjonskanaler og strategisk evaluering for fremtidige prosjekter.

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Undertaking this thesis amidst the global disruptions caused by the COVID-19 pandemic presented unforeseen challenges. Nevertheless, I am proud to have successfully overcome these obstacles, and I express my gratitude to all who played a role in this achievement. This journey has been one of the most demanding experiences of my academic career, and I reflect on it with a sense of accomplishment.

Table of Contents

ABSTRACT	1
ABSTRAKT	2
ACKNOWLEDGMENT	3
Table of Contents	4
1 INTRODUCTION	6
1.1 PROBLEM QUESTION	7
1.2 CASE COMPANY – KAEFER ENERGY.....	8
1.3 THESIS SETUP	9
2 THEORY	10
2.1 KOTTER’S 8-STEP CHANGE MODEL.....	10
2.1.1 Create a sense of urgency	11
2.1.2 Building a guiding coalition.....	12
2.1.3 Form a strategic vision and initiatives	12
2.1.4 Enlist a volunteer army	13
2.1.5 Enable action by removing barriers	13
2.1.6 Generate short-term wins	14
2.1.7 Sustain acceleration	14
2.1.8 Institute change	15
2.2 TAM – TECHNOLOGY ACCEPTANCE MODEL	16
2.2.1 Perceived usefulness	17
2.2.2 Perceived ease of use	17
2.2.3 Intention to use.....	18
2.2.4 Actual use.....	18
3 METHODOLOGY	19
3.1 RESEARCH DESIGN – A CASE STUDY	19
3.2 DATA COLLECTION	20
3.3 RELIABILITY AND VALIDITY	22
3.4 ETHICAL DELIBERATIONS	23
3.5 LEVERAGING CHATGPT AS A RESEARCH AID	23
3.6 DATA ANALYSIS	24

3.7	LIMITATIONS.....	25
4	RESULTS	27
4.1	THE IMPLEMENTATION PROCESS	28
4.2	ACCEPTANCE OF POWER BI	32
5	DISCUSSION	37
5.1	KAEFER ENERGY’S PROCESS AND ALIGNMENT WITH KOTTER’S 8-STEP MODEL	37
5.2	KAEFER ENERGY’S PROCESS AND ALIGNMENT WITH TAM.....	42
5.3	MAIN CHALLENGES OF THE IMPLEMENTATION PROCESS	44
6	CONCLUSION	46
	REFERENCES.....	48
	APPENDIX.....	51

Table of tables and figures

Table 1 – Kotter’s 8-steps change model.....	11
Table 2 - Interviewees.....	21
Figure 1 – Technology Acceptance Model	17

1 Introduction

In today's fast-paced world, technology plays a pivotal role in enhancing efficiency and competitiveness for individuals and companies alike. The simultaneous complexity and simplicity introduced by technology and digitalization implies careful implementation to achieve optimal results. As companies strive to keep up with the dynamic business landscape, the emphasis on effectiveness becomes paramount. The answers to improved efficiency often lie in embracing digitalization and new technologies. The expectations of both customers and employees further underscore the importance of staying updated on technological advancements. One prevalent strategy employed by companies is consolidating data and diverse data sources into a unified analytics platform to enhance competitiveness (Holsapple, Lee-Post, & Pakath, 2014). With fewer programs there is potential to simplify training processes and enhance accessibility. However, the execution of such change management is intricate, altering employees' routines and introducing new systems that may not align seamlessly with their workflows.

This thesis delves into the digitalization process within the ISS industry (insulation, scaffolding, and surface treatment). The chosen case study, Kaefer Energy, a key player in the oil and gas sector in Norway, has strategically embraced digitalization by implementing Power BI. This initiative seeks to centralize information access, previously dispersed across multiple platforms, and evaluating its success becomes pivotal for future digital endeavors. Power BI is a versatile and scalable business intelligence platform by Microsoft. Power BI transforms disparate data into coherent, visually immersive insights that can be easily shared across teams and organizations (Microsoft, 2023). Today, in the organization, business analysts take the lead in creating comprehensive reports and handling the technical intricacies, while a broader user base, particularly in departments like Purchasing and Economics, primarily engages with these reports. In Purchasing, Power BI has become an indispensable tool, consolidating various data sources, including Excel files and other systems, into a centralized report. This not only minimizes the reliance on multiple daily-use programs but also provides a holistic view for quick assessments of platform performance or monitoring metrics like sick days. The Economics department, on the other hand, benefits from numerous smaller reports tailored to their specific needs.

Motivated by factors like cost minimization, enhanced efficiency, and evolving expectations, Kaefer Energy's digitalization journey prompts questions about the effectiveness of specific actions. The overarching goal in this paper is to identify successful strategies, measure their impact, and provide a universally applicable roadmap for digitalization.

Through dialogues with Kaefer Energy, the focal point emerges in the transition from multiple computer-based solutions to one comprehensive system. This transition, while addressing existing computer-based methods and avoiding investments in ineffective tools, forms the core of the research. The problem question explores how the organization navigates this transition, identifying success criteria and barriers. Insights into user experiences, perspectives on the new solutions, and considerations for external involvement and training contribute essential facets to the inquiry. Importantly, this thesis does not seek to determine the superior program for substitution but rather concentrates on general implementation steps leading to favorable outcomes.

1.1 Problem question

In the dynamic landscape of today's business world, the imperative to harness technology for optimal efficiency and competitiveness is more pronounced than ever. Kaefer Energy, has embarked on a transformative journey, transitioning from a multitude of small data solutions to a unified, comprehensive data solution. The implementation of new technology is a very important process to a business, and there are many parts of a company involved in this process. It is key that the result is evaluated to be able to learn and develop for the future. To learn from one's mistakes is the most important part of this, to be able to continue to improve and evolve.

Problem question

This thesis is an analysis of Kaefer Energy's implementation of Power BI. The overarching problem question revolves around understanding the intricacies of Kaefer Energy's journey, regarding the transition from disparate small data solutions to a cohesive data platform. To unravel this complexity, a multifaceted approach is adopted, drawing upon established theoretical frameworks—Kotter's 8-Step Model and the Technology Acceptance Model (TAM).

Research questions

Q1. How did Kaefer Energy align with Kotter's 8-step model during the transition from multiple small data solutions to a comprehensive data solution platform?

Q2. How do employees' initial attitudes and perceptions align with the acceptance and utilization of the new data solution platform, as measured by the Technology acceptance model (TAM)?

Q3. What were the biggest challenges during the implementation process, and where within the organization were such resistance factors prominent?

By employing Kotter's 8-Step Model and TAM, this study aims to dissect and comprehend how Kaefer Energy navigates the intricate transition. Success criteria and barriers identified through these theoretical lenses will shed light on the organization's experience, user perspectives, and considerations for external involvement and training. In essence, the theoretical framework becomes the guiding compass in addressing the research questions, thereby unravelling the layers of complexity inherent in the problem question.

Several limitations influence the scope of this thesis. The study relies on a single case study approach, featuring insight from a limited number of interviews within a singular company, Kaefer Energy. In addition, the nature of a master thesis limits the available time and resources.

1.2 Case company – Kaefer Energy

Kaefer Energy operates within the KAEFER group, one of the largest construction companies in Europe. Kaefer Energy is a forefront enterprise specializing in ISS solutions in the energy industry. The company has a turnover of approximately 2 billion NOK from various contracts for new build, maintenance, and modification (Kaefer Energy, 2023). The company has been vocal about their focus on digitalization, and on their web page – in the about us section there is space dedicated to this focus. “We shall let the computers do what they are good at, so that the people can focus on what they are best at” (Kaefer Energy, 2023). There is reference to the analytical platform, and how it is used to pull data from various data sources and makes it available in dashboards and reports (Kaefer Energy, 2023).

1.3 Thesis setup

Chapter 1: Introduction

This part is a short introduction of the thesis and background for the paper and on the case company. Problem question and research questions are introduced.

Chapter 2: Theoretical Framework

This section provides a comprehensive examination of the theories employed to analyze Kaefer Energy's implementation of Power BI. Key theories include Kotter's 8 steps for change management and Technology Acceptance Method (TAM). This theoretical foundation aids in understanding potential challenges and barriers encountered by the company.

Chapter 3: Methodology

Diving into the study's methods, this chapter offers a detailed account of the choices made and adjustments implemented during the thesis writing process. It sheds light on the intricacies of the research design, data collection, and analysis methods employed.

Chapter 4: Results

Focusing on the outcomes, Chapter 4 presents the results gleaned from in-depth interviews with both employees and employers. The findings are organized by implementation process and perception of Power BI.

Chapter 5: Discussion

This chapter serves as a platform to compare the results with the established theoretical framework. It engages in a thoughtful discussion to draw connections between theory and real-world implementation.

Chapter 6: Conclusion

A concise summary of the key findings presented in Chapter 5, Chapter 6 serves as the concluding segment, wrapping up the main insights derived from the study.

2 Theory

In this chapter, this study delves into the intricate interplay between technology adoption and organizational change. By using the frameworks Technology Acceptance Model (TAM) and Kotter's 8-Step Change Model, this chapter aims to describe their background and how they are meant to be applied in practice for different implementation processes. These theories serve as guiding lenses, illuminating the factors shaping employees' acceptance, organizational readiness, and transformative efforts, providing a comprehensive foundation for the subsequent analysis. By integrating these frameworks, the study gains a complex perspective, allowing for a comprehensive analysis of the Power BI implementation process. This holistic approach enables a deep understanding of the human, organizational, and technological aspects involved, providing valuable insights for both academic research and practical applications within the organizational context.

2.1 Kotter's 8-step change model

Kotter's model offers a structured approach to managing organizational change. By applying this framework, it is possible to analyze how the organization navigated through the stages of creating urgency, forming a guiding coalition, developing a vision, communicating the vision, empowering employees, generating short-term wins, consolidating gains, and anchoring change (Kotter, 1996). This model allows for assessment of the effectiveness of the change management strategies employed during Power BI implementation (Kotter, 1996).

Kotter's important work, "Leading Change," has long been regarded as a cornerstone in change management literature (Oehlhorn, Maier, Laumer, & Witzel, 2020). In this influential piece, Kotter introduced a transformative model about eight vital steps for organizational change. Derived from his extensive consulting experiences with approximately 100 organizations, these steps were essential factors crucial for change success (Kotter, 1996). Initially presented in the 1995 article "Leading Change: Why Transformation Efforts Fail" and later explained in the 1996 book "Leading Change," the model underwent significant evolution in 2014 to adapt to the accelerated pace of organizational change (Kotter, 2014). In the 2014 book, Kotter revised the original steps into a framework known as Kotter's 8-step model. Notably, this version differs from the linear progression of its predecessor, instead viewing the steps as accelerators to be executed concurrently and continuously (Kotter, 2014). The original hierarchical structure has given way to a more adaptable approach

suitable for contemporary organizations. Moreover, the focus has shifted from mere research to the concrete impact of change efforts (Kotter, 2014).

The eight steps described in Accelerate are shown in Table 1 – Kotter’s 8-steps change model (Kotter, 2014).

Table 1 – Kotter’s 8-steps change model

Unfreezing phase	Transition phase	Freezing phase
1. Create a sense of urgency	5. Enable action by removing barriers	8. Institute change
2. Build a guiding coalition	6. Generate short-term wins	
3. Form a strategic vision and initiatives	7. Sustain acceleration	
4. Enlist a volunteer army		

These steps can be categorized into distinct phases: Steps 1-4 constitute the "unfreezing phase," aimed at modifying resistance to change, while Steps 5-7 include the "transition phases," focusing on developing new behaviors and values. Step 8 represents the "freezing phase," ensuring the implemented changes become a lasting part of the organizational culture (Kotter, 1996). Each step will be further explained in following subchapters.

2.1.1 Create a sense of urgency

The first step, creating urgency, marks the initial phase of change implementation. It involves instilling a sense of crisis in the organization, making it evident that change is necessary (Kotter, 2008). This step is important as it demands organizational awareness and individual acknowledgment among employees (Kotter, 2008). According to Kotter, this step is often the most challenging, with a historical failure rate of 50% (Kotter, 1996). Managers frequently underestimate the complexity of aligning employees with the need for change, overestimating their ability to raise urgency levels effectively (Kotter, 2008; Oehlhorn, Maier, Laumer, & Witzel, 2020). True urgency emerges when it's clearly understood that change is an immediate necessity, not a deferred option (Kotter, 2008). Kotter proposes innovative strategies such as creating artificial crises or setting exceptionally high, unattainable goals to

get employees out of their comfort zones (Kotter, 1996). These approaches serve to intensify the perceived urgency, getting individuals to recognize the need for change.

2.1.2 Building a guiding coalition

In the past, managers could implement changes individually, but in the current globalized environment, collaboration is essential (Smith & Cockburn, 2016). Complex business landscapes require dedicated team efforts to implement changes. No single person can develop the vision, communicate it effectively, eliminate barriers, generate short-term wins, and manage numerous change projects simultaneously (Kotter, 1996). Building the right team is crucial for successful change management (Piercy, Phillips, & Lewis, 2013). The team should comprise individuals with diverse skill sets, positive energy, influence, expertise, credibility, and leadership skills (Kotter, 2014). This collaboration should involve middle managers, internal staff, and external advisors, emphasizing the importance of a cohesive and competent team (Kotter, 2014). By assembling a capable and trustworthy team early in the change process, organizations can build trust and work toward a shared goal, leading to successful change implementation (Kotter, 2014). Effective communication and positive team dynamics enhance the team's ability to adapt, innovate, and achieve the desired change outcomes (Kotter, 2014).

2.1.3 Form a strategic vision and initiatives

During a potentially chaotic and confusing change process, having a clear vision for the future is vital. Without a compelling vision and well-thought-out strategies, a change initiative can easily fail according to Kotter (1996). A vision provides the necessary direction for change, motivating individuals to actively participate in the transformation process (Kotter, 1996). An effective vision should serve as a guiding light, showing how the organization will significantly improve through the implementation of change (Kotter, 1996). A well-crafted vision has these key characteristics: imaginable, desirable, feasible, focused, flexible, and communicable (Kotter, 2014). Importantly, both the leadership team and employees must share a common understanding of the future and the necessary steps to reach it. The vision must appear attainable to all, ensuring it serves as a powerful motivational force driving collective efforts toward a common goal (Kotter, 2014). In the absence of a clear vision, even the most well-crafted strategies or plans may fail to inspire employees into action (Kotter, 2014). The absence of a vision can lead to conflicts and confusion within the organization.

2.1.4 Enlist a volunteer army

In the final step of the unfreezing phase, the focus shifts from articulating the vision to communicating it (Kotter, 1996). The goal is to communicate the strategy and vision well, to the point where employees get engaged and excited. There are multiple actions to be taken to get employees involved, and mere verbalization of change is insufficient. Leadership must demonstrate the vision through their (Kotter, 2014). The vision needs to be in every aspect of the organization, from leadership behaviors to everyday interactions, making it a part of the organizational culture (Kotter, 2014). Effective communication of the vision, as outlined by Kotter (1996) relies on several key elements. Simplicity is important to ensure that the vision is easily understandable for all employees (Kotter, 1996). Multiple communication platforms strengthen the message, increasing the likelihood of employees hearing and remembering it. (Kotter, 2014) Repetition plays a crucial role to reinforcing the vision's importance (Kotter, 2014). Leading by example and demonstrating the vision in action is also key (Kotter, 2014). Establishing two-way communication channels to create engagement and feedback (Kotter, 2014). Encouraging more interaction between employees increases the impact of the change effort (Kotter, 1996). The more individuals engaged and collaborating, the more substantial the change becomes, solidifying its presence within the organization (Kotter, 2014). It is demanding to complete a change process without the backing of the general employees, referred to as the volunteer army in Kotter's 8 steps (2014).

2.1.5 Enable action by removing barriers

The first step of the transition phase is step 5. Here the focus is on building trust, enhancing communication, and empowering employees to take proactive action, fostering a sense of affiliation with the change initiative (Kotter, 2014). Kotter identifies four critical obstacles that need to be addressed: organizational structure, skills, systems, and supervisors (Kotter, 1996). Organizational structure speaks to the internal structure might clash with the change vision, leading to frustration and diminished motivation among employees (Kotter, 2014). Timely removal of such structural barriers is essential to maintain the momentum of the change process (Kotter, 2014). The next obstacle, skills, refers to retraining and learning new skills. Investing time and effort in enhancing employees' skills is crucial for successful adaptation to change (Kotter, 2014). Changing habits, behavior, and attitudes requires proper training and guidelines (Kotter, 1996). Furthermore, the existing systems and processes must align with the new vision. Inadequate systems should be eliminated or revamped to support the desired change effectively (Kotter, 2014). The last obstacle is supervisors. Identifying and

addressing resistance among supervisors is integral as supervisors often are the link between management and employees (Kotter, 2014). Open dialogue and the support of management is essential in helping resistant supervisors understand the change (Kotter, 2014). Lack of support can disempower employees, hindering progress (Kotter, 1996).

Swift elimination of these crucial barriers is vital (Kotter, 1996). Empowering employees through training and feedback mechanisms enables them to actively contribute to the necessary changes, fostering a collaborative and responsive organizational environment (Kotter, 2014). Promoting an environment where employees feel valued, heard, and encouraged to contribute to the change process is invaluable (Kotter, 2014). The importance of continuous evaluation and adaptation in this step is big. Organizations should establish mechanisms for ongoing assessment to identify new obstacles that might emerge and promptly address them (Kotter, 2014).

2.1.6 Generate short-term wins

During a lengthy change process, celebrating milestones becomes pivotal. These achievements serve as markers, strengthening motivation and sustaining momentum (Kotter, 1995). For short-term goals to be effective, they must be visible, clear, and tied to the change initiative (Kotter, 1995). Kotter (2014) outlines six vital roles played by these short-term wins: demonstrating the value of sacrifices made, rewarding and motivating those involved, testing the effectiveness of the vision and strategy, enhancing resistance against change, retaining support from superiors through visible results, and building momentum for the subsequent step (sustain acceleration). These wins are not mere celebrations; they significantly enhance employees' sense of achievement and credibility within the organization (Kotter, 1996). Visible results instill confidence, showing that the collective effort is yielding tangible outcomes (Kotter, 2014). In a prolonged change process, these victories provide essential relief through validating the employees' hard work and reigniting their motivation for the journey ahead (Kotter, 2014).

2.1.7 Sustain acceleration

Navigating a change process within an organization is a complex challenge that demands sustained effort and strategic leadership (Kotter, 1996). Continuous guidance and direction from leaders and managers are crucial throughout this process (Kotter, 1996). Sustaining acceleration in a change process is a pivotal step that requires a continuous feedback loop,

ensuring that change initiatives are consistently evaluated, refined, and adapted (Kotter, 2014). Changes that have not yet been ingrained in the organizational culture are particularly vulnerable during this step (Kotter, 1996). Fostering a culture of adaptability and resilience equips the workforce to cope effectively with changes and uncertainties, ensuring the organization remains dynamic and forward-thinking (Kotter, 2014).

Additionally, reinforcing the importance of communication, transparency, and leadership visibility during this step is essential (Kotter, 2014). Clear and open communication channels enable employees to stay informed, fostering a sense of trust and commitment to the change process. Leadership visibility provides a guiding light, offering reassurance and direction amid transformative times (Kotter, 2014). Stamina and persistence are essential virtues during this phase (Kotter, 2014). Kotter (2014) states that while creating short wins is crucial (Step 6), overemphasis on these wins can inadvertently diminish the sense of urgency that drives change (Step 1). Hence, sustaining momentum requires a delicate balance between celebrating achievements and maintaining the necessity feeling that propels people forward. In large organizations, change processes often take longer due to their complexity (Kotter, 2014). Therefore, leaders must continuously encourage and motivate their teams, ensuring everyone understands the importance of their contributions to the larger transformative vision (Kotter, 2014). A resilient workforce, combined with effective leadership, can navigate the complexities of change, ensuring the organization thrives amid transformation (Kotter, 2014).

2.1.8 Institute change

Instituting change within an organization's culture marks the culmination of the entire change process. This step involves embedding the changes made into the fabric of the organization, ensuring they become integral to its ethos and daily operation (Kotter, 2014). For change to endure, it must align seamlessly with the organization's values and culture (Kotter, 2014). However, altering an organization's culture is no easy feat. Employees must perceive a direct link between their new actions, improved performance, and the organizational culture (Kotter, 2014). By weaving the changes into the organization's core, aligning them with its values, and ensuring employees understand their role in this evolution, the organization can firmly anchor the new approaches, ensuring a lasting and impactful transformation (Kotter, 2014). Implementing lasting change in an organization requires continuous reinforcement and monitoring (Kotter, 2014). Establishing feedback loops allows employees to share insights and concerns, enabling proactive adjustments. Regular assessments, whether through surveys

or interviews, help evaluate cultural alignment (Kotter, 2014). Addressing challenges promptly ensures the changes remain integrated, fostering a culture of adaptability and continuous improvement within the organization (Kotter, 2014).

At this point in the process, current managers and supervisors are onboard, but there needs to be a plan for future new hires. The next generation of managers and employees must fully embrace these changes, fostering a shared understanding and commitment (Kotter, 2014) Management plays an important role by continually showcasing progress, offering support, and sharing success stories (Kotter, 2014). They must also continue the effort to integrate the changes into the organization's routine, adapting strategies as necessary to sustain the momentum (Kotter, 2014).

By completing these 8 steps a company should be able to move smoothly through a change process without any greater problems and benefit from a fully integrated solution (Kotter, 2014).

2.2 TAM – Technology Acceptance Model

Technology Acceptance Model (TAM) serves as a foundational framework for comprehending the intricacies of technology adoption (Marangunic & Granic, 2015). It aims to predict user behavior and provide a theoretical rationale for successful technology implementations (Davis, 1989). TAM informs businesses of proactive measures they can undertake before implementing a new system or technology (Davis, 1989). Davis (1989) uses TAM to highlight the relationship between external factors and actual system use. The model shows if technology will be accepted and used to enhance performance and effectiveness.

TAM is rooted in the Theory of Reasoned Action (TRA) developed by Ajzen and Fishbein (1975). While TRA offers a general framework applicable to various human behaviors (Ajzen & Fishbein, 1980), TAM refines this approach to specifically address behaviors related to technology acceptance and usage (Davis, 1989). TAM has evolved over time and have several newer versions and extensions. Two such models are TAM2 and TAM3, which both add several additional exogenous variables and/or moderators (Venkatesh & Bala., 2008) The extensions focus on elements such as image and job relevance enhancing the model's complexity and depth (Venkatesh & Bala., 2008). These additions contribute to a more nuanced understanding of users' attitudes and behaviors towards technology adoption.

They are often referred to by TAM 1, 2 and 3, but for the intents of this paper they will be referred to as TAM, as the main idea is the same.

TAM is mainly divided into four elements: perceived usefulness, perceived ease of use, intention to use and actual use (Davis, 1989). The relationship between the elements is visualized in Figure 1 – Technology Acceptance Model. Perceived ease of used influences the perceived usefulness (Davis, 1989). Intention to use is influenced by both perceived ease of use and perceived usefulness (Davis, 1989). Intention to use can indicate the levels of actual use of technology (Yousafzai, Foxall, & Pallister, 2007). Each element of the model will be explained in the next four sections.

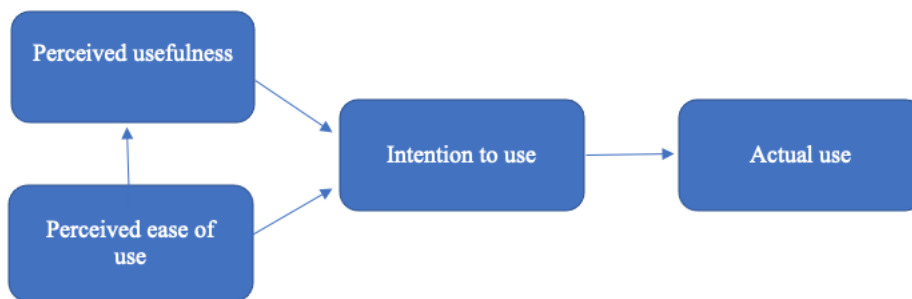


Figure 1 – Technology Acceptance Model

2.2.1 Perceived usefulness

Perceived usefulness is a fundamental concept in user experience evaluation, representing an individual’s subjective assessment of how a specific technology contributes to enhancing their overall performance and achieving their objectives (Davis, 1989). In other words, to what degree technology will help enhance performance and achieve goals. Perceived usefulness includes how the technology will increase efficiency, effectiveness, and goal attainment (Davis, 1989). Perceived usefulness has a positive effect on intention to use, meaning that the more useful, the more likely to be adopted by users (Venkatesh & Morris, 2000). A technology that is seen as less useful it will most likely lead to a negative impression of it, which likely will lead to poor use of the tech.

2.2.2 Perceived ease of use

Perceived ease of use is a pivotal concept in assessing users’ subjective evaluations of a system’s usability and accessibility. According to TAM, an application expected to be easy to

use is more likely to be deemed useful by the user, stimulating the acceptance of the technology (Davis, 1989; Venkatesh & Morris, 2000). The learning curve, overall effort demanded, and the system's user-friendliness determines how easily users can navigate and utilize the technology. This in turn influences their overall satisfaction and adoption of the system (Davis, 1989). A technology that is perceived as difficult to learn and use can lead to a negative impression of it, which can directly affect the actual use for a person or indirectly the perceived usefulness which again will impact use (Davis, 1989; Taylor & Todd, 1995).

2.2.3 Intention to use

Intention to use refers to the expressed willingness of users to adopt and engage with a particular technology based on their perceptions of both its usefulness and ease of use (Davis, 1989; Taylor & Todd, 1995). It stems from the user's evaluation of the technology's potential benefits and the perceived effort required for interaction. This concept is integral to understanding users' proactive inclinations toward adopting and continuing the use of a technology, shedding light on the behavioral aspect of technology acceptance (Davis, Bagozzi, & Warshaw, 1989). Users' intentions to use a technology are influenced by their perceived usefulness and the perceived ease of use. After the two first steps one can get an inkling on barriers to adoption and develop strategies to combat these barriers and by that improving the adoption success rate (McDonald, Fogarty, Cosby, & McIlveen, 2022).

2.2.4 Actual use

Actual use, within the framework of TAM, pertains to the concrete and real-world application of a technology by users (Davis, 1989). It reflects the tangible behavior of individuals as they actively engage with and utilize the technology in their day-to-day tasks. Actual use is a critical component in TAM, as it demonstrates how users' initial intentions to use a technology translate into observable usage patterns (Yousafzai, Foxall, & Pallister, 2007). By examining actual use, researchers can assess the effectiveness of the technology's adoption and its alignment with users' expectations, providing valuable insights into the practical implications of technology acceptance (Yousafzai, Foxall, & Pallister, 2007).

3 Methodology

This chapter outlines the method employed in this thesis, specifically focusing on the qualitative case study approach applied to Kaefer Energy. By utilizing qualitative methods, this study aims to address the research questions effectively. The chosen methodology aligns with the nature of the problem under investigation, allowing for a comprehensive exploration of the research topic. Eight interviews were completed by employees of varying backgrounds and positions. The chapter provides details on the research design, data collection methodology, and the process of data analysis.

3.1 Research design – a case study

This study investigates the adaptation of a new data system within a specific company. To thoroughly answer the research questions, a case study approach is chosen, as advocated by Yin (2014). A single case study design is employed, concentrating on a singular phenomenon within the chosen company (Yin, 2014). A case study is fitting as the experience and in-depth info from individuals in one specific company gives more in-depth knowledge, and description of everyday life (Yin, 2014; Tjora, 2013). Case study is well suited for smaller studies as it has natural limitations (Tjora, 2013). Kaefer Energy was chosen as the case study due to availability.

In this research, in-depth interviews are the primary source of information. These interviews serve as a logical approach, enabling the collection of data necessary to answer the research questions unambiguously (Jacobsen, 2015). The in-depth interviews were conducted by the researcher with a selected group of participants. The purpose of these interviews is to delve deeply into the world of the participants, understanding their first-hand experiences with the implementation process and capturing their experiences and thoughts related to it (Tjora, 2013; Jacobsen, 2015). There are various interview styles, with in-depth interviews being the most relevant for this thesis. These interviews typically last around 1 hour, providing more comprehensive data compared to other types, such as exploratory and validation interviews (Adams, Khan, & Raeside, 2014). The interviews followed a semi-structured setup, allowing the interviewer to pose follow-up questions based on the respondent's answers within given themes. The interview outline resembled more of a roadmap, offering flexibility rather than a rigid structure (Adams, Khan, & Raeside, 2014).

3.2 Data collection

Interviews serve as vital sources of information in case studies, emphasizing guided conversations over structured queries, as recommended by Yin (2014). The interview questions prepared in the interview guide were mostly open-ended, allowing interviewees to freely express their thoughts on relevant issues (Johannessen, Tufte, & Christoffersen, 2016; Saunders, Lewis, & Thornhill, 2016). Because it is one on one interviews, the interviewer was able to clarify questions if there were any misunderstandings (Jacobsen, 2015). There was one question especially that had to be rephrased to several of the participants, as the concept was a bit vague. The last interview was conducted by phone for geographical convenience and limited funds. Because telephone interviews can come across as more impersonal and they lack visual contact with the subject, the introduction part of the interview was made longer in hopes of making up for this drawback (Adams, Khan, & Raeside, 2014).

To make sure the sample selection and the participants align with the target population, the focus for selection was sampling diversity. Factors such as age, gender, and varied levels of experience among participants contribute to a rich tapestry of perspectives. By incorporating a diverse range of participants, the study gains depth and breadth, allowing for a more nuanced analysis of the case (Kumar, 2014). In this case study, approximately 30 daily users of Power BI were the pool of possible participants, and interviews were conducted with 8 of them. The initial outreach involved the department head, serving as a gatekeeper, who directed the researcher toward suitable candidates, ensuring diversity in gender, age, and level of experience among the selected participants. They were then contacted via email to set up the meeting. There was a split in gender of five women and three men. In the managerial group there were similar ages, reflecting the limited pool of managers directly involved in the implementation process. This homogeneity in age prompted an interesting observation about the potential correlation between younger age and enthusiasm for change and digitalization initiatives. Among the regular employees the age range went from 20 to 50 years. Their varying ages reflected a broader spectrum of experiences and attitudes toward technology adaptation. Additionally, their differences in software familiarity and tenure at the company contributed to a multifaceted understanding of how Power BI was perceived and utilized across different demographic groups and levels of experience within the organization.

Furthermore, it's worth noting that two of the employees were from the purchasing department, while the remaining three were from the economics department. This departmental diversity further enriched the study by capturing insights from different functional areas within the organization, providing a holistic view of the impact of Power BI implementation across various departments.

The research and interviews were conducted during September and October 2023. To ensure comprehensive insights, there were initially 7 participants, but due to limited information from some interviewees one last interview was performed. The interviews were conducted in Stavanger. Each interview was scheduled for an hour, and a meeting room at their headquarters was used as the interview venue. Prior to the interviews, the participants were informed of potential steps to be taken if not all questions had been answered in the allotted time. They would receive the remaining questions by email. However, this precaution turned out to be unnecessary as the discussions were within the timeframe.

The interviews aimed to explore the implementation process of the new analytics tool, Power BI. There was just one interview guide, however the questions that were aimed towards people in leadership were marked with a different color. This is because there was a variety of positions among the interview object and having two separate sheets would not leave all questions available if deemed relevant for a person not in that group. Some questions were answered by both groups. The questions for the employees, centered around TAM, focusing on their experiences, challenges, and perceptions of the implementation process. On the other hand, questions posed to employers and higher management were framed with the Kotter's 8-Step Change Model in mind, focusing on their perspectives, strategies, and decision-making processes during the Power BI implementation. There was some overlap, to understand opposing view on the same questions.

Table 2 - Interviewees

Nr.	Department
Interview object P1	Purchasing department
Interview object P2	Purchasing department
Interview object M1	Management

Interview object M2	Management
Interview object M3	Management
Interview object E1	Economics department
Interview object E2	Economics department
Interview object E3	Economics department

In advance of the interviews, the interview objects had signed a form from Sikt, to protect their privacy. Before starting the interviews, on the day, they were asked explicit permission to record the interview, which was performed using the interviewers cell phone. The recordings were made for accurate notetaking and analysis purposes (Tjora, 2013). The interview commenced with the researcher providing an overview of its purpose, contextualizing the setting, and introducing the session (Kvale & Brinkmann, 2015). Subsequently, the conversation delved into more detailed inquiries, concluding with an invitation for the participant to share any additional thoughts or questions.

After the interviews the researcher was unsure if the questions had been satisfactorily answered as some interview objects didn't have answers for several questions/ very short answers compared to others as they were relatively new in the workplace. While analyzing the data, this became clearer. There was established contact with another person from the same department, and a phone interview was scheduled to be completed.

3.3 Reliability and validity

While the data collection process employed in this study is robust, it is not without inherent strengths and weaknesses. The clarity of interview questions and potential biases during participant selection are acknowledged aspects (Tjora, 2013). I have previous work experience in Kaefer Energy's purchasing department from 2012. To remain objective during my research, I provided a list of criteria for interviewees to my contact person in Kaefer Energy, who in turn chose the interview objects. This way, my personal relations did not affect the sample (Brinkmann & Tanggaard, 2012). The study's reliance on a relatively small sample size, while time-efficient, pose limitations on the generalizability of findings (Tjora,

2013). The quality of information collected bears both strengths and weaknesses, influencing the subsequent analysis. For instance, the reformulation of questions during the interview process, as exemplified by the query on acceptance, introduces variability. It is crucial to acknowledge the potential impact of these strengths and weaknesses on the study's conclusions. Furthermore, the interpretation of data requires a careful distinction between researcher interpretation and direct results (Brinkmann & Tanggaard, 2012).

Validity refers to whether a study answers the research questions, and to what extent the collected data supports in this endeavor (Johannessen, Tufte, & Christoffersen, 2016). Through well thought-out research questions and a thoroughly crafted interview guide based on these questions, measures were taken to ensure the collected data would be suitable to answer the problem question. External validity is highly relevant in a case study, where it can be challenging to generalize the results to a higher level. Analytic generalization provides an opportunity to apply the results from this case study to other similar companies (Yin, 2014).

3.4 Ethical deliberations

To uphold ethical standards in this study, a formal submission on Sikt's website was completed. This step, mandated for privacy compliance, facilitated the execution of interviews for the research paper. Emphasis on informed consent was paramount, ensuring participants were well-informed about the voluntary nature of their involvement and the assurance of complete anonymity.

Detailed information regarding the storage of interview data was transparently communicated, both in the consent form and directly to each participant. Participants were briefed in advance of the interviews and on the day of the sessions. The data is securely stored with exclusive access granted solely to the researcher. A commitment to data confidentiality includes the deletion of all information two months after the completion of the assignment. Furthermore, the thesis will be made publicly available.

3.5 Leveraging ChatGPT as a research aid

Primarily, ChatGPT played a role in the initial phases, providing a dynamic platform to generate ideas and explore diverse examples. Furthermore, ChatGPT emerged as an effective

language refinement tool. The researcher harnessed its capabilities to enhance the eloquent and clarity of expressions, experimenting with varied linguistic approaches to articulate concepts more precisely. In essence, the utilization of ChatGPT was not confined to a singular function but rather manifested as a multifaceted asset, aiding in idea generation, thematic development, and linguistic refinement. The symbiotic interaction between the researcher and ChatGPT underscored the potential of AI-driven tools in enhancing the depth and quality of academic endeavors.

3.6 Data Analysis

When the interviews had been completed, they were transcribed with the help of the audio files, into excel. The excel sheet had been divided into different themes based on theory and had the individual questions as subsections. Next step was to create a duplicate of this form and reduce the answer down to a few sentences that summed up the answer and made it easier to analyze and put into results. After the setup was complete, the researcher was able to get through each question and theory one at a time and bring these findings over to the results (next chapter; Results). Hence the result part of the thesis is structured by the overarching theories. The comprised text was read with intent to find/ highlight important themes within the theories.

The original plan was to do a larger document analysis, but due to limited documentation existing at Kaefer Energy this will only complement the interviews and not be its own section. The documentation that was found was either used to back up the information claim, screenshots, and a very limited strategy document, which align with this process having been very verbal and lacking in documentation. The overarching strategy document for digitalization however was not specifically about power bi but was referring to a data platform solution that hadn't been chosen yet – Power BI. The screenshots were from communication within the company on their internal network. A huge lack in a clear description and picture on what they wanted to accomplish, which is challenging when evaluating the process. No written evaluation or plan. Documents have therefore taken a different role in the paper, instead of being supporting information it has been used to create the backdrop for interviews and conversation. In the results bit the small number of documents on the internal discussions and posts has been a basis for the discussion section more so than results. Much of the results on the implementation process and problems

encountered will therefore be based on interviews. The documents show that there has been meeting and a simple plan, but verbally not written down.

3.7 Limitations

In this study, there were certain limitations that need to be acknowledged. Firstly, the lack of comprehensive documentation on the implementation process posed a challenge for conducting document analysis. Limited availability of official records made it difficult to corroborate interview data with written documentation, potentially impacting the depth of the analysis.

Secondly, the small sample size of participants, while providing valuable insights, might not fully represent the diverse range of experiences within the organization. As a result, the findings, while rich in qualitative detail, might not be generalizable to a broader context. The unique circumstances within this specific group could have influenced their perceptions and experiences differently from others in similar settings.

Thirdly, the limitation of time available and financial situation of the student writing the thesis. A master thesis is completed within just a few months, and the funds are very limited as a student. There was an investment in plane tickets to complete interviews in person, but it was also a limiting factor in the last interview being over phone. Therefore, the scope was small.

Additionally, a notable limitation was the absence of two key individuals directly involved in the implementation process. The departure of the data analyst and of the previous head of digitalization, two crucial figures in the Power BI implementation, meant that their valuable perspective was unavailable for this study. Interviewing these individuals could have provided unique insights and a more comprehensive understanding of the implementation process. Unfortunately, due to their absence, this perspective was not included in the study, representing another limitation in the data collection process.

It is essential to acknowledge the limitations inherent in this approach. Empirical findings might be influenced by the researcher's biases and mindset, potentially hindering the objective portrayal of events. Potential biases and errors may arise, such as misunderstandings of questions or answers, biases from both the interviewer and interviewee,

memory lapses, and the tendency to provide responses aimed at pleasing the interviewer
(John Adams, 2014)

Due to the unique nature of each case, findings from a case study may not always be easily generalizable to wider populations or other settings. While the insights gleaned are invaluable within the specific context studied, caution is needed when applying these findings to broader scenarios.

4 Results

The Power BI implementation journey at Kaefer Energy has been an extensive process, commencing in 2019 and encountering challenges exacerbated by the impact of the COVID-19 pandemic. As part of a larger business entity, initiating and sustaining momentum in the implementation proved to be a complex task. Based on the information from the interviews, supported by the management, the timeline is as follows:

1. Individual enthusiasm: some proactive individuals independently utilized Power BI and advocated for its merits, capturing the attention of management.
2. Management interest: intrigued by the potential, the management expressed interest and sought further insights, coinciding with their quest for more up-to-date data and a digitalization shift.
3. Digitalization strategy: a part of the company's digitalization strategy emerged – incorporating an analytics platform as a pivotal component.
4. International collaboration: contact was established with the Kaefer group, expressing enthusiasm for a company-wide initiative. A collaborative group in Norway was formed, engaging with counterparts in Germany to undertake a test project (POC).
5. Initial test phase: the collaborative effort spanned approximately a year, during which the test project (POC) took shape exclusively in Norway. Challenges were identified and the platforms potential was recognized.
6. BI analyst specialist engagement: to address identified issues, a BI specialist was recruited in Norway fulltime, working across the different departments to refine and optimize the Power BI implementation.
7. Employee involvement: a phase was introduced where employees were encouraged to make specific requests, fostering continuous updates by the BI analyst.
8. Incremental implementation: starting with the economics and purchasing departments, Power BI began to be fully integrated, with efforts to extend its usage across all departments.
9. Transition challenges: along the process, challenges emerged, including the departure of the BI analyst and the head of digitalization, prompting a reassessment of next steps and the formulation of a strategic progression plan.

4.1 The implementation process

Kaefer Energy began to focus on digitalization and digitalizing their processes in 2018 (E2). The purchasing department has had a need for a better solution for many years, but there has been no concrete plan until now. According to M1, one member from the IT department attended a seminar on Power BI. After this seminar the CFO got involved, and a proof of concept (POC) was launched. The pilot project was a collaboration between Kaefer group in Norway and Germany, developed mostly in Germany and executed in Norway. Individuals in the economics department started using Power BI, creating reports that gave useful insights on the use of Power BI (M2, M3). The rest of the departments followed a year later, around 2020 (M3). No hard launch.

In the context of Kotter's change model, specifically focusing on Step 1 – creating a sense of urgency, the perception of urgency varied among regular employees and leadership within the organization. Most regular employees did not perceive a pressing need for swift implementation, describing the transition as gradual and steady (E1, M2, P1, P2). One employee expressed this sentiment, stating *“No, I've had access to the old system so the transition [to Power BI] was slow and gradual”* (E1). Contrastingly, a sense of personal urgency was articulated by an individual in leadership after realizing the associated costs (M2). During the development of specific reports, certain departments experienced a brief but intense period of pressure to collaborate with IT, resulting in an effective and swift report development process (P2). M3 felt some pressure as they were directly involved with the POC and this project had a timeline, where associated costs were high using IT consultants. This urgency had a lasting impact on the individual, who actively promotes and pushed the implementation to various departments (M3).

In the realm of Kotter's second step, establishing a guiding coalition, the leadership's collective stance toward the Power BI implementation exhibited a range of perspectives. While a general positivity prevailed (E1, P1) active involvement was limited, except for the more youthful members of the leadership cohort who demonstrated hands-on engagement. Initially, the overall attitude and communication within the leadership team leaned towards optimism, but the responsibility for driving the project forward largely rested on a single individual (M3). The desire for broader involvement from other leaders was evident, reflecting a wish for a more effort from the leadership team (M2). The responsibility assigned

to the CFO aligns with Kotter's change model, specifically step 2 – creating a POC team. The team comprised of two individuals from the IT department and one from the economics department, strategically combining technical expertise with practical insights for effective collaboration. When asked about a team in charge most referred to a third individual who was not part of the POC team (E1, P1, M2, M3, P2, E2, E3). This individual functioned as a team leader throughout the implementation process. They were specifically hired for their skill with Power BI.

In Kotter's change model, the third step involves creating a vision and strategy. At Kaefer Energy, the overarching vision and strategy for digitalization revolve around achieving seamless access to "*all important information with one click*" (M1), a vision largely influenced by the former CFO (M1). The guiding principle is to "*let computers do what they are good at so people can do what they're good at*" (M2), reflecting the sentiments of the internal digitalization department established in 2020, where the goal was to streamline manual tasks. While the importance of digitalization was evident within the company (M3), specific details about the digitalization journey were not clearly communicated. The leadership group, spearheaded by the CFO, expressed a general expectation of improved information accessibility. Through interview with management representatives, it became evident that management had no specific strategy for Power BI, other than the overarching digitalization strategy (M1, M2, M3). Employees received no information on a specific strategy on Power BI (P2, E1).

Presented through an internal PowerPoint presentation, the roadmap (Kaefer Energy document for digitalization strategy) suggests an analytics platform as a step toward a more digital future but lacks explicit references to Power BI. Discussions within the digitalization committee occurred, yet no revised strategy document exists specific to Power BI. In the internal communication platform, Workplace, former CEO posted a video about Power BI and intended use. None of the employees knew this information existed. Through the interviews and available internal documentation, it becomes apparent there was no clear strategic vision and initiative for the implementation of Power BI.

In the context of Kotter's change model, step 4 involves effectively communicating the change vision throughout the organization. Everyone in leadership interviewed states that plenty of information available on the internal server, easily accessible to employees (M1,

M2, M3). Contrarily, all five employees reveal a lack of clarity, indicating a heavy reliance on smaller department meetings for updates (P1, P2, E1, E2, E3). While leadership emphasizes written communication, employees express a preference for more in-person communication. In other words, leadership has used a single one-way communication platform, while the employees would prefer a two-way communication channel. There are varying perspectives on when the change vision and strategy were communicated to employees, with consensus that communication has decreased over time. M2 gave this explanation as to why the communication decreased *“After [former CFO] left the company, there has been little communication on the digitalization strategy”*. Employees express a lack of awareness and recall sparse updates since the departure of key figures, such as BI analyst and previous CFO (P1, M3, M2, E1). Maternity/paternity leave among several key management figures further contributed to potential limitations in communication. Close to zero communication from leadership on progress and results along the way is noted, highlighting a potential deficiency in ongoing communication efforts (M2). E1 perceives the main communication to have started approximately 1.5 years ago, coinciding with the business analyst's full-time engagement. Communication efforts, primarily conveyed through internal workplace posts and meetings, were more apparent to management than regular employees. *“I am not shocked if employees don't know the strategy word for word; we haven't really said it out loud for some time”* (M2), encapsulates the sentiment among employees, emphasizing the need for more explicit and sustained communication to foster a shared understanding of the change vision and strategy. From this data there is a lack of two-way communication channels, little repetition and that vision is not communicated in a clear and simple way. There is also no evidence of leading by example in the interviews.

Removing barriers is the main point of Step 5 in Kotter's model. Two of the four obstacles, skills, and supervisors came up in the interviews as barriers they had encountered. There hasn't been any formal training, the phrase learning by doing was used by several interview objects (E1, P1, P2, E2, E3). *“There was no time put aside, ended up being learning by doing. If one member in my team learned something new in Power BI, they would show all of us”* (E1). Learning by doing and teaching each other seem to be the norm, both within departments and across departments (P2, E1, E3). It was perceived by a majority that Power BI was intuitive to use (P2, P1, E3, M3, E1, M1), however several also expressed an interest in a workshop or more formal training (M2, E3, E1).

Open dialogue with different department has been a focus from leadership, and they have taken direct action to be in contact with and kept up with the progress through meetings. The implementation has taken a lot longer in some departments. The slow progress of implementation could suggest resistance among supervisors. Based on the interview, it does not appear to be any organizational structures hindering the implementation. There are no extra systems in place to ensure a smooth transition from the old solution to the new.

When management was questioned about visible outcomes and the communication of progress during the Power BI implementation, individual responses highlighted a lack of clear goals for measuring small wins – Step 6 (M1, P1, P2). While there was an initial emphasis on producing numerous reports to increase visibility, this strategic approach was not explicitly mentioned when queried about small wins (M3). Furthermore, managers cited specific instances as short-term wins. One pointed to the successful integration of Power BI offshore, reducing communication barriers between offshore operations and procurement (P2). The absence of specific, measurable achievements resulted in varied responses from management, indicating a gap in setting clear objectives throughout the implementation. Another highlighted increased efficiency in project review meetings when everyone utilized the program(M3). The third referenced positive results immediately following the publication of reports from the POC project (M3). While details on communication to the team were limited, two out of three instances had a broad impact on entire departments. However, a divergence in perspectives emerged regarding the existence of short-term goals or celebrations of small wins between the two groups. While none of the employees reported noticing such milestones, some managers indicated a focus on early successes through the production of reports, albeit without formal celebrations. The purchasing department set an informal goal to transition fully to Power BI before June, successfully easing the workload during the summer vacation (P1, P2). To summarize, management is of the understanding that there has been some degree of short-term wins, while the employees disagree. Purchasing department is the exception, setting and reaching their own goal.

Step 7 in Kotter's theory focus on sustain acceleration and follow-up, in other words keeping up the momentum. There was consensus among both management and employees that no specific measures were taken to sustain energy and enthusiasm throughout the entire implementation process. *“There has not been done anything to create enthusiasm and keep it up, but they didn't need to because everyone was so satisfied [with Power BI]”* (P2).

Regarding follow-up during the implementation process, opinions diverged. Those actively involved in the development process expressed satisfaction with the follow-up, citing ongoing information flow (P1, P2). However, individuals not engaged in report development expressed a lack of follow-up (E2, E3). While there was no formal plan, internal department meetings were considered a form of follow-up (M1). Employees in certain departments, particularly economics, felt overlooked in terms of follow-up (E3). Most employees, 4 out of 5, expressed contentment with their enthusiasm levels due to changes in their workdays, while one individual believed proactive measures could have enhanced their engagement (E2). All three in leadership positions candidly admitted to a lack of measures, attributing it to poor planning and expressing a retrospective wish to incorporate such measures for broader organizational engagement and quicker adoption. In summary, there has been little follow-up depending on department. Leadership visibility has not been a focal point, providing little to no guidance and direction.

Step 8 on how to make the change stick, with a focus on future planning and the sustainability of Power BI implementation. One individual's goal for the future of the process includes a focus on standardization and a cleanup process within Power BI (M3). There is no clear plan to date on behalf of management. All eight respondents' express confidence that the implementation of Power BI has become a permanent fixture within the organization. Suggestions for ensuring the permanence of the change include integrating Power BI into all meetings, incorporating it into the onboarding process for new employees, and implementing follow-up mechanisms for projects (M1, M2, M3). To conclude this section, there is no plan yet but surprisingly everyone is very optimistic.

4.2 Acceptance of Power BI

Perceived usefulness was clear to everyone, that Power BI was set to would eliminate certain tasks and cut down on the number of programs employees had to use. All employees that have been employed before the implementation agreed on this (P1, P2, E1, E3). There were divided thoughts on whether the customers/suppliers had noticed a change in the business after implementing Power BI. Customers/suppliers were expecting this level of digitalization in this time and age, evidenced by M1 stating "*I believe our customers take it for granted. [...] It has become an expectation*". Only four of the people interviewed are in direct contact with customers/ suppliers. Two of the respondents did clarify that they actively state to

customers/ suppliers that they have started using it, and to emphasize their skills (M1, P1). One of the four said they are unsure if the supplier has any idea that Kaefer Energy has implemented Power BI (P1). M3 mentioned that a large client has their own solution in Power BI now, and they are very happy with. It was however something they have requested for a long time. The perceived usefulness is high, supported by the expectation from suppliers to utilize updated technology.

Four respondents agreed that Power Bi had lived up to their expectations (E1, M2, P1, P2) while the remaining four were less happy due to very high expectations (M1, M3, E2, E3). From the management they all agreed that the development and follow up has been a lot more complicated than expected, as none were experts in this field (M1, M2, M3). For the managers the economic viewpoint on expenses (M1) where high when you include the solution itself and the extra personnel hired to focus solely on this (BI analyst and data engineer). They did not realize how difficult and slow of a process it is to connect each program needed to it, and to increase the scope. One person mentioned that because she did not know much about the program in advance, she was very positively surprised, more so than she probably would have been if she already had a first impression of the product (P2).

When asked about the ease of use, everyone said the program was very intuitive (M1, M3, E1, E3, P1, P2). Two of the interview objects did specify that they would have preferred a workshop of some sort (M2, E1), and another two answered that there was no need for any schooling (M1, P2).

“When a new report is implemented, there should be a session for those that are the target users. Where you explain what is shown, data sources, what you can and cannot say anything about. If not, we could all be misunderstanding the data” (M2)

Six employees answered that they feel very comfortable using it for their work needs (E1, M2, M3, P1, P2, E3). M2 said that they are comfortable using it, but only due to putting in a lot of time to learn it on their own. Everyone stated that on the surface it was an easy program to use. However, for the more advanced steps and use of programming language, the two that had attempted found it difficult (M2, M1). *“To be great at Power BI one has to dedicate a lot of time, it is a complicated analytical platform” (M2). “Very effective, time saving and*

simple” (P2) was stated by an employee from purchasing, underlining their overall feelings and emphasizing the easiness of learning it.

The willingness to change the system was apparent from everyone interviewed. The intended use of Power BI at Kaefer Energy aimed to streamline operations by minimizing the multitude of programs employees had to navigate. All 8 interview objects agreed that there was a real need for the implementation of Power BI, but for several different reasons. Two of the managers mentioned money and time as essential reasons why they thought this was a good idea (M2, M3). Previously there were many different systems, and a lot of users per system. The number of users could now be drastically reduced as Power BI would collect and gather all this information in one place, and number of users which is a big price factor could be decreased (M2). One highlighted that the growth the company is experiencing is another reason it was important to implement the process sooner rather than later (M3). A high number of different systems to be familiar with is time consuming for new employees and those that train them. Gathering this information in one place would make things less complicated when onboarding new employees. One pointed out the almost anything would be a better solution than what was previously utilized, due to the complexity of systems (P1).

The use of Power BI is affecting the workdays of those interview at Kaefer Energy. Employees report high usage of Power BI. Actual use has also been monitored by management (M2, M3), by looking at how much reports are being viewed and used. To illustrate, individuals overseeing multiple installations described an intricate process involving Excel sheets, folders, and several tabs per production group (P1, P2). Data extraction from one program required meticulous copying and pasting, line by line, across different categories. Tasks such as updating shipment information and monitoring delivery receipts demanded considerable time and effort. The clarity provided by this method came at the cost of significant time consumption. With these programs now integrated as sources in Power BI, these labor-intensive procedures have become obsolete. In a transitional phase, the time saved from these procedures is redirected towards assisting on/offshore teams, fostering increased collaboration. The backlog of orders, once a challenge, has been overcome, allowing for more dedicated attention to suppliers and a thorough follow-up through the chain of operations. The implementation of Power BI has not only optimized existing processes but also facilitated a more proactive and efficient approach to daily tasks for the employees working in the purchasing department.

The concept of acceptance, whether driven more by external or internal factors, presented varied responses. One participant emphasized the influential role of their own team, creating a positive atmosphere that fueled enthusiasm (E1). Another highlighted the pivotal role of customer needs and excitement as a driving force, driven by readily available information and a perceived impactful solution (M1). An interesting perspective emerged from a respondent who found inspiration in the initiative originating within the ranks, particularly led by invested economists (M2). This respondent underscored that leadership's heightened focus on digitalization, coupled with the hiring of a business analyst, played a significant role, a sentiment echoed by two other participants (P1, P2). Additionally, three individuals found the overall positive atmosphere surrounding the process to be particularly enticing (P2, E2, E3).

Power BI implementation has been particularly important for the purchasing department, and they have implemented it at a larger scale because large parts of their workday was moving between systems and programs. In the economics department, they do not rely on Power BI for most of their work but use it more in presentations and for visuals. In unanimous agreement, respondents, both employees and management, highlighted the transformative impact of Power BI on their workdays. A common sentiment expressed was a significant reduction in the need to navigate through various systems. All eight participants attested to a streamlined process.

Meetings are quicker and more effective. As there is a great visual to talk around, people don't need to prepare as much before meeting and the prep that needs to be done is completed in a shorter amount of time. Previously all data and statistics had to be transferred into Power Point, but now they can just pull up Power BI while in the meetings. The use of the program has led to less errors in data. Before the implementation of Power BI, two individuals respond they might not even catch that there had been a mistake (M2, M3), but now it is more visual. Another example of how the workday had change is in regard to the procedure surrounding the company bidding on contracts. To get the average cost per hour for a specific type of employee and to calculate how much a job would cost used to be a timely process. Previously they would have to email payroll and wait for a person to find the numbers and calculate, which would take upwards an hour. With Power BI management can do it themselves and it takes 10 minutes. Intended and actual use are very intertwined. Power BI's intended use has matched very well with the actual use in Kaefer Energy today. Throughout every interview

there has been an apparent high level of acceptance of Power BI as a new tool. To summarize this chapter, the results show a high perceived usefulness, high ease of use, leading to a substantial intention to use and resulting in high levels of actual usage.

5 Discussion

This chapter will discuss the results of the data collection considering the theoretical framework attempting to answer the research questions and problem question. The chapter is structured based on the research questions.

Q1. How did Kaefer Energy align with Kotter's 8-step model during the transition from multiple small data solutions to a comprehensive data solution platform?

Q2. How do employees' initial attitudes and perceptions align with the acceptance and utilization of the new data solution platform, as measured by the Technology acceptance model (TAM)?

Q3. What were the biggest challenges during the implementation process, and where within the organization were such resistance factors prominent?

5.1 Kaefer Energy's process and alignment with Kotter's 8-step model

The subsequent discussion delves into Kotter's Step 8 step model, working in a chronological order. Where it appears Kaefer Energy has followed Step 2, 4, 5, 7 to some extent, and Step 1, 3, 6, 8 has not been a focus at all. Starting with step 1, exploring the results of a perceived lack of urgency among employees and its impact on the implementation process. Specific projects or phases within the implementation process did feel a sense of urgency in short periods. Notably, the day before the interview, one individual was contacted by another department that highlighted that they had proudly adopted Power BI for their meetings this previous week. Which is quite late as it was pushed out almost a year ago. In this scenario, there appears to have been a lapse in fostering a sense of urgency among employees, leading to a lack of motivation in rushing the implementation process. Consequently, the progression has been notably sluggish, extending beyond the optimal timeframe. This is not a surprising result, seeing as up to 50 percent of companies fail this step according to Kotter (Kotter, 1996). This illustrates that while a sense of urgency may not be uniformly experienced throughout the organization, it plays a crucial role in propelling successful implementations. This stands in stark contrast to the urgency expressed by the individual in leadership, especially upon realizing the associated costs. Despite some pressure exerted by leadership in the implementation, it did not resonate in the departments, highlighting a clear discrepancy in aligning everyone's understanding of the imperative need for change (Kotter, 2014). This

presents a missed opportunity, as effective communication from leaders holds the potential to convey the urgency for change and serve as a motivational force (Kotter, 1996). For future projects, a strategic approach should involve transparently communicating the need for change from the project's inception, with a concentrated effort from the entire leadership team (Kotter, 1996).

The selection criteria for the type of team Kotter focuses on in step 2, emphasized diverse backgrounds, skills, and a shared drive for transformative change. The team that was assembled did meet these requirements to some extent, but due to very few individuals being involved some characteristics like having a spread in positions and diversity in perspective would have been limited. The CFO, in leading the team formation process has met an important level of leadership commitment in Kotter's model (Kotter, 1996). The lack of widespread leadership support would have hindered progress if not for the commitment and involvement of the CFO. Despite assembling a team, many looked at a fourth person (BI analyst) as the de facto leader even though they were not involved in the original team. This implies that the team selection wasn't insufficient, as some key skills were missing. A good choice that was made in this process was establishing the team early on, as this is important for success (Kotter, 2014). The fact that many turned to an individual not in the team is not ideal and may suggest the composition was flawed.

However, looking at the results for Step 3 against Kotter's change management theory reveals a gap in meeting essential criteria. Kotter (2014) emphasizes the significance of a clear vision, well-defined strategy, and comprehensive documentation for successful change implementation. In the case of Power BI adoption at Kaefer Energy, the absence of specialized strategic documents is noteworthy, indicating a shortfall in fulfilling this crucial step and a well-defined strategy. Management implies that they have a digitalization strategy but admit shortcomings in making a specific Power BI implementation strategy. There is an expectation from the leadership group on improved information accessibility but no strategy for achieving this goal.

While communication on the digitalization strategy has taken place, the lack of formalized documentation poses a challenge. As Kotter's model highlights the importance of clear communication and documentation throughout the change process, it becomes evident that this aspect could easily be enhanced in future projects (Kotter, 2014). Recommendations for

improvement include allocating resources to develop a detailed plan, focusing on a collective goal rather than individual goals and wishes, which seem to be the case here. This deficiency in specific strategic documentation and plan may have repercussions on other parts of change management, such as communication from management and the effective removal of obstacles (Kotter, 2014). Strengthening this foundational step can enhance the overall change process, ensuring a more comprehensive and well-communicated strategy for successful implementation. The lack of a strategy and vision makes the process difficult to evaluate, as there are no set goals. Without these two, a change initiative can easily falter. This does not seem the case in this process, considering Power BI has been successfully implemented. It is possible to set a vision and strategy now as Kotter's 8-step are accelerating. Which means they should be executed concurrently and continuously, and Kaefer Energy can re-define a strategy and vision now.

A natural next step for discussion is Step 4, the communication of said vision and strategy. Discrepancies in communication dynamics between leadership and employees have emerged during the initial phases of Power BI implementation at Kaefer Energy. The disparity in perception suggests a communication gap, placing the responsibility on individual employees to proactively seek and review available information. This misalignment can impact the overall success of the change initiative. Because this process seems to be heavily reliant on individuals taking responsibility, there could be a wide spread in information and skill levels. A consequence of employees relying on smaller department meetings for updates rather than accessing information from the internal server is that some departments are up to date and others are not. It also implies that the information is not uniform. The information did however come from two separate sources, meetings, and the internal network, which is somewhat in compliance with Kotter's focus on introducing the information by several channels (Kotter, 2014). However, one of these sources should be leadership. Leadership is the missing chip in this scenario both as an information source and lack of leading by example.

The departure of key figures affected the consistency of updates and information, leading to a situation where the specifics of the strategy remain unclear. There appears to be no clear plan following the exit of key figures, and this situation led to confusion among employees and management as no one was put in charge/responsible for the implementation. The fact that there was differing ideas of when the information was communication has implications that

could lead to a decrease in employee engagement and alignment. Based on the identified communication gaps, recommendations for improving communication strategies in future change initiatives is regular updates, clear channels, and involvement of key stakeholders (and backups). Kotter highlights simplicity, which is difficult when there is no clear strategy to communicate. Leading by example, two-way communication and fostering engagement and feedback is also important parts of Step 4 and should be part of the communication plan in the future (Kotter, 2014).

The barriers in the implementation of Power BI at Kaefer Energy highlight the significance of the skills factor mentioned by Kotter (2014) in Step 5. Investing in training and skill enhancement is crucial for overcoming resistance, changing habits, and fostering successful adaptation to change (Kotter, 2014). Training was however not provided, and it has been an individual evaluation on how to come about the information and what level. There was interest in training, and it would have been beneficial to look at options for this, which could have led to quicker adaptation and a more uniform understanding. The mention of supervisors in Kotter's (2014) framework emphasizes the importance of addressing resistance among supervisors in Kaefer Energy particularly for the implementation of Power BI (Kotter, 2014). A result of this absence of enthusiasm among supervisors can disempower employees under them in the chain of command and can stall progress in said department as opposed to departments where supervisors are leading the way. This is clearly the case in Kaefer Energy, as some departments have been onboard and using the analytics platform for over a year and some are just getting started. Especially where a lot of the information is given at team/department meetings, not having engaged supervisors leads to little information. Additionally, as there had not been a strong engagement from leadership, the amount of push would come down to each individual supervisor.

Step 6 –Kotter (2014) has a big emphasis on the importance of visible short-term wins during the change process. The significant discrepancy in opinions between management and employees regarding the existence and acknowledgment of small wins raises another red flag about the communication dynamics within the organization. There appear to have been some small wins along the way, but only for smaller groups. Both groups concur that, regardless of potential achievements, these were neither celebrated nor recognized, emphasizing a missed opportunity for fostering a positive change environment. Acknowledging these observations, one manager reflected on the absence of celebrations and proposed the introduction of a

dedicated project leader in a 10% position. This recommendation highlights the potential for improved planning and attention to softer values throughout the implementation. Short-term wins should be used to motivate employees, which could have been very beneficial and potentially kept the tempo up instead of it ebbing out.

Keeping up the momentum is vital in a long process for everything run smoothly (Step 7) (Kotter, 2014). The varying perceptions of communication within the company has been mentioned in earlier steps several times. There are clear signs that this step about follow-up has been impacted due to this as well. The role of collaborative learning within departments have been a great resource for the teams, but there is real importance of maintaining an open dialogue between employees and management as well. There is a need for clear communication channels, which can help fosters trust and commitment from employees. The individuals that were actively involved in report development had a positive perception of follow-up. However, it is not very positive that the perception here is varying, as one mechanism for follow up should be in place for everyone. The challenges posed by key personnel departures during the change process were clear, as they appear to have spearheaded the information flow. These departures affected communication dynamics and there is evidence that a clear strategy could have helped if it had been in place to mitigate the impact of such changes. It is important to acknowledge the leadership's candid admission of poor planning and retrospective insights. The importance of proactive planning, especially regarding measures to maintain enthusiasm aligns with Kotter's (2014) emphasis on sustained momentum

The culmination of the Power BI implementation process lies in the eighth step, "Institute Change," where the goal is to embed the changes into the organizational culture for lasting impact (Kotter, 2014). The reflections from management and employees provide insights into the organization's current state and shed light on considerations for future planning. The diversity in responses, with some advocating for strategic evaluation, indicates a need for a comprehensive plan before undertaking this significant move. Individual goals, such as standardization and cleanup processes, reflect a commitment to optimizing the current state for increased efficiency and effectiveness. The unanimous belief in the permanence of Power BI demonstrates a foundational shift. However, varying levels of satisfaction in management highlight the importance of ongoing evaluation and adaptation. Mixed satisfaction levels among management underscore the need for strategic reflection and potential adjustments in

leadership approaches. The absence of a clear strategy for ensuring sustained change raises questions about the organization's readiness for the long-term implications of Power BI. Suggestions, such as integrating it into all meetings and onboarding processes, emphasize the importance of normalization and is a great first step. Challenges related to quantifying costs and rewards, capacity issues, and the departure of the BI analyst highlight potential obstacles in the path to institutionalizing change. The difficulty in justifying additional resources and the departure of key personnel emphasize the importance of strategic planning and talent retention. Kotter's (2014) emphasis on aligning changes with organizational values and culture becomes crucial, and as the company continues to have a focus on digitalization this seems logical. The diverse opinions on satisfaction levels and the perceived lack of leadership expertise highlight the challenge of integrating change seamlessly into the organization's ethos. The theory emphasizes the importance of leadership showcasing progress, offering support, and sharing success stories. The need for leadership to integrate changes into the organization's routine aligns with the reflections on missed opportunities for celebration and clearer communication. The ongoing evaluation and adjustment, as suggested by Kotter (2014), become imperative for ensuring lasting change. The discussion underscores the challenge of altering organizational culture, as highlighted by Kotter. Cultivating understanding and a direct link between new actions and improved performance becomes crucial for employees to perceive the connection between their efforts and the organizational culture. Establishing feedback loops and regular assessments, as suggested in the theory, emerge as critical components for evaluating cultural alignment. Addressing challenges promptly, as recommended by Kotter, ensures that changes remain integrated, fostering a culture of adaptability and continuous improvement. Step 8 highlights the intricate balance required to institute lasting change, involving strategic planning, leadership alignment, and continuous evaluation in line with Kotter's change theory.

5.2 Kaefer Energy's process and alignment with TAM

In exploring the dynamics of Power BI adoption through the lens of TAM, we delve into the users' perceptions and experiences surrounding its intended use and the subsequent real-world application. This section unfolds the insights gleaned from participants' perspectives on perceived usefulness, ease of use, intention to use, and actual use, offering a comprehensive understanding of how Power BI has been embraced and integrated into the daily operations at Kaefer Energy.

Perceived use was very positive, and the biggest reason for this was the raising of the efficiency and effectiveness levels. Every person did in the interview indicate that there were certain tasks that would take considerably less time or be eliminated with the correct use. Other factors for increased efficiency and effectiveness were improving data accuracy and enabling more effective meetings. And as efficiency and effectiveness are two crucial factors when assessing perceived usefulness according to Davis (1989), when both are unanimously true that there is a strong correlation to a high level of perceived use. As personal goals were unclear, and there was a lack of strategy it is difficult to conclude with how the goal attainment was positively or negatively affected. The notion that there was an expectancy from suppliers and customer to use Power BI contributed positively, as it is a clear sign of enhancing overall performance in their eyes. Power BI lived up to a lot of expectations, and even those that didn't have all their expectations fulfilled were very overall happy with the use. A positive perception on use of Power BI is positively correlated to the intention to use Power BI (Venkatesh & Morris, 2000), and from all the evidence it was a technology that employees and management perceived to be very useful.

The second corner stone in Davis (1989) model on accept is ease of use. There was an overall positive attitude to the usability of Power BI, as all interview objects found it intuitive to use hence the learning curve was not very steep. There were signs that after the initial introduction, which was all the regular employees had use for, the learning curve got much steeper. But it is not as important, as the interest for the more complicated parts of Power BI is more of an added feature and not necessary for their work. The program for the use intended was concluded to be very user-friendly, which is in accordance with Davis' (1989) link between ease of use and intention to use is great for the chances for the company accepting Power BI. Almost everyone responded that they felt comfortable using Power BI and there was little effort demanded to learn it, both positively correlates with perceived use and intention (Davis, 1989). Employees at Kaefer Energy find Power BI easy to understand and use overall, with the only negative being difficulties and complexity if individuals wanted to learn it more in depth. This positive outcome combined with the positivity on the usefulness of the program gives a great base for the next step, intention to use, as it has a high chance of being accepted and fully integrated (Davis, 1989; Venkatesh & Morris, 2000).

Intention to use is the combination of how easy employees at Kaefer Energy thought it was to use and how it could benefit them (Davis, 1989; Taylor & Todd, 1995). And because these were so positive and affirmative, there were not many barriers to this being accepted. Kaefer did not do anything remarkable here to increase perceived use or usefulness nor did they put much effort into removing barriers which can lead to improved adoption success rate (McDonald, Fogarty, Cosby, & McIlveen, 2022). One barrier that stood out was the need for some standardized training. Not everyone has the same background, and with an easy introduction to Power BI through training the ease of use would likely be even higher. All in all, the two factors that are considered when going from intention to use to actual use should be easy.

Actual use and acceptance of Power BI is the goal in TAM (Davis, 1989). Actual use pertains to the application the firm has of the technology. Everyone interviewed used it frequently, but there is evidence that parts of the organization using it at a slower rate. Many tasks are completely different from earlier, given employees a shift in priority and responsibilities, focusing on quality more than before and work more independently due to a larger amount of access. By analyzing the actual use and hearing that the number of visits per report is high, the researcher can assess that this implementation has been very effectiveness in adopting Power BI and conclude that the use aligns with users' expectation.

The way Kaefer have implemented Power Bi does not align very well with Kotter's change model. Some steps are closer to being followed than others, and some lack any effort at all. The three important themes that is apparent from the discussion section below is that there has throughout the process been a lack of communication from all, missing involvement from the top management and no clear plan. The consequences of inadequate communication are evident in the form of misunderstandings and employees feeling unheard. The lack of top management involvement poses challenges in driving the project's success, emphasizing the importance of dedicated resources and prioritization. A clear plan is fundamental, providing a roadmap towards a defined goal.

5.3 Main challenges of the implementation process

Main challenges have been no plan, no communication, and a lack of involvement from leadership. There are two separate steps in Kotter's (1996) 8-step model that directly refer to

a vision and strategy for the entire implementation process. All the other steps are also affected by the lack of a plan, as it is difficult to celebrate small wins when you haven't made any. Not only is every step poorly influenced by this missing part, but it is also very hard to evaluate and set future goals as there is nothing to look at for reference. When Kaefer has similar implementation processes in the future, there is no documentation to look at. It is hard to learn from your mistakes if you haven't documented them.

Challenge two was the lack of communication in all parts of the organization and the implementation. This has led to most employees being unclear on the way forward and expectations. It is difficult to create a clear and simple implementation process when everyone has different information. It is very important to open the communication channels, to foster reliability.

The third challenge is the lack of involvement from leadership. It is hard to cement an implementation in a business if important players in the company is not engaging. The implementation hasn't had enough focus or training, and there is signs that maybe there is some resistance higher up since this has not been a clear priority. There has been some very dedicated individual, but now that they have left there is a void. And even though people leave jobs all the time, there hasn't been a clear transfer of responsibility for the process Kaefer Energy has been in which has left a lot of confusion in the business.

Kotter's accelerating steps are meant to be executed concurrently and continuously (Kotter, 2014). In other words, Kaefer Energy can take the discussion points given here, and address almost all these points now to better the process. This theory is proven to be optimal for implementation, which worst case scenario means that the implementation wont cement if Kaefer Energy does not follow up and re-evaluate their process.

6 Conclusion

In this master thesis it is explored and analyzed the process of implementing Power BI at Kaefer Energy, a company specializing in ISS solutions within the energy sector. The study has focused on the company's digitalization journey, particularly the transition from multiple small data solutions to a unified data platform. By applying Kotter's 8-Step Change Model and the Technology Acceptance Model (TAM), insights have been gained, into the strengths and weaknesses of Kaefer Energy's approach to digitalization.

This research indicates that although Kaefer Energy has made progress in its digitalization efforts, there are discrepancies in alignment with Kotter's and TAM's model. A sense of urgency was not uniformly distributed across the organization, and the creation and communication of the change vision and strategies were inconsistent and unclear. The guiding coalition had limited backup and few members, and while a vision for digitalization was present, specific documentation was lacking. Short-term wins were not clearly communicated, and there was a deficiency in measures to sustain acceleration and enthusiasm. Barriers was not given any focus and the focus on instilling these changes is still not great. A common theme for all eight steps was the lack of communication, primarily from the leadership and down. But for steps like forming vision and strategy and create a sense of urgency there are also signs of missing communication among leadership as well. Another reoccurring subject is the lack of planning, and the absence of a clear plan. This deficiency has affected all the other steps as well, and it is difficult to measure the success without a clear goal. The third reoccurring subject is the lack of involvement from management, which is difficult and very important. The implementation and technology need to be thoroughly anchored in the leadership group, and they must have a complete understanding of what the plan is.

The study also finds that the majority of the interviewees perceived usefulness and ease of use of Power BI in a positive light, influencing their willingness to adopt the technology. No drawbacks mentioning for this model, as it was clearly a success as acceptance rate is high. The thesis concludes that while the implementation has been successful in certain aspects, there is room for improvement in planning, communication, and advice to adhere to Kotter's steps more closely.

In alignment with Kotter's step and TAM, recommendations for future work include:

- Improved planning and clear communication of both short-term and long-term goals for digitalization.
- Strengthening of the guiding coalition to ensure broader engagement and active participation across the organization.
- Clearer documentation of the vision and strategy for digitalization, so that all employees understand the direction and purpose of the changes.
- More effective celebration and communication of short-term wins to build momentum and maintain enthusiasm.
- Implementation of measures to ensure sustained acceleration and the embedding of new work practices.

Recommendations for future projects: Despite Kaefer Energy's adherence to few of the steps for successful change implementation, the project has achieved its goals of streamlining and simplifying work processes. This is partly due to the employees' high satisfaction with the implementation, suggesting that a strong need for change has compensated for the shortcomings in the process. Nevertheless, to ensure sustainable success and continuous improvement, it is crucial to consider the identified learning points and recommendations for future initiatives.

Kotter's (2014) accelerating steps, emphasizing adaptability, offer a pathway for addressing these issues and enhancing the implementation process now. Moving forward, Kaefer Energy can formulate a comprehensive plan that addresses existing challenges, such as the absence of a business analyst and the need for an onboarding strategy for new employees. Evaluating these aspects and integrating them into the broader organizational strategy will contribute to the sustained success of Power BI.

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Appendix

Intervjuguide

Tusen takk for at du hadde mulighet til å være her i dag og stiller til intervju. Litt raskt om oppgaven, denne masteroppgaven omhandler implementeringen Kaefer har hatt av Power BI, hvor formålet er å analysere implementeringsprosessen. Formålet med dette intervjuet er i korte trekk å få innsikt i dine erfaringer med selve produktet, med implementeringsprosessen, samt dine inntrykk av hva som har vært bra og hva som kunne blitt gjort annerledes.

Noen spørsmål før vi begynner?

1. Kan du gi en kort oversikt over din bakgrunn og erfaring?
 - a. Hvor lenge har du vært en del av denne organisasjonen?
 - b. Hva er dine hovedansvarsområder i din nåværende rolle?
2. Kan du beskrive en typisk arbeidsdag for deg?

Planleggings fasen

(Skape nødvendighet & Sette sammen et team & Utvikle visjon og strategier)

3. Hva var de viktigste faktorene eller hendelsene som førte til beslutningen om å implementere Power BI?
 - a. Når var dette?
4. Hvem hadde ansvar for å etablere eller sette sammen et team ansvarlig for implementeringen. Hva var kriteriene for utvelgelse for medlemmene i teamet? Hvilke roller og ansvar ble tildelt?
5. Hvilken informasjon mottok du fra ledelsen angående implementeringen av Power BI og hvordan ble det kommunisert til teamet ditt?
6. Hvordan oppfattet du ledelsens holdning og kommunikasjon i starten av endringsprosessen? Opplevde du at de forsto nødvendigheten av endring?

7. Følte du at det var et press eller en hastefølelse knyttet til implementeringen av Power BI? Var det tydelig kommunisert av ledelsen hva som skulle skje og hvordan det skulle planlegges/implementeres?
8. Var det en klar kontaktperson eller et team som ble satt in charge av implementeringen? Hvordan opplevde du deres dedikasjon til oppgaven?
 - a. Var det enkelt å komme i kontakt med dem når du hadde spørsmål eller utfordringer knyttet til Power BI?
 - b. Ble det avsatt ekstra tid for opplæring og implementering? Ble overtid kompensert?
9. Kan du beskrive den overordnede visjonen og strategien som ble utviklet for implementeringen av Power BI?
 - a. Hvordan involverte ledelsen ansatte i utviklingen av visjon og strategi? Var det en inkluderende prosess?
10. Har organisasjonen kommunisert en klar strategi for hvordan Power BI skal brukes? Er du kjent med denne strategien, og har den blitt kommunisert tydelig til alle ansatte?
11. Hvordan ble dokumentasjonen av visjon/ strategiene for implementering håndtert?
 - a. Ble det utarbeidet relevante dokumenter?
 - b. Opplevde du dokumentasjonen som nyttig i arbeidet ditt med Power BI implementeringen?
 - c. Ble dokumentet brukt og referert til i prosessen?

Implementeringen av brukere

(Kommunisere endringsvisjonen & Fjern hindringer)

12. Hvor tidlig ble endringsvisjon og strategien kommunisert til ansatte? Har det vært regelmessig kommunikasjon om fremdrift og resultater?
 - a. Hvis nei, hvorfor ikke?
 - b. Hvis ja, på hvilken måte har det blitt kommunisert?

13. Når begynte du å se konkrete resultater av implementeringen, og hvordan ble disse resultatene kommunisert til teamet ditt?
14. Har det vært kontinuerlig oppfølging fra ledelsen og it-avdelingen under implementeringsprosessen?
 - a. Hvordan har den oppfølgingen vært?
 - b. Føler du at det har vært tilstrekkelig?
15. Hvilke tiltak har ledelsen implementert for å opprettholde energien og entusiasmen rundt endringsprosessen?
16. Har det vært utfordringer eller tilbakemeldinger knyttet til kommunikasjonen av endringsvisjonen, hvis ja, hvilke, og hvordan har ledelsen håndtert dette?
 - a. Har det vært noen spesifikke utfordringer eller flaskehalsen som har oppstått underveis i implementeringsprosessen?
 - b. Hvordan mener du slike hindringer kunne være minimalisert eller fjernet?

Opplevelsen av produktet

17. Helt overordnet, hvordan har implementeringen av Power BI endret måten du utfører dine daglige oppgaver på?
 - a. Kan du sammenligne bruken av Power BI med hvordan du jobbet tidligere? Hva var forskjellen?
 - b. Var det mer effektivt eller mindre effektivt før? På hvilke måter?
 - c. Kan du diskutere tidsbesparelser du har opplevd ved å bruke Power BI i ditt daglige arbeid?
 - d. Har du til hensikt å fortsette å bruke det i din daglige arbeidshverdag?
 - i. Hvis ja, i hvilke sammenhenger
 - ii. Hvis nei, hvorfor ikke?
18. Dersom du jobber direkte med kunder, hvordan har kundene opplevd endringen i måten du jobber på med bruk av Power BI?
19. Er kundene fornøyde med endringene? Hvor i prosessen påvirkes de?

20. Generelt, har bruken av Power BI levd opp til dine forventninger? Hvorfor eller hvorfor ikke?
21. Hva var de opprinnelige forventningene eller målene satt av organisasjonen når det gjelder bruken av Power BI? Hvordan var planen for hvordan Power BI skulle fungere i organisasjonen?
22. Opplevde du Power BI som intuitivt å bruke, eller var det behov for opplæring?
- Kan du diskutere opplæringen som ble tilbudt for å hjelpe ansatte med å tilpasse seg Power BI?
 - Føler du deg komfortabel med å bruke Power BI?
23. Hva har påvirket din aksept av Power BI som et verktøy i din rolle?
- Har ledelse eller kollegaer spilt en rolle i din aksept?
 - Har organisasjonen gjort spesielle tiltak for å oppmuntre til aksept og bruk av Power BI?
24. Følte du at det var et reelt behov for å iverksette Power BI i organisasjonen? Hvorfor eller hvorfor ikke?
25. Kan du dele eksempler på hvordan bruken av Power BI har vært til nytte for deg eller teamet ditt?

Veien fremover

(Sette kortsiktige mål & Opprettholde momentum & Gjør endringen varig)

26. Føler du dere har nådd noen kortsiktige mål eller hatt «small wins» i løpet av implementeringen av Power BI? Ble det satt spesifikke mål og tidsfrister?
27. Har det vært et godt samarbeid blant ansatte, både internt og med ledelsen? Opplevde du at terskelen for kommunikasjon var lav? Hvordan har ledelsen støttet dette?

28. Hvilke videre målsetninger er satt for implementeringen av Power BI? Har visse oppgaver eller arbeidsprosesser blitt fullstendig endret som en del av denne endringen?
29. Opplever du at implementeringen av Power BI har kommet for å bli, eller føler du at det er en tilbakevending til tidligere måter å jobbe på? Ønsker du at implementeringen skulle vært annerledes?
30. Hvordan planlegger ledelsen å sikre at endringen forankres i organisasjonskulturen og blir varig?
31. Hvilke langsiktige mål og strategier er fastsatt for å opprettholde endringen på lang sikt?

Avsluttende spørsmål

32. Kan du dele de mest betydningsfulle innsiktene eller lærdommene du har fått gjennom denne prosessen?
33. Er det noe mer du vil legge til?



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