CHALMERS
UNIVERSITY OF TECHNOLOGY

Transforming Enterprise Service Management with Employee Self-Service Technology

A Case Study at Mölnlycke Health Care

Master's thesis in Management and Economics of Innovation

JOHAN BADEMO
GABRIEL DYLIND

DEPARTMENT OF TECHNOLOGY MANAGEMENT AND ECONOMICS
DIVISION OF ENTREPRENEURSHIP AND STRATEGY

CHALMERS UNIVERSITY OF TECHNOLOGY
Gothenburg, Sweden 2024
www.chalmers.se

Transforming Enterprise Service Management with Employee Self-Service Technology

A Case Study at Mölnlycke Health Care

JOHAN BADEMO
GABRIEL DYLIND

CHALMERS
UNIVERSITY OF TECHNOLOGY

Department of Technology Management and Economics
Division of Entrepreneurship and Strategy
Chalmers University of Technology
Gothenburg, Sweden 2024

Transforming Enterprise Service Management with Employee Self-Service Technology
A Case Study at Mölnlycke Health Care
JOHAN BADEMO
GABRIEL DYLIND

Department of Technology Management and Economics
Division Entrepreneurship and Strategy
Chalmers University of Technology
SE-412 96 Gothenburg
Telephone +46 31 772 1000

Transforming Enterprise Service Management with Employee Self-Service Technology
A Case Study at Mölnlycke Health Care
JOHAN BADEMO
GABRIEL DYLIND
Chalmers University of Technology

Abstract

Digitalisation initiatives have become vital for companies seeking to maintain a competitive advantage and Self-Service Technology (SST) has emerged as a popular solution. While much research has been conducted on customer SSTs, this thesis concentrates on analysing internal employee SSTs. Through the identification of key factors and proposing strategic recommendations for organisational improvement, the aim is to provide valuable insights into how to increase adoption and optimise usage of employee SSTs. Ultimately, leveraging this technology seeks to enhance Enterprise Service Management (ESM), a key process in digital strategy. It also explores the potential integration of Artificial Intelligence (AI) technology to elevate this process.

Research has been done through a case study at Mölnlycke Health Care, a medical solutions company in Gothenburg, Sweden. Employing an abductive approach and conducting 32 semi-structured interviews with identified stakeholders, employees, and external actors, the study yielded broad insights with multiple organisational implications. To ensure comprehensive analysis, empirical findings were integrated with theoretical models from technology adoption, change management, knowledge management, and literature on AI.

The empirical results identified seven factors influencing the adoption and usage of employee SSTs. The factors identified at Mölnlycke can, to varying degrees, be linked to those found in the literature, suggesting that they are not unique to this context. Moreover, the findings underscore the need to build a robust organisational foundation to ensure harnessing the full potential of the technology, while emphasising a user-centric approach. Effective implementation and maintenance require dedicated resources for developing clear strategies and fostering continuous improvement efforts. Additionally, integrating AI technologies such as AI-powered search engines or chatbots offer promising opportunities to enhance performance of employee SSTs and ESM.

Keywords: Self-Service Technology, SST, Enterprise Service Management, Technology Adoption, Knowledge Management, Change Management, Chatbots, AI

Acknowledgements

This thesis was carried out during the spring of 2024 and is the final part of the master's programme Management and Economics of Innovation at Chalmers University of Technology. It also concludes five years of studies of Industrial Engineering and Management.

We would like to give our sincere gratitude to Mölnlycke Health Care for granting us the opportunity to conduct a case study. A special appreciation to James Halpin, our supervisor at the company, for his invaluable support and continuous encouragement throughout the entire process. We also want to express our warmest thank you to all individuals who participated in interviews and conversations. Without your insights, this thesis would never have been possible.

Additionally, a big thanks to our supervisor and examiner, Gunnar Wramsby, for his guidance and feedback throughout this thesis. To everyone who provided feedback and support, we are very grateful for enriching our work.

Overall, what a ride it has been. These past five years at Chalmers have been filled with challenges and growth, but most importantly, they have been fun. To all of our friends and family who have supported us and made it a truly amazing journey, thank you.

Johan Bademo & Gabriel Dylind
Gothenburg, May 2024

Contents

List of Acronyms

The acronyms that have been used throughout this thesis are listed in alphabetical order below:

AI	Artificial Intelligence
BI	Behavioural Intention
DOI	Diffusion of Innovation
ESM	Enterprise Service Management
GBS	Global Business Services
LLM	Large Language Model
ML	Machine Learning
MSP	Mölnlycke Service Portal
NLP	Natural Language Processing
PEU	Perceived Ease of Use
PU	Perceived Usefulness
RAG	Retrieval Augmented Generation
SST	Self-Service Technology
TAM	Technology Acceptance Model
UTAUT	Unified Theory of Acceptance and Use of Technology

List of Figures

List of Tables

1
Introduction

1.1 Background

Digitalisation has emerged as a pivotal component of corporate strategy for many companies in recent years (Verhoef et al., 2021). Successful integration of digitalisation strategies yields numerous advantages, including reduced costs, increased employee productivity and work efficiency, optimised resource utilisation, as well as increased customer loyalty and satisfaction (Rachinger et al., 2018). To maintain competitiveness, companies must proactively embrace the latest digitalisation trends, swiftly adopting innovative solutions and optimising existing ones. Among these solutions, Self-Service Technology (SST) has gained popularity, particularly among large companies, as a way to streamline operations (Forrester, 2023).

SSTs refer to technological solutions that enable users to co-create customised service experiences without the need for direct human involvement (Meuter et al., 2000; Shin & Perdue, 2019). Examples of the use of SSTs span across many industries, such as hotels (Shin & Perdue, 2019), finance (Sharma et al., 2021), banking and retail (Guan et al., 2021).

One example of a platform for SST is ServiceNow. The purpose of the platform is to streamline and enhance Enterprise Service Management (ESM) through cloud-based software solutions, aiming to simplify and optimise the management of workflow and ticket services within organisations (ServiceNow, 2023). ESM extends the scope from the traditional IT Service Management systems by incorporating several business units, with the goal of creating a unified service system across the whole company (Mohr, 2023). ESM platforms can contribute to unifying metrics, centralising knowledge, and ensuring a consistent level of employee experience. It serves as a tool that enables collaboration between teams and improves knowledge sharing as well as offering integration with various applications. One of the main hurdles in ESM lies in attaining alignment across different departments and teams within an organisation (Melides, 2023). Since ESM platforms involve integrating different stakeholders and functions into one system, coordination and governance is a large challenge for organisations.

ServiceNow can be modified to suit many functions within companies and if implemented correctly, can be an effective SST platform for achieving an overarching view of operations and enabling efficient workflows (ServiceNow, n d). Currently,

ServiceNow is one of the largest players in the market for cloud-based software solutions with revenues of $8.9 billion in 2023 and a CAGR of 28.0% over the last 5-year period (FactSet, 2024). The growth of ServiceNow is related to a larger trend within public cloud services, a market that has a forecasted growth of 20.4% to a total $678.8 billion in 2024 (Gartner, 2023). This trend underscores the increasing reliance of organisations on SST solutions to drive innovation, improve operational efficiency, and adapt to the dynamic nature of the modern business landscape.

A recent hot topic with regards to SSTs within ESM is the possible implementation of Artificial Intelligence (AI) technology. This emerging trend encompasses a range of possibilities, such as the automation of routine tasks, providing full-time availability, improving processes and workflows, and facilitating quick decision-making (Maheshwari, 2023). Moreover, the integration of AI holds the promise of facilitating advanced data analytics and predictive analysis within ESM, offering organisations the potential for deeper insights and more proactive decision-making.

1.2 Case Company

Mölnlycke Health Care (Mölnlycke) is a medical solutions company founded 175 years ago in the town of Mölnlycke. Reaching record revenue in 2023 with over 1.9 billion EUR and 9,000 employees operating in 100 countries around the world, Mölnlycke is an industry leader within the field, with a global HQ located in Gothenburg. One of the company's key strategic priorities is digitalisation, with the goal of becoming a digital leader by setting industry benchmarks as well as improving internal digital operations (Mölnlycke Health Care, 2024). Ultimately, Mölnlycke is aiming to create competitive and differentiated user-centric solutions which will generate value for both the company and their customers.

A key part of Mölnlycke's digital strategy is driven by the continuous development of ServiceNow. Mölnlycke first implemented ServiceNow in 2013 as a tool for IT service desk workers to handle incidents and requests. In the following years, the use of the platform was expanded to include an HR portal, knowledge articles, and an IT self-service portal. In 2021, Mölnlycke reorganised and introduced a Global Business Service (GBS) unit with the goal of becoming more transactionally effective within service functions such as IT and finance. Mölnlycke then developed the ServiceNow platform further, introducing personalised workflows for different business units. This change also marks the transition within Mölnlycke from IT Service Management towards implementing an ESM framework.

Mölnlycke currently utilises ServiceNow for their internal Mölnlycke Service Portal (MSP). The MSP is a platform where employees can raise tickets, find knowledge articles which basically are self-help guides, and fill in various forms for e.g., getting access to a new system. The GBS organisation is the owner of the MSP and ServiceNow at Mölnlycke, but the platform has several functions working in the ecosystem such as IT, People Services and Finance.

Mölnlycke has the ambition that ServiceNow should be a one-stop-shop for employees with regards to knowledge articles, incidents and requests, leveraging the platform's SST function to streamline operations and improve the experience. The overarching goal is to create a user-friendly and efficient ESM framework within ServiceNow, aligning with the broader trend of digital transformation and the drive towards enhancing organisational processes through technology. However, Mölnlycke has not been as successful as hoped with regards to the adoption and usage of SSTs within ServiceNow and as a result, the technologies are currently underutilised. The company has also elaborated with AI applications to improve their ESM framework, without successful results.

1.3 Problem and Research Questions

Effectively implementing SSTs at companies has proven to be a challenging task (Hong & Ahn, 2023), as even the most tested and reliable SSTs have proven to fail in many cases (Nili et al., 2019). There can be several reasons why companies might experience this trouble in receiving extensive adoption of SSTs. Firstly, one of the issues of adoption can be that some users do not know that the SST function even exists (Bitner et al., 2002). Additionally, many users traditionally show resistance to adopt SSTs when they do not see how it benefits themselves (Bitner et al., 2002; Rosenbaum & Wong, 2015), or if they perceive them as a threat to their jobs (Bitner et al., 2002). Some employees can also have low motivation to utilise new technologies due to a number of factors such as fear, unfamiliarity or communication barriers (Hong & Ahn, 2023). Managers may have inaccurate or incomplete mental models of the employees who will use the SSTs as well as differing views on the desired organisational outcomes of the SSTs (Di Mascio, 2016; Marler et al., 2009). These issues can result in the introduction of SSTs that do not meet the existing needs, preferences, or expectations.

Furthermore, while the implementation of SSTs for consumers has many successful examples, integration and management of SSTs internally for employee benefits have proven to be more challenging than initially anticipated (Cappetta et al., 2015). While numerous studies underscore the positive outcomes associated with SST usage (Bitner et al., 2002; Gummerus et al., 2019; Meuter et al., 2000), there is a gap in the literature on how employees and companies can translate the benefits into an actual setting (Cappetta et al., 2015). Thus, the impact of SSTs on employee engagement, company performance, profitability, and overall satisfaction remains uncertain.

To thoroughly analyse how organisations utilise SSTs for internal employee use, it is essential to first understand what key factors contribute to a successful implementation of these tools. Cappetta et al. (2015) have gone some way by highlighting two aspects that are important in introducing a successful employee SST platform, namely system- and information quality. Leveraging this, the aim is to expand on

the existing knowledge within the field. This initial step is crucial for providing companies with a clear path to enhance employee SST adoption and usage. The first research question is therefore:

1. What key factors influence adoption and usage of SSTs for employee use?

Successfully implementing SSTs can result in major benefits. Firstly, cost reductions can be achieved due to increased operational efficiency (Bitner et al., 2002). This in turn also minimises the reliance on manual labour for transactional tasks, freeing up time for employees to spend on more value-adding activities. Improved satisfaction is another positive outcome, primarily due to the increased convenience and time saving (Meuter et al., 2000). Further, SST solutions generate a lot of data that companies can leverage to identify operational bottlenecks and implement targeted improvements in their processes (Forrester, 2023).

However, as stated, the practical implementation of this concept has proven to be difficult (Hong & Ahn, 2023). Understanding what organisational structures need to be put in place to maximise the potential of employee SSTs adoption and usage is thereby crucial yet uncertain. With this in mind, the second research question emerges:

2. What organisational enhancements can be implemented to improve the identified factors, increasing adoption and optimising usage of employee SSTs?

The rapid development within AI technology presents significant opportunities for SSTs and most of the functionalities remain largely untapped (Barone & Stagno, 2023). Increasing prevalence of AI promises to elevate user experiences, service standards, and operational efficiency simultaneously (Wirtz & Pitardi, 2023). However, concerns regarding customer acceptance as well as ethical considerations remain prominent. Going forward, understanding the potential implementations of AI within ESM becomes crucial, an area that has yet to receive comprehensive research attention. While the full impact of AI on SSTs is still unknown, it is essential for companies to explore how AI could be seamlessly integrated into their ESM framework in the future. Consequently, the third research question is:

3. How could the integration of AI solutions in employee SSTs enhance a company's ESM framework?

1.4 Purpose

This study will describe and analyse factors influencing employee SST, identify organisational improvements, and explore the integration of AI.

1.5 Delimitations

This report aims to offer strategic guidance and ideas for operational implementation with regards to SST platforms but will not focus on the technical implementation aspects of changes. Further, this thesis will not explore specific new business areas where SSTs can be introduced, but rather focus on the current units of IT, People Services, and Financial Case Management. Delimiting in this way allows for a more thorough analysis of the selected topics and a focus on the core issues identified. Additionally, the focus will be on investigating how knowledge management can be improved with the help of SSTs, rather than optimising the handling of incidents and requests.

2
Theoretical Framework

2.1 Technology Adoption

The concept of acceptance, often contrasted with refusal, denotes a positive decision to adopt an innovation (Amberg et al., 2005). Decision-makers need to understand the factors influencing a user's decision to adopt a certain system, and consider these during development (Taherdoost, 2018). Technology acceptance models and theories have been extensively employed across various domains and numerous studies have developed frameworks to assess the adoption and usage of certain technologies. In this study, two prominently used frameworks for technology are presented. Additionally, the concept of forced adoption is presented along with the idea of hedonic and utilitarian values.

2.1.1 Technology Acceptance Model (TAM)

The most commonly used framework to evaluate user acceptance and usage of technology is the Technology Adoption Model (TAM) (Gangwar et al., 2015; Granić, 2022; Venkatesh & Davis, 2000). TAM was developed in 1989 based on rational behaviour theory with the goal of producing straightforward, yet effective, models outlining the factors that influence user acceptance (Davis, 1989). The model also provides practical value for assessing systems and guiding managerial actions to address underutilisation of technology. A schematic image of the TAM is presented in Figure 1. The two crucial factors that determine the attitude towards using a certain technology is according to TAM perceived usefulness (PU) and perceived ease of use (PEU). Attitude in this context refers to the individual's overall evaluation or feeling of favourableness or unfavourableness towards using the system (Davis et al., 1989). It represents the person's general positive or negative assessment of using the technology.

PU refers to the extent to which users believe that a technology will enhance their performance or facilitate achieving their goals (Davis, 1989; Marangunić & Granić, 2015). Users are more likely to adopt a technology if they perceive it as useful in improving their work efficiency, productivity, or overall performance. Many aspects have been observed to influence PU, including subjective norm, image, job relevance, output quality, and result demonstrability (Marangunić & Granić, 2015). On the other hand, PEU is the perception that users have of how effortless it is to utilise the provided technology. Factors that can be considered in this context are complexity, accessibility, and user-friendliness. In the TAM framework, PEU is considered a

significant determinant of PU, indicating that users are more likely to perceive a technology as useful if they find it easy to use.

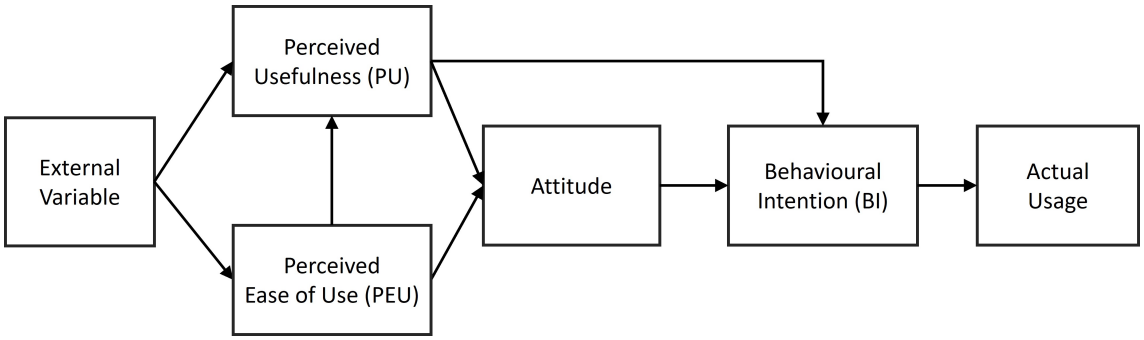

Figure 1: Technology Acceptance Model (TAM) framework (Davis, 1989).

External factors, such as system characteristics, user training, and implementation processes, provide the contextual backdrop within which users interact with technology (Davis et al., 1989; Marangunić & Granić, 2015). These external variables set the stage for users' initial perceptions of the technology, influencing both the PU and PEU. Behavioural Intention (BI) is in the TAM model defined as an individual's readiness to adopt a particular behaviour, which in this case is the use of a particular technology (Davis, 1989). Davis et al. (1989) argues that PU directly influences the intention as beliefs about how using a specific system will enhance a user's job performance play a crucial role in determining their intention to use that system. PEU, on the other hand, affects BI indirectly through its effect on PU. While PEU is an essential factor in user acceptance, its impact on intention is mediated by the individual's perception of usefulness. It is ultimately the combination of these effects that determines a person's BI and long-term actual usage.

However, the relationship between BI and actual usage might not be as straightforward (Wu & Du, 2012). Users may express a strong intention to use a technology based on their perceptions, but their actual usage behaviour might not align with these intentions. This discrepancy can arise due to various factors such as external constraints or unforeseen difficulties in implementation. Consequently, while BI is a useful indicator of users' intentions to adopt technology, it does not always accurately predict actual usage behaviour. With this in mind, Legris et al. (2003) argue that the TAM model needs to be incorporated into a more comprehensive model that considers organisational and social dynamics, as well as the temporal aspects of technology adoption.

2.1.2 Unified Theory of Acceptance and Use of Technology (UTAUT)

The perceived limitations of the TAM model have led to several extensions, with the Unified Theory of Acceptance and Use of Technology (UTAUT) emerging as one of the most prominent ones (Bayaga & du Plessis, 2023; Dwivedi et al., 2019).

Similarly to TAM, UTAUT is a theory that explains and predicts the acceptance and use of technology by individuals (Venkatesh et al., 2003). However, UTAUT aims to provide a more comprehensive understanding of technology adoption across diverse contexts by integrating the most important constructs from eight older theories of technology acceptance (Momani, 2020). UTAUT incorporates various factors beyond just individual perceptions, such as social influences, environmental conditions, and external support mechanisms. The foundation for the model is provided in Figure 2.

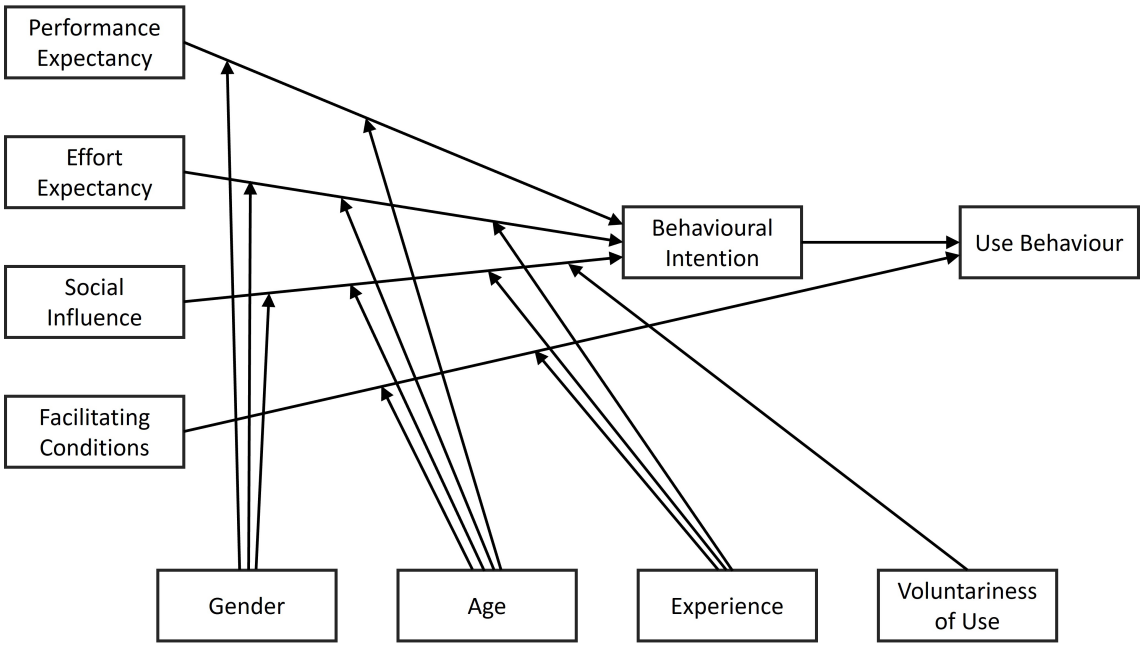

Figure 2: Unified Theory of Acceptance and Use of Technology (UTAUT) model (Venkatesh et al., 2003).

The first of the fundamental aspects of UTAUT is performance expectancy (Venkatesh et al., 2003). It represents the degree to which using the system will provide benefits and enhance the performance of the user, foreseeing how it will improve their productivity and efficiency. This is complemented by effort expectancy, which examines users' assessment of how easily the system integrates into their workflows, aiming for a smooth and intuitive experience. These two factors are similar to PU and PEU in the TAM model (Momani, 2020). Additionally, UTAUT acknowledges the significant influence of social dynamics on technology adoption, where social influence captures the impact of colleagues or prevailing norms (Venkatesh et al., 2003). Facilitating conditions encompass users' beliefs that an organisational and technical infrastructure exists to support the use of the system, including resources and technical assistance.

Furthermore, the UTAUT includes several external factors that influence the determinants of BI and usage behaviour to a varying degree. Men tend to be more task-oriented and therefore put higher value on performance while women may con-

sider usability and social aspects to a higher degree (Venkatesh et al., 2003). This effect is believed to stem from socialisation processes and gender roles, rather than biological gender. This would seem to suggest that organisations should consider gender-specific strategies when implementing new technologies. However, in more recent studies, gender effects have been shown to be diminished for populations with any educational degree in technology, even when accounting for differences in levels of education (Draxler et al., 2023).

Age also plays a significant role in technology acceptance with different age groups having varying attitudes toward technology (Venkatesh et al., 2003). Younger generations are generally more open to adopting new technologies, whereas older people may be more cautious or resistant. Tailoring training and support based on age is therefore crucial if a company aims to enhance adoption. Recent studies have nuanced this perspective, emphasising that while older adults tend to be slower than younger adults to adopt new technologies as a group, there are significant differences in rates of adoption when looking at individuals (Rogers et al., 2017). Park et al. (2021) present an alternative viewpoint on technology adoption in relation to age, that being the future time perspective. Instead of solely focusing on chronological age, future time perspective considers individuals' perceived time remaining within a specific context. This perception, along with their assessment of opportunities within that time frame, significantly influences users' evaluation of technologies and their willingness to adopt them. Essentially, individuals with a limited perception of future time are more inclined to negatively assess the desirability and feasibility of technologies compared to those with more open-ended perceptions.

The presence of individuality within studies of gender and age underscores the likelihood of multiple factors influencing technology adoption beyond these demographic traits. Experience plays a crucial role in the adoption of new technologies (Venkatesh et al., 2003). Individuals who have prior experience with similar technologies often find it easier to adapt because of their familiarity with the concepts and interfaces. Their existing knowledge serves as a foundation upon which they can build, allowing them to quickly grasp new technology introduced to their work environment. Organisations should aim to assess user knowledge levels individually and provide appropriate support (Kulturel-Konak et al., 2015).

2.1.3 Diffusion of Innovation (DOI)

Diffusion of Innovation (DOI), developed in 1962 by Everett M. Rogers, is one of the most popular methods for explaining how individuals adopt new technologies (Hameed et al., 2012). Although the foundation has stayed the same, Rogers has presented evolutions of the model with the last version released in 2003. It is this publication of the model that is used in this thesis.

The DOI model explains that not all individuals adopt an innovation at the same time, instead, they adopt over a period of time (Rogers, 2003). This realisation

makes it possible to classify individuals into adopter categories. Rogers (2003) argues that the different adopter groups are based on the individual's innovativeness, a trait that is determined by factors such as socioeconomic status, personality values, and communication behaviour. Building upon this, Rogers (2003) presents the S-curve of technology adoption as a graphical representation of the diffusion process, illustrating how new innovations spread through a population over time. The S-curve typically depicts the cumulative number or percentage of adopters over time. It showcases an initial slow growth phase, followed by rapid acceleration, and finally, a plateau as adoption approaches saturation. The S-shaped curve emerges as a result of the dynamics between these adopter categories. The initial slow growth phase represents the early stages of adoption, the steep ascent reflecting rapid acceptance, and the plateau signifying saturation as adoption reaches its peak. A schematic picture of the cumulative adoption is found in Figure 3.

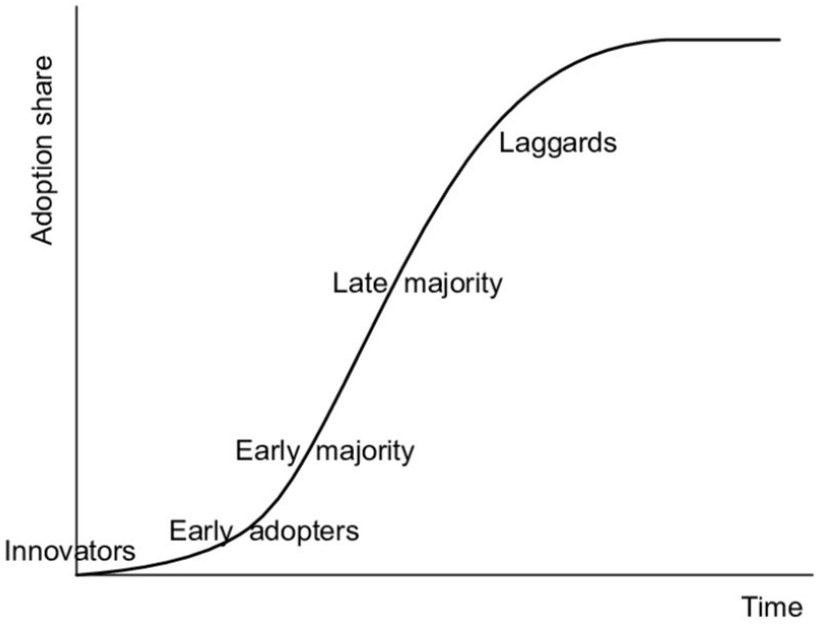

Figure 3: Diffusion of technology as an S-curve (Rogers, 2003).

Individuals in this model are divided into five groups: Innovators, Early Adopters, Early Majority, Late Majority, and Laggards, depending on innovativeness (Rogers, 2003). Innovators are typically people with an open-minded nature and are inherently curious. They often like to interact with provided technology to create their own, innovative solutions. These individuals can also be described as lead users (Hau & Kang, 2016). Lead users are ahead of market trends and benefit highly from innovation. Characteristics such as anticipation of future needs, dissatisfaction with current offerings, and expectations of benefits from new solutions are usual for such individuals.

The next group that adopts an innovation are what Rogers calls the early adopters (Rogers, 2003). This group of people are often opinion leaders and respected individuals in their networks. Early Adopters carefully evaluate the advantages and

disadvantages of the innovation before adopting and they serve as role models for others (Dearing & Cox, 2018). As a result, they help in spreading the innovation through their influence and are very important to consider in order to achieve spread to the early majority. This is a group of people that are more pragmatic and while still open to new ideas, prefer to see evidence of success before adopting. The adoption of this group signals the beginning of the mainstream acceptance of the innovation.

A struggle that many companies face when introducing a new innovation is discrepancy between early adopters and the early majority, called "the Chasm" (Moore, 2014). The chasm arises because of the gap between the visionary early adopters who seek radical change and the pragmatist early majority who seek incremental improvement. Early adopters are willing to sacrifice for the advantage of being first, while the early majority waits until they know that the technology provides improvements in areas such as productivity (Lin & Hong, 2011). The challenge for innovators is to narrow this chasm and ultimately accelerate adoption across every segment. The Late Majority are sceptical of change, risk-averse, and adopt innovations only when they feel compelled to do so (Dearing & Cox, 2018). Laggards adopt very late, if at all, and usually due to external pressures or necessity.

Rogers' theory of DOI can also be applied in order to study adoption patterns within organisations (Dearing, 2009). Effective communication strategies within organisations play a significant role in facilitating the spread of innovations. To successfully spread innovations, innovators or early adopters should be identified and engaged in the innovation process. These people should also be used as internal ambassadors to share information about new technology. The support of senior management is also crucial for successful implementation. Dearing (2009) further emphasises the importance of aligning the framing and timing of innovation efforts with contextual conditions to enhance adoption. In this process, potential adopters should be viewed as members of different groups to enable more efficient communication and broader reach. Demonstrating innovations in action also increases their visibility and observability and should be done in small groups.

2.1.4 Forced Adoption

As outlined above, Rogers (2003) goes further into the process of individual adoption and their different adopter characteristics. However, managers in organisations frequently make decisions regarding the adoption of new innovations or methods and compel individuals to use it (Ram & Jung, 1991; Zhou, 2008). This situation, where individuals are required to adopt new technology due to organisational adoption, has been termed forced adoption, though it is also known as mandatory adoption, authority adoption, or authority decision (Heidenreich & Talke, 2020). Prior literature has highlighted that employee resistance is one of the largest challenges organisations experience when implementing new innovations this way (Haddara & Moen, 2017; Lin et al., 2018). Interestingly, even after years of implementation, innovations can still be underutilised, not have their full potential value be realised, or perhaps even

completely fail due to employee resistance (Raisian & Yahaya, 2014). It is therefore crucial for organisations to exercise caution when introducing new technologies, and post-introduction, ensuring they do not force new technologies on employees.

The reasons for employees' resistance to technologies can vary, and it is not always clear what specifically individuals are resisting. According to Feng et al. (2019), users may protest against the policy of forced adoption rather than the new technology itself. This resistance could stem from the perception that such policies infringe upon individuals' freedom of choice, ultimately leading to resistance towards adapting the introduced technology. Ram and Jung (1991) explain several additional reasons to why organisations encounter problems generating acceptance among individuals for the adoption of new technologies. Firstly, the change can be seen as discontinuous and therefore, individuals with low tolerance for change may resist. Low tolerance to change could stem from multiple factors, including high perceived risk, low technical proficiency, as well as seeing the innovation as overly complex. Individuals may also resist adoption if they have not been consulted beforehand, resulting in a lack of trust and consequently negatively evaluating the innovation. These examples reflect pre-adoption resistance, but resistance can also be developed post-adoption if the technology does not perform as expected (Ram & Jung, 1991). Generating reliable performance is crucial for adoption (Liu, 2012) since it otherwise can increase resistance, even from individuals with no or low pre-adoption resistance (Ram & Jung, 1991). Additionally, Feng et al. (2019) argue that user resistance increases when using the new technology requires more effort compared to the process in place pre-implementation.

In order for organisations to effectively implement new technology where employee scepticism and forced adoption exist, Ram and Jung (1991) describe three key managerial implications. They advocate for facilitating trials of the technology, a strategy proven to notably lower resistance. This notion finds support by Rogers (2003) who argues that ease of testing correlates with faster diffusion and acceptance. Nevertheless, Ram and Jung (1991) stress the importance of conducting trials that showcase successful use cases. Furthermore, enhancing users' technical competence not only increases adoption and satisfaction but also reduces resistance (Liu, 2012; Ram & Jung, 1991). Organisations can accomplish this by providing user-friendly manuals, presentations, and demonstrations, ultimately equipping employees with the necessary skills and knowledge to effectively work with the technology. Encouraging peer group interaction during implementation facilitates easier adoption since users often go to peers for help with new technology (Ram & Jung, 1991). Spreading positive experience and sharing knowledge could therefore change user attitudes positively.

2.1.5 Hedonic and Utilitarian Factors

Individual choices of products are influenced by both utilitarian and hedonic factors (Dhar & Wertenbroch, 2000). In general, products or systems can be divided into either hedonic or utilitarian goods. Hedonic goods offer experiential enjoyment, plea-

sure, and excitement (e.g., fine dining experiences, vacations, entertainment events), while utilitarian goods are primarily functional and instrumental (e.g., household appliances, basic clothing, office supplies). Understanding how individuals navigate trade-offs between products or systems with distinct appeals is essential for comprehending the user decision-making processes.

The contrast between utilitarian and hedonic motivations has been used to understand IT acceptance and usage (Van der Heijden, 2004). Building upon the framework of intrinsic versus extrinsic motivation, Hassenzahl (2018) explains the utilitarian and hedonic dimensions of user experience in human-computer interaction. Utilitarian usage is driven by specific goals and emphasises the functional performance of technology for task fulfilment. Hedonic engagement, on the other hand, is characterised by the different forms of emotional and experiential value that the technology offers, such as enjoyment, entertainment, and fun. Traditional IT systems are designed to support work-related tasks and processes within organisations, prioritising functionality and efficiency (Deng et al., 2010). Their utilitarian nature stems from their focus on meeting practical business needs and contributing to operational effectiveness, rather than providing leisure or entertainment experiences.

However, as contemporary information technologies continue to evolve, they contribute a hedonic dimension to the user experience, progressively addressing both utilitarian and hedonic needs in diverse aspects of users' personal lives (Van der Heijden, 2004). Hence, new technology must be designed in such a way that it satisfies users' utilitarian expectations, while simultaneously attending to their hedonic needs.

With regards to SSTs, Collier and Sherrell (2010) argue that both perceived control and convenience can have positive effects on the speed of transactions, users desire to explore, as well as in building trust in the provided technology. These factors can in turn influence perceived value, satisfaction, and intentions to use an SST. Speed of transaction and exploration have both utilitarian and hedonic effects on perceived value and satisfaction. Faster transaction times and smoother exploration contribute to practical benefits, such as saving time and effort, which enhances the perceived value of the SST. Additionally, a smooth and fast user experience can also evoke positive emotions like enjoyment or satisfaction Trust only has a utilitarian effect, meaning the importance lies in users' having confidence in the SSTs reliability, security, and effectiveness in completing tasks.

It is important to note that user experience is inherently subjective. This results in significant discrepancies between the intended experiences envisioned by designers and the actual experiences encountered by users (Hassenzahl, 2018). These disparities arise due to individuals' distinct personal standards and lead to variations in experiences. Personal experience can also differ across situations and change over time, making them difficult to predict.

2.2 Change Management

Change management is a process of planning, developing, leading, evaluating, and sustaining organisational change (Phillips & Klein, 2023). The goal of change management is ultimately to help employees accept new developments and improve organisational performance. Below are two of the most prominent models for change management presented. Further, the concept of agile methodologies is introduced, which can be seen as a tool when driving change. Lastly, ideas on what companies should consider with regards to Industry 4.0 and 5.0 are presented.

2.2.1 The 8-Step Process for Leading Change

In 1996, John Kotter designed his 8-step process for leading change, today one of the most recognised models for change management (Appelbaum et al., 2012; Pollack & Pollack, 2015). The model has later been revised and presented in many issues. Kotter (2012) highlights that in order to successfully transform businesses, leaders need to perform eight tasks, and perform these in the right order. The three first steps serve to create a climate for change, step four to six to engage and enable the organisation, and the last two steps focus on implementation and building a strong foundation in the corporate culture. The 8-step process is summarised in Figure 4 below.

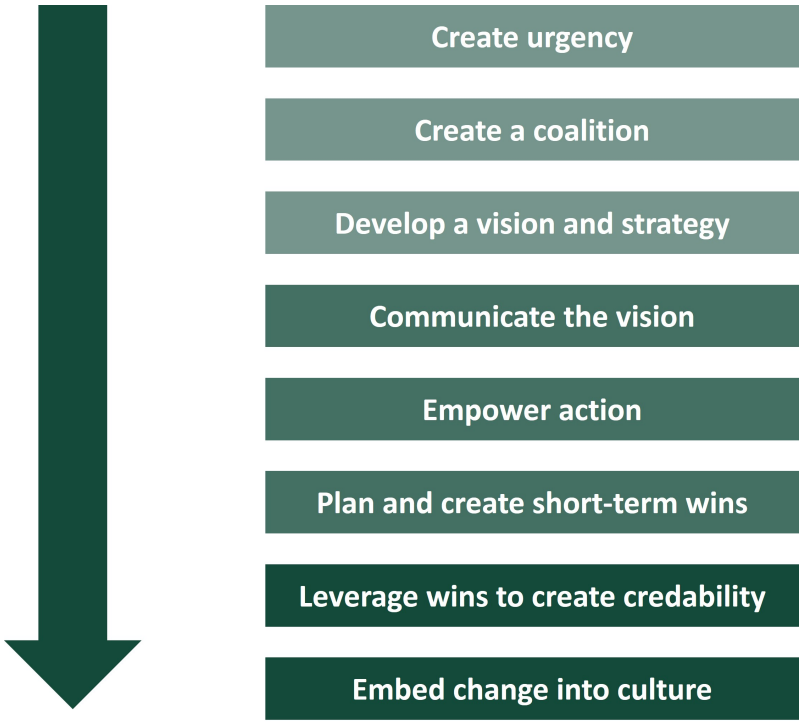

Figure 4: The 8-step process for leading change (Kotter, 2012).

To initiate a change, individuals and groups first need to create an urgency of change. According to Kotter (2012), this can be done through evaluating the firm's financial

performance, market position, and technological trends. In addition, the information regarding the urgency needs to be communicated broadly and dramatically since change requires the involvement of many different individuals. However, as explained by Kotter (2012), firms frequently overestimate their ability to impose significant changes on an organisation. Simultaneously, they underestimate the challenge of encouraging individuals to step out of their comfort zones. The second step in the model is to create a team who are leading the initiative and driving the change. Kotter (2012) presents different characteristics of people that need to be included in the group. Effective team members should possess a track record of successfully driving change initiatives in addition to being credible and respected by colleagues. Also, the team should comprise individuals with diverse perspectives and knowledge backgrounds to ensure well-informed decision-making. Moreover, having positional power is essential, ensuring that the project cannot be obstructed by any excluded individual. Lines (2007) strengthens Kotter's argument on the significance of positional power, suggesting that projects backed with considerable positional authority are more likely to succeed than those lacking such influence.

The guiding coalition's first task is to develop a vision and strategy for the change project. The benefit of having a well-defined and shared vision for projects has been substantially researched (Appelbaum et al., 2012), and it has been defined as a key part for successful change projects (Whelan-Berry & Somerville, 2010). Kotter (2007) argues that projects without a sensible vision tend to result in a series of unfinished tasks, ultimately leading in the wrong direction or nowhere. Kotter's fourth step is communicating the formulated vision which is vital to unify employees under the change projects (Appelbaum et al., 2012). Often, failures of change can be attributed to insufficient communication and lack of employee acceptance (Richardson & Denton, 1996; Schulz-Knappe et al., 2019). Successful transformations involve leveraging all available communication channels effectively by management (Kotter, 2007). This facilitates ongoing discussions about the transformation, ensuring that the new way of working remains consistently reinforced and top of mind.

The fifth step involves removing obstacles that are preventing employees from implementing the vision defined in the third step (Kotter, 2012). Corporations can empower employees by addressing the primary obstacles, typically revolving around structures, training, systems, and supervisors. Employee empowerment is widely supported in change literature as an important step of change processes for organisational success (Al-Asoufi & Akhorshaideh, 2017; Appelbaum et al., 2012; Kumar et al., 2022). Although the goal of transformational processes is to realise long-term goals and gains, there must be convincing evidence along the way that all sacrifices and efforts are paying off. Therefore, planning for and creating short-term wins is important and should not be neglected. It can strengthen the morale and motivation of employees, help fine-tune the vision and implementation, and keep management onboard (Kotter, 2012). Without achieving short-term wins, management may lose interest in the project, and if the coalition group lacks strength, the project might be terminated.

People are tempted to declare victory too early, before changes have been deeply rooted in the company culture (Kotter, 2012). With this in mind, Kotter's seventh step underscores the criticality of leveraging the increased credibility resulting from short-term wins within the project to address larger change initiatives. These additional initiatives could include changes such as the adjustment of systems and structures that may not align with the newly introduced changes. By leveraging short-term wins, change projects can keep the momentum up, bring in more help, and with senior management keep the urgency level up (Kotter, 2012).

The final step of the 8-step model involves the replacement of the old culture with the new one. Kotter (2012) argues that embedding new practices within cultures is inherently difficult, even if the new approach is in line with the company's core culture. However, if a misalignment occurs, the challenge of sustaining the new practice becomes even more difficult. Typically, cultures embrace new approaches and ways of working when it is evident that the new methods outperform the old ones. Furthermore, to facilitate this anchoring process, Kotter suggests that it may be necessary to substitute key individuals who are resistant to the change. As one of the most common books on change management, Kotter's 8-step process is recognised as a good starting point for managers for implementing change, and is likely increasing the chances of successful implementations (Appelbaum et al., 2012). Nonetheless, it is important not to assume that following these steps guarantees successful outcomes.

2.2.2 The ADKAR Model

Another prominent framework for organisational change is the ADKAR model, developed by Jeffrey Hiatt in 2006. The fundamental idea of the model is that change does not stem from inherent organisational changes, but rather a collective shift in behaviours among the individuals within an organisation (Hiatt, 2006). The author exemplifies this by noting that when reorganisation is done in a company, it is not the restructuring that represents the change, but instead the shift in responsibilities for each person. The ADKAR model is an abbreviation that comprises five key elements: Awareness, Desire, Knowledge, Ability, and Reinforcement. These parts are structured as a sequential process and can therefore not be reordered or skipped. A schematic image is presented in Figure 5.

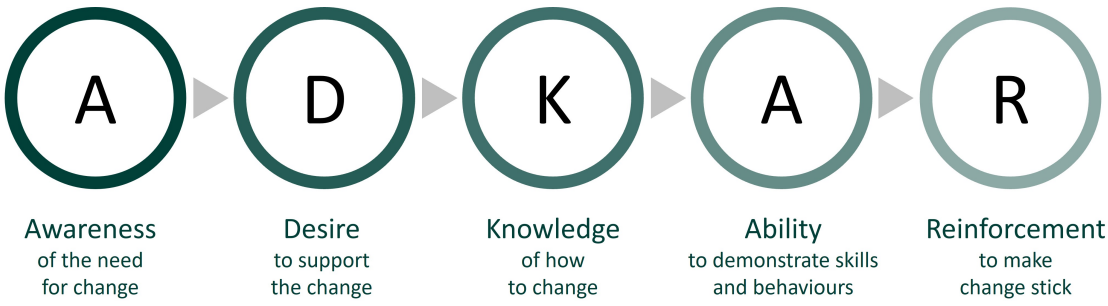

Figure 5: The ADKAR model for change management (Hiatt, 2006).

Initially, Awareness lays the groundwork by shedding light on the necessity for change (Hiatt, 2006). This involves transparent communication, clarifying the reasons behind the change, the expected advantages, and the drawbacks of maintaining the status quo. Building upon this foundation, Desire sparks the motivation necessary for individuals to welcome the change. It entails aligning the proposed changes with personal aspirations and values, while also addressing any apprehensions or resistance. Furthermore, Knowledge equips individuals with the necessary know-how to effectively navigate the transition. Through tailored training and the provision of resources, individuals acquire the insights and skills that are vital for successful change implementation.

However, Knowledge alone does not suffice as individuals must also possess the Ability to execute the required tasks (Hiatt, 2006). This phase aims to close any skill gap and provide confidence-building through coaching and hands-on practice. Finally, Reinforcement solidifies the change within the organisational culture, ensuring its enduring impact. Recognition, rewards, and the celebration of milestones foster an environment where change is embraced and integrated, driving sustained progress. Through this iterative process, the ADKAR model empowers organisations to embrace change as a catalyst for growth and development.

The benefit of the ADKAR model lies in its heightened emphasis on garnering acceptance of change among employees and project team members (Galli, 2018). With these individuals at the forefront of change initiation and completion, this aspect becomes pivotal when selecting a change management model. However, its drawback lies in its primary focus on the human aspect of change, rendering it more suitable for project teams and environments rather than large-scale organisations with intricate processes.

2.2.3 Agile Methodologies

Agile project management is a methodology characterised by its adaptive and collaborative approach to managing projects (Dingsøyr et al., 2012). Having originated from the software industry, the theories have since been widely adopted across various sectors (Thesing et al., 2021). The foundation of the agile methodologies lies in the Agile Manifesto, which outlines four core values (Beck et al., 2001):

1. To value individuals and interactions over processes and tools
2. To value working products over comprehensive documentation
3. To value customer collaboration over contract negotiation
4. To value responding to change over following a plan

Agile is characterised by iterative and incremental development cycles, enabling

teams to continuously adjust their plans and deliver value in small increments (Thesing et al., 2021). The ideas are based on people and their creativity rather than on processes, and they use short iterative cycles of development driven by product features and user feedback (Nerur et al., 2005). Agile methodologies prioritise delivering functional products or features to users quickly in order to maximise project value (Bergmann & Karwowski, 2019). It deems intensive planning, design, and documentation as wasteful, opting instead to create documentation based purely on the value generated. Teamwork lies at the core of agile, relying on empowered and motivated teams that collaborate closely with both each other and customers. Effective communication, collaboration, and knowledge sharing among team members and stakeholders are also fostered. Additionally, agile strives for adaptability, which is evident in its use of iterative and incremental development cycles (Thesing et al., 2021). The idea is to align processes with the type of project to ensure flexibility and responsiveness throughout the project lifecycle.

To effectively implement agile methodologies within an organisation, a shift is required in many regards. Some of these include a flexible and less hierarchical organisation, a highly knowledgeable and skilled project team, supportive top management, and deeply involved users (Bergmann & Karwowski, 2019). However, the need for a suitable corporate culture, a high level of team skills, and a clear vision of the project goal can make implementing agile methodologies challenging in some companies (Thesing et al., 2021). Another contributing factor to the challenges faced by agile methodologies is the persistent scepticism surrounding the approach. This scepticism often translates into a lack of support from management and insufficient allocation of resources necessary for the method to thrive (Ciric et al., 2019). Noteboom et al. (2021) emphasise that addressing the issue of inadequate management support is particularly crucial for the successful implementation of agile methodologies.

2.2.4 Moving Towards Industry 4.0 and 5.0

Industry 4.0, a term coined in the last decade, describes the technological state of manufacturing organisations resulting from the fourth industrial revolution (Lu, 2017). This revolution was fueled by advanced digitalisation and integration of manufacturing systems and products, driven by two main factors (Lasi et al., 2014). The first is application-pull, reflecting the demand for more efficient, flexible, and individualised production systems capable of adapting to changing market conditions and user preferences. The second is technology-push, signifying the supply of new technologies enabling and facilitating the transformation of production systems. Examples of technologies enabling Industry 4.0 are Internet of Things, Cloud Computing, Big Data Analytics, AI and Machine Learning (ML), and Business Process Management (Diez-Olivan et al., 2019; Xu et al., 2018; Zhong et al., 2017).

Schumacher et al. (2016) introduced a model for assessing Industry 4.0 readiness and maturity of manufacturing companies. The framework identifies combining a clear strategic vision and leadership that support digital transformation efforts as key

parts to succeed within Industry 4.0. Ganzarain Epelde and Errasti (2016) further underscore the importance for companies to develop a tailored Industry 4.0 vision and roadmap with detailed project planning. Other key aspects are having a culture that fosters knowledge sharing and cross-company collaboration, as well as a people centric view with employee autonomy and training opportunities (Schumacher et al., 2016). A well-developed governance structure with standards and regulations for Industry 4.0 compliance is also important to enable companies to fully exploit the new technologies.

Furthermore, Chaudhuri et al. (2024) stress the importance of developing a data-driven culture to leverage the potential of Industry 4.0 technologies. Data allows for generating insights that support decision-making and facilitate the digitisation process. A data-driven culture helps in fostering innovation, becoming more sustainable, and gaining competitive advantage in the dynamic business landscape. This will also become increasingly more important in adapting to the forthcoming trend of Industry 5.0. Industry 5.0 represents a paradigm shift from Industry 4.0, focusing on a human-centric approach, sustainability, and resilience (Zizic et al., 2022). It is not a technological leap forward, but rather a way of emphasising placing human needs at the heart of the production process. This involves focusing on sustainability by reusing, repurposing, and recycling natural resources. Additionally, it entails building resilience through flexible processes and enabling adaptable production capacities, particularly in times of crisis.

2.3 Knowledge Management

Knowledge management is the systematic process of managing intellectual capital within organisations, encompassing the identification, capture, and sharing of knowledge resources (Mårtensson, 2000). At its core, knowledge management serves as a strategic tool for organisations to enhance various facets of their operations, including performance, productivity, competitiveness, decision-making, innovation, and knowledge sharing. By harnessing internal knowledge and intellectual capital, knowledge management enables organisations to capture best practices, reduce research costs, and ultimately enhance organisational effectiveness (Cu et al., 2021).

One of the most prominent models in the field of knowledge management is the Knowledge Spiral, presented by Nonaka and Takeuchi (1995). The model builds upon the concepts of tacit and explicit knowledge as two parts of an organisation's capabilities. Explicit knowledge is codifiable, meaning it can be expressed by mathematical symbols or written language (Nonaka, 2009). This involves categorising phenomena into perceptual and conceptual groups, making it understandable to organisational members. In an organisation, explicit knowledge can include company data, rules, procedures, documents, and manuals (Gamble, 2020). However, codification can be complex, especially for nuanced or subjective topics. Some knowledge, known as tacit knowledge, is too intricate or personal to codify. Tacit knowledge refers to the skills, ideas, and experiences that individuals possess but are not explicitly documented or easily articulated (Chugh, 2015). This form of knowledge is

inherently personal and often deeply ingrained in an individual's actions, intuition, and subjective understanding of a particular context.

Nonaka and Takeuchi (1995) introduce four distinct types of knowledge transfer that occur in organisations: tacit to tacit, explicit to explicit, explicit to tacit, and tacit to explicit. These forms of knowledge exchange operate within a cyclical process, forming a spiral that propels the organisation toward higher levels of knowledge creation and innovation. A schematic image is presented in Figure 6.

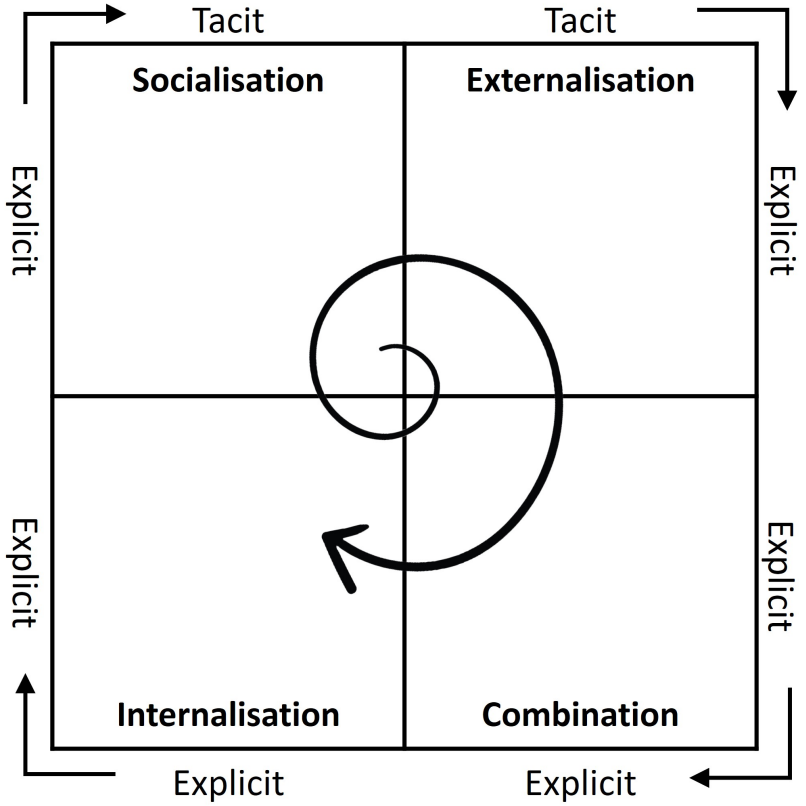

Figure 6: Knowledge spiral model (Nonaka & Takeuchi, 1995).

The process begins with Socialisation, where tacit knowledge is shared between individuals through observation and shared experiences (Nonaka & Takeuchi, 1995). This process involves informal interactions, such as mentoring, apprenticeships, or team collaboration, where people learn from one another's actions and behaviours. Through Socialisation, tacit knowledge is transmitted from one person to another, fostering a collective understanding in the organisation. However, socialisation is very limited in terms of impact on learning throughout the whole organisation. While apprentices may acquire the skills of their masters, this process does not foster systematic understanding of their craft knowledge for either party involved (Nonaka, 2009). Since this knowledge remains tacit and is not articulated, it cannot be readily utilised by the organisation as a whole.

Externalisation represents the next step in the knowledge-sharing process, involving the conversion of tacit knowledge into explicit forms (Nonaka & Takeuchi, 1995). This occurs when individuals articulate their tacit insights, ideas, or experiences into tangible documentation, such as reports, manuals, or presentations. Externalisation allows individuals to codify their tacit knowledge, making it accessible and understandable to others within the organisation. This can be for example when a controller at a company aggregates information from across the organisation to generate a financial report. Although this report integrates data from diverse sources, it does not inherently expand the knowledge base of the organisation (Nonaka, 2009).

Combination follows Externalisation, where explicit knowledge from various sources is synthesised and combined to create new insights or solutions (Nonaka & Takeuchi, 1995). This process involves compiling and integrating different pieces of explicit knowledge and can be facilitated by information technology and knowledge management systems (Roehr-Brackin, 2022). These tools help to store, retrieve, and share explicit knowledge within and across organisations. Combining explicit knowledge can lead to new insights, ideas, and solutions that can improve organisational performance and competitiveness. It can help to avoid unnecessary repetition and waste of resources as well as enable faster and more accurate decision-making. Combination also facilitates cross-disciplinary collaboration and knowledge integration, enabling the organisation to leverage diverse perspectives and expertise (Nonaka & Takeuchi, 1995).

Finally, Internalisation completes the knowledge-sharing cycle by converting explicit knowledge back into tacit knowledge (Nonaka & Takeuchi, 1995). This occurs when individuals absorb and internalise explicit understandings through learning, practice, or experience, thereby enriching their personal repertoire of tacit knowledge. Internalisation enables individuals to apply explicit knowledge in real-world contexts, refining their skills, and enhancing their problem-solving abilities. Nonaka (2009) proposes that every employee should have access to all knowledge within the organisation, regardless of their position, as this helps in maximising innovation and ideation rooted in tacit knowledge.

2.4 AI Applications

AI can be defined as the replication of human intellectual capabilities by computers, encompassing the simulation of intricate human skills and the capacity to operate adeptly and anticipate outcomes across diverse environments (Sheikh et al., 2023). How well an AI is operating can be measured through its ability in demonstrating intelligent behaviour through the analysis of the surroundings, as well as autonomous execution of actions to achieve defined objectives.

AI can have many applications, going beyond advanced technologies like deep learning. The current applications of AI include a wide range of systems that can analyse data, recognise patterns, make decisions, and perform tasks autonomously (Sheikh et al., 2023). These applications are not limited to specific domains but extend to

various sectors such as image and speech recognition, natural language processing (NLP), robotics, and more. Sheikh et al. (2023) underscores the significance of having an inclusive definition of AI that accommodates different technologies and allows for future advancements in the field. Some areas that hold promise for AI solutions are search engines and chatbots, which are elaborated upon below.

2.4.1 Search Engines

A search engine is a software application designed to facilitate the retrieval of information in response to user inquiries (Duka et al., 2023). It operates by scouring a database of information, ranging from library catalogues to the expansive landscape of the World Wide Web. The concept of a search engine was first proposed in 1945 but the first search engine to search the World Wide Web was created in 1993. Web search engines are typically composed of three key elements: a crawler, an index, and an interface (Volle, 2023). The crawler, also known as a "bot," roams the internet, collecting data from web pages. This data is then organised and stored in an index, much like in a library. Users interact with the search engine through its interface, where they can input their queries and receive relevant results from the indexed data. This structured process enables users to efficiently find information across the breadth of the internet.

The most popular and influential search engine, Google, was launched in 1998 by Larry Page and Sergey Brin, who developed a novel algorithm called PageRank to rank Web pages by their relevance (Duka et al., 2023). Google quickly became the most popular search engine, setting new standards for indexing and ranking web resources. By the year 2000, Google had already indexed over 350 million web pages, and this number continued to grow rapidly in the following year. Initially, search engine interfaces were simple, but Google introduced new and more functional forms of presenting search results to meet user requirements. Search engine algorithms have now evolved to understand the context and intent of search queries, moving beyond simply analysing the number of links to a page.

While already utilised to some extent for many years, AI-powered search engines have recently shown prospects of revolutionising how search engines operate (Yue & Peng, 2021). AI-powered algorithms represent a significant leap forward in enhancing the quality and relevance of search results (Bider, 2023). By leveraging AI technology, search engines can better understand user intent and behaviour, leading to more accurate and personalised results. Moreover, AI-powered tools streamline keyword research and content optimisation processes, ensuring that content remains engaging and relevant to users. Through the analysis of user behaviour data, AI further improves the overall user experience by identifying areas for enhancement and suggesting personalised content and assistance. Google already uses generative AI and NLP extensively to anticipate and answer questions based on future user behaviours, allowing for a more personalised and immersive experience (Reid, 2023).

2.4.2 Chatbots

The idea of communicating with computers was formally introduced by Alan Turing in 1950, with his proposal questioning the capability of machines to think (Turing, 1950). Chatbots are described as tools that can understand and communicate with users, reflecting this query. The first chatbot, developed in 1966, relied extensively on linguistic rules and pattern-matching techniques (Caldarini et al., 2022). In the 1980s, significant advancement in chatbot technology was made through the integration of AI. The introduction of new technology facilitated the development of chatbots that could expand their knowledge base through dialogue pattern knowledge. According to Caldarini et al. (2022), recent advances in ML and NLP, coupled with increased computational power, have led to the development of advanced chatbots capable of learning without relying solely on rules and patterns.

Chatbots can provide organisations with a cost-saving solution for offering user service and support, as they can handle queries efficiently and reduce operational costs (Barone & Stagno, 2023). Current chatbots are able to quickly handle large volumes of data and also automate interactions (Luo et al., 2019). Therefore, companies can free up their personnel and allow them to use the time saved on other tasks (Huang & Dootson, 2022), resulting in more value-adding activities. For users, chatbots offer immediate assistance and access to information, enhancing the overall user experience by providing quick responses and personalised interactions (Barone & Stagno, 2023). The role of the chatbot in relation to the user can differ significantly. They can act as assistants, passively aiding users in tasks and decisions without actively influencing decision-making. Alternatively, they can function as coaches, assuming some control over the decision-making process and offering guidance, with consumers willingly ceding some autonomy to AI agents. Lastly, chatbots can serve as co-workers, engaging with users as if they were human rather than technology-enabled agents executing routine tasks (Chong et al., 2021).

However, integrating chatbots is seldom frictionless. Users often exhibit resistance to interact with chatbots due to their perceived artificiality, lack of emotional intelligence, and machine-like nature (Chen et al., 2022). There are also several operational challenges associated with chatbots, especially when they fail to meet user expectations. In particular, companies tend to prioritise business-centric use cases rather than user-centric ones (Janssen et al., 2021). Additionally, since chatbots often are not the core business for companies, they tend to underestimate the investments needed to develop the technological infrastructure. Development projects rely on a small number of key personnel to maintain the technology, but this is typically not feasible to do in-house and so the activity is often outsourced. As technology development moves rapidly, more funding is needed whenever internal competencies are insufficient.

There could also be a mismatch between developers of chatbots and end-users. Janssen et al. (2021) found several instances where chatbots had failed due to ignored user requirements and design features. Developers focus on technology and disregard conversational design, a feature proven to have significant impact on user

experience. Users also frequently encounter issues with chatbots receiving inaccurate, incomplete, or outdated information (Janssen et al., 2021). Moreover, the absence of access to essential data significantly compromises user experiences, ultimately diminishing the perceived value of the chatbot.

To implement an effective chatbot, it is crucial that the service is both faster and more accurate than the user or another human counterpart (Weber & Ludwig, 2020). However, in the cases where chatbots fail to meet the user's expectation, the option to escalate to a human service employee needs to exist. This capability can also be incorporated into the chatbot, automatically transitioning to human assistance if the conversation stagnates. Further, designing chatbots with human-like features has led to improved customer experiences (Barone & Stagno, 2023). Incorporating characteristics such as human-like names, avatars, and conversation styles, significantly influences consumer behaviour throughout the user journey. The research done by Janssen et al. (2021) suggest that projects implementing a chatbot should be viewed as ongoing with continuous updates, rather than as finite with fixed deadlines. Unlike traditional development projects, they need to be supported by highly agile methods, involving continuous testing and adaptation. This dynamic nature requires treating chatbots as entire ecosystems, involving collaboration among engineers, designers, and other professionals. Lastly, starting with a small scope for the chatbot allows for quick user feedback, facilitating easier development and scaling of the chatbot (Janssen et al., 2021).

2.5 Theoretical Summary

As presented, the adoption of a technology, in this case SSTs, within an organisation is a multifaceted process that can be clarified using a number of frameworks. Technology adoption models like TAM and UTAUT offer insights into users' perceptions of SSTs, highlighting factors that can influence the intention to use technology as well as the actual usage (Davis, 1989; Venkatesh et al., 2003). However, the gap between intention and real-world usage (Wu & Du, 2012), and the diverse characteristics of users (Dwivedi et al., 2019), add layers of complexity to the analysis. Moreover, the evolving nature of IT systems from purely utilitarian to incorporating hedonic factors complicates the assessment of perceived value (Collier & Sherrell, 2010). The DOI theory can be used as a tool in untangling this issue by categorising users into five distinct groups based on their character traits and desires, allowing for a better understanding of how individuals act (Rogers, 2003). Further, challenges associated with forced adoption strategies can lead to both resistance from users (Haddara & Moen, 2017), as well as underutilisation of the provided technology (Raisian & Yahaya, 2014), needs to be addressed. The prospect of AI technology, through the examples of search engines and chatbots, presents opportunities to increase performance of SSTs (Bider, 2023), while also enhancing the user experience (Barone & Stagno, 2023). Overall, all theories highlight the need for a user-centric approach to improve adoption and optimise usage of SSTs.

Adoption is not only connected to the perception of individuals, but also deeply in-

tertwined with organisational processes and operations. Introducing new technology is always part of a change management process, necessitating initial steps like engaging stakeholders through dialogue (Nonaka & Takeuchi, 1995), and establishing a collective will within the organisation to change as well as a shared vision (Kotter, 2012). Embracing a people-centric view of the change process (Schumacher et al., 2016), and leveraging agile methodologies (Bergmann & Karwowski, 2019), can significantly enhance the prospects of implementing technological changes rapidly and successfully. This is also something to consider when looking into AI-powered solutions (Janssen et al., 2021). By incorporating key concepts from these frameworks, companies can construct an organisational foundation that fosters technological advancements.

When introducing organisational changes, such as the integration of new SSTs, achieving widespread adoption and optimising usage is an intricate task. This process entails effectively communicating the established vision to a broader user base, thereby fostering employee acceptance (Kotter, 2012). Even with employee acceptance, organisations must ensure that users are equipped with the necessary toolbox to utilise the systems effectively (Hiatt, 2006). The full potential of technological systems, like SSTs, can only be reached when individuals are able to apply explicit knowledge in practical scenarios, refining their skills, and enhancing their problem-solving abilities (Nonaka & Takeuchi, 1995). Ultimately, organisations and employees need to embed the knowledge into the culture (Kotter, 2012), reinforcing continuous learning and development.

3

Research Method

3.1 Research Strategy

The research strategy utilised in this study adopts a qualitative method, prioritising the use of words and images over quantification in both data collection and analysis (Bell et al., 2022). Qualitative research allows researchers to explore complex phenomena in-depth and gain a rich understanding of the context and perspectives (Creswell & Zhang, 2009). It is particularly useful for studying topics where little is known or where quantitative methods may not capture the full complexity of the phenomenon. Due to the unexplored nature and lack of research with regards to the topic, as highlighted in Section 1.3, an explorative approach will be chosen in accordance with the theory from Bell et al. (2022).

For this study, the chosen research approach is abductive reasoning. Bell et al. (2022) explain that this methodology is suggested as a means to address the constraints linked with both deductive and inductive reasoning. Abductive reasoning involves formulating questions based on unexpected insights that arise when researchers encounter empirical phenomena unaccounted for by current theories. As Bell et al. (2022) highlight, this process typically entails a continuous exchange between data and theory, creating an iterative cycle of collecting data and developing theory. Embracing this iterative approach means that both theory and data collection evolve continuously, each shaping and informing the other as the research progresses. Additionally, employing abductive methods offers enhanced flexibility when forming theories based on data, thus accommodating unexpected findings. When analysing the collected data, researchers are required to choose the most suitable explanation from among competing interpretations or explanations (Mantere & Ketokivi, 2013).

To gain an initial understanding of the company and business context, seven exploratory interviews of 50-60 minutes were conducted with six Mölnlycke employees, see Table 1. The initial interviews were unstructured, as the aim was to keep them informal, and very similar in character to a conversation, aligning with ideas from (Bell et al., 2022). Several topics were addressed during the interviews, such as the interviewees' roles, their involvement with SSTs, and current pain points. This approach, guided solely by a list of topics or issues, corresponds well with the theory of unstructured interviews outlined by Bell et al. (2022). Moreover, unstructured interviews are useful to enhance the knowledge of the researchers and to discover new areas in which to conduct further research. These interviews were also combined

with research of internal data and non-academic documents. As Denscombe (2017) explains, using documents offers several advantages, including cost-effectiveness and improved access to data.

Table 1: List of exploratory interviews at Mölnlycke.

Role	Date	Duration
Director - GBS Service Desk, Automation & Process Excellence	24-01-11	2 × 60 min
Product Owner ServiceNow	24-01-24	60 min
Service Desk Tech Coordinator	24-02-08	50 min
Global Technology Manager - People Projects & Processes	24-02-12	60 min
Global Process Developer - Service Desk	24-02-19	60 min
Solution Delivery Lead Infrastructure & Workplace	24-02-21	50 min

3.2 Research Design

The chosen research methodology for this thesis is a single case study. Denscombe (2017) highlights that case studies offer a comprehensive approach to exploring complex realities in-depth, which is applicable to this report. Furthermore, case studies typically focus on relationships and processes within social settings, aiming to understand not only the dynamics of the setting but also the underlying reasons for phenomena. This aligns with Yin (2018)'s concept of explanatory case studies, which prioritise understanding why and how certain events occur. Since the study aims to understand how companies can leverage adoption and usage of SSTs to enhance their ESM framework, conducting a case study is appropriate.

While case studies can facilitate broader insights into specific topics, a notable weakness of the method is its potential lack of external validity and generalisability (Bell et al., 2022). However, Eisenhardt and Graebner (2007) present a contrasting perspective on the generalisability of case studies, suggesting that the primary purpose of case studies is to generate theories rather than to test them. This line of reasoning finds support from other prominent researchers in the field, including Denscombe (2017) and Yin (2018). Lastly, Eisenhardt and Graebner (2007) claim that conducting a single-case study can lead to the development of more complex theories compared to multi-case studies, as it allows for a greater level of precision and depth in the analysis.

3.3 Data Collection

The primary data collection method employed for this thesis involved conducting semi-structured interviews, a process explained in the following section. Additionally, two sampling techniques were utilised, namely snowball sampling and theoretical sampling, both of which are elaborated upon below.

3.3.1 Semi-Structured Interviews

Continuing the work, 32 semi-structured interviews of 35-60 minutes were made, in accordance with recommendations from Bell et al. (2022) for qualitative studies. A summary of these is provided in Table 2. Interviews were held with employees who were working and were responsible for the SST tools at Mölnlycke. Additionally, regular employees in various roles and countries were interviewed to get different perspectives from the broader user base. Two people outside the company were also interviewed, a product owner of ServiceNow at a large, Gothenburg-based, company (R18), as well as an external consultant (R24) who previously was responsible for implementing the Finance module within the MSP. Employing semi-structured interviews enables the interviewer to steer discussions toward specific topics while also allowing respondents to freely express their thoughts (Bell et al., 2022). Although guided by a general interview framework, questions were not always asked in the same sequence, and additional questions were added when the conversation diverged into interesting topics. As people from different departments at Mölnlycke were targeted for interviews, the content of the questions was also adjusted accordingly. This method for data collection is supported by Denscombe (2017), as the aim of the report is to generate new ideas. Kvale (1994)'s taxonomy of different question types provided inspiration for the two interview guides, which can be found in Appendix A. When creating the interview guides, the contextual background at Mölnlycke was combined with the theoretical framework to shape the foundation of the templates.

Table 2: List of semi-structured interviews.

Interviewee	Role	Date	Duration
R1	Service Desk Lead	24-03-19	60 min
R2	Service Manager IT	24-03-21	60 min
R3	Service Desk Specialist & RPA Developer	24-03-21	60 min
R4	Lead Service Manager IT	24-03-22	60 min
R5	External System Administrator GBS	24-03-22	60 min
R6	Director Applied Data Science	24-03-25	60 min

Continued on next page

Table 2 – *Continued from previous page*

Interviewee	Role	Date	Duration
R7	Service Manager IT	24-03-26	60 min
R8	Solution Delivery Lead - People Procurement & Sustainability	24-03-26	50 min
R9	Product Owner ServiceNow	24-03-27	60 min
R10	Director - GBS Service Desk, Automation & Process Excellence	24-03-27	60 min
R11	External Service Desk Technician	24-03-27	60 min
R12	Head of Global Service Desk	24-04-02	60 min
R13	Global Technology Manager - People Projects & Processes	24-04-02	60 min
R14	Operations Analytics Director	24-04-03	50 min
R15	Solution Delivery Lead - Customer Communication & Marketing	24-04-03	60 min
R16	People Service Specialist EMEA	24-04-03	50 min
R17	Global People Technology Intern	24-04-04	40 min
R18	Product Owner ServiceNow - Large Gothenburg-based company	24-04-09	55 min
R19	Manager Physical Testing & Method Development HQ	24-04-09	35 min
R20	Executive Assistant HQ	24-04-09	45 min
R21	Global Process Developer - Service Desk	24-04-09	60 min
R22	Management Assistant EMEA	24-04-11	40 min
R23	Scientist APAC	24-04-12	40 min
R24	External Product Manager Finance	24-04-12	50 min
R25	Territory Sales Manager US	24-04-12	40 min
R26	Regulatory Affairs Manager APAC	24-04-15	35 min
R27	Global Learning & Development Manager	24-04-15	60 min
R28	Region Manager US	24-04-16	35 min
R29	Executive Assistant US	24-04-16	40 min

Continued on next page

Table 2 – *Continued from previous page*

Interviewee	Role	Date	Duration
R30	Territory Sales Manager US	24-04-16	40 min
R31	Commercial Excellence Manager EMEA	24-04-17	40 min
R32	Territory Sales Manager US	24-04-17	40 min

To ensure complete recollection of findings, all interviews were recorded and transcribed. Bell et al. (2022) explain that recording interviews is desirable in order to recollect not only the information gathered, but also how it was said. It also reduces the likelihood of the data being influenced by researchers' memory or personal biases. Recording and transcribing also eliminates the need to take extensive amounts of notes during the interviews, allowing the interviewer to be more attentive and pose insightful follow-up questions (Bell et al., 2022).

An issue with recording interviews can be that some interviewees refrain from discussing certain topics due to concerns about having their personal views or perspectives recorded (Bell et al., 2022). To avoid this, respondents were informed that only their job title and business unit would be featured in the report. Although as many interviews as possible took place face-to-face, logistical constraints meant that several interviews had to be conducted through Microsoft Teams.

3.3.2 Sampling

According to Bell et al. (2022), sampling constitutes a crucial stage in qualitative research. This study has utilised two sampling techniques, namely snowball sampling combined with theoretical sampling. Bell et al. (2022) explain snowball sampling as making initial contact with a small group who are relevant to the topic and then leveraging this network to establish further contacts. Based on the exploratory interviews and examination of role descriptions, 10 initial interviewees were identified as the most relevant to the research topic. Further, through the iterative process of snowball sampling, the participant pool was then gradually broadened, thereby ensuring the inclusion of many perspectives within the study.

Bell et al. (2022) highlight that there is no set number of interviews required in qualitative research. Consequently, theoretical sampling was employed to understand when all insights had been found. Theoretical sampling involves a continuous process of sampling and theoretical reflection on the data until theoretical saturation is achieved (Bell et al., 2022). Saturation occurs when further data collection does not contribute to the emergence of new theoretical insights.

3.4 Data Analysis

Thematic analysis is frequently recognised as one of the most prevalent methods for analysing qualitative data, according to Bell et al. (2022). It involves systematically identifying, analysing, and interpreting patterns or themes within the data, allowing researchers to gain deeper insights into the underlying meanings captured in the data (Clarke & Braun, 2017). In order to determine whether a pattern observed in the data qualifies as a theme, Ryan and Bernard (2003) present multiple criteria including repetitions, metaphors and linguistic connectors, which this thesis will use. Among these, repetition is the most common indicator used to determine whether a pattern observed in the data qualifies as a theme Bell et al. (2022). However, it is important to note that repetition alone does not mean a concept qualifies as a theme, it must also be directly aligned with the research objectives.

As highlighted by Clark and Braun (2017), thematic analysis is a dynamic process that involves ongoing reflection on the identified themes. An iterative approach allows researchers to dig deeper into the themes, examining their relationships. By continuously reflecting on these themes, researchers can decipher patterns as well as identify any gaps or inconsistencies within the data. This process enhances understanding of the collected data and facilitates the development of more nuanced insights during the analysis.

4
Empirical Results

The empirical findings from the 32 semi-structured interviews are detailed in the following chapter. Initially, an overview of the current system and scope of SSTs within Mölnlycke is provided. Subsequently, three subsections are presented, each focusing on one of the research questions.

4.1 Current System and Scope

When analysing the current adoption and usage of the MSP, Mölnlycke has seen an increase when there was a large information campaign of the platform and also when more countries were onboarded. However, as of late the numbers have now flattened out, R9 explains. Another ServiceNow product owner at a large company based in Gothenburg, R18, mentioned that their primary challenge was tied to system adoption, identifying it as the largest challenge related to SSTs. Out of Mölnlycke's total workforce of 9,000 employees, approximately 3,000 unique users access the system every month. Currently, around half of the employees, who possess their own laptops, comprise the target group. Several respondents responsible for the MSP mentioned that the target audience for the MSP in theory is every employee in the company, which proves that Mölnlycke needs to improve the adoption of the platform in order to harness its full potential. As one respondent highlighted when asked about the intended user group:

> *"Anyone at Mölnlycke who uses a solution or has questions about a service or similar, they should use it."* - R2

As the GBS is a support organisation, its overarching goal is to provide high service quality to the employees, ensuring the smooth functioning of the organisation and supporting its core operations. This ambition was also highlighted by a key employee for the MSP:

> *"The goal is to provide employees with the right information at the right time, freeing up their time, resulting in more satisfaction among employees."* - R21

A key element of having a high service quality is linked to the quality and usage of knowledge articles. Mölnlycke currently has multiple different types of knowledge articles. As explained by R11, some are only for service desk technicians, while

others target managers or regular employees. As of today, the majority of the articles are targeting service desk technicians with the aim of helping them to solve tickets, while those directed at employees offer straightforward "how-to" guidance. R12 mentions that Mölnlycke currently focuses too little on employee articles which might hinder the adoption of users.

Articles can be either local or global. Local articles are available in the local language, while all global articles are written in English. To access and find these knowledge articles, employees can go to the MSP and use the search bar for topics they are interested in, they could also find knowledge articles using a catalogue and click themselves to the right place. However, it is noted that people working with the MSP in the back-end prefer employees to use the search bar instead of clicking through the catalogue structure. This preference stems from the belief that using the search functionality often yields quicker and more precise results, allowing easier access to the right information.

The platform is currently used primarily by employees to send in tickets and as one respondent mentioned:

> *"The MSP is not user-friendly for the end-users trying to find articles compared to opening a ticket, and the platform is built in a way that encourages employees to open tickets instead of searching for knowledge themselves."* - R27

Others think that the platform currently is working well enough or even great. Some who have been with the company for a longer time mention that they have seen many improvements since the system was introduced and the new employees only see the current product. This was further highlighted by both R4 and R10.

> *"Two and a half years ago, our MSP was chaotic. Now, there is a significant difference in layout; UX/UI teams have supported interface design, colours, and click reduction."* - R4

> *"The MSP is much more usable now compared to before, but it still feels outdated."* - R10

As of today, many employees are using alternative solutions, where asking a colleague or directly sending a ticket are the two of the most prominent ones. The reason for this could be many, but several employees note difficulties in using the MSP for knowledge articles.

> *"It is really hard for end-users to use knowledge articles, people are not even thinking of using them when they are having problems or questions."* - R3

> *"I am not always successful in finding the information I want through*

> *the MSP. When this happens I send my question to my contacts in the respective area."* - R14

> *"I think the MSP is hard to use and not user-friendly."* - R12

But not everyone has the same perception of the platform, some think it is a great tool for employees.

> *"For English-speaking office users, MSP knowledge articles are great, a top-level resource."* - R1

> *"I use the knowledge articles a bunch, that is probably the most helpful thing [of the MSP]."* - R25

The GBS team has put improving knowledge as a priority this year, aligning with one of their current strategic pillars, digitalisation. Mölnlycke wants to be at the forefront of the industry with regard to digitalisation, both externally but also internally. Having a good functionality of the MSP could be a key solution to improve efficient working processes and therefore spend more time on value-adding activities.

> *"Mölnlycke is doing quite okay, but has a big room for improvement."* - R11

4.2 Factors Influencing Adoption and Usage

Based on insights from the interviews, seven key factors that influence adoption and usage of employee SSTs have been identified. Each of the factors is elaborated upon below.

4.2.1 Speed of Answers

Many of the respondents highlight speed of getting answers as the main motivation to adopt and continue to use a SST platform. As highlighted by R6, time is a precious commodity, and people are often pressed for it due to their busy schedules. Therefore, when they turn to SSTs, they expect it to provide them with solutions or information swiftly and without unnecessary delays.

> *"A big advantage of self-service is getting an immediate response, instead of having to wait one or two days for feedback on a ticket."* - R7

Specifically, the tool needs to be quicker than alternative solutions or else people will default to sending tickets or reaching out to someone they know. If a self-service platform does not deliver timely solutions, users may become frustrated and disengaged, potentially leading to decreased trust and utilisation over time. People's patience is limited, as highlighted by R14, as thus ensuring that the platform is

quicker than alternatives is critical for maintaining user satisfaction and engagement. By prioritising speed, SSTs can enhance the overall user experience, saving users time and effort and fostering a positive perception of the platform. R17 further points out that resources can be freed up by providing users with faster solutions through an SST platform, something R14 also mentions.

> *"A significant amount of time has been dedicated to answering questions in the past. Having instant access to answers is highly beneficial."* - R14

The element of speed seems to be most crucial for people working in sales. As these people spend a lot of time on the road and in sales meetings. In particular, IT issues carry heightened urgency for them, as problems with essential tools could ruin a valuable sales opportunity.

> *"We salespeople are often on the road, or meeting customers, and therefore require swift assistance. Our primary goal is to sell products. Imagine being with a client and unable to open Salesforce—each moment lost could mean a missed sale."* - R32

4.2.2 Information Accuracy

A factor that several respondents touched upon as crucial for adoption and usage is how easy it is to find the information you are looking for through the platform. The product owner of ServiceNow, R9, argues that accuracy is one of the most important things for the credibility of the platform. There exist contrasting views within the company on the current state of the MSP with regards to accuracy. Both R2 and R31 think finding articles through the search function is easy. This perspective is also shared by others:

> *"People can definitely find the information they require easily. It is just about knowing what to search for."* - R1

R1 nuances his view by adding that language barriers or not knowing the name of a system can be challenges for people trying to find articles through the MSP. The Head of Global Service Desk, R12, also sees language as a large issue as many people are not comfortable searching or reading in English, whereas all global policies are written in English. Many respondents say that they experience getting a large number of irrelevant results when trying to search for knowledge articles.

> *"When I search in the MSP, I often encounter challenges in finding the information I need. For example, last week, I faced an issue with my phone that I expected to find a solution for easily. However, despite my efforts, I couldn't locate the right article."* - R15

R14 frequently resorts to either submitting a ticket or reaching out to his contact

in the relevant area when the search function fails to provide relevant results. This workflow seems to be common practice among end-users as noted by R25 and R32, both Territory Sales Managers in the USA. R13 underlines that employees have expectations of the search function that currently are not met by the platform, thus leading to a frustrating experience.

> *"People expect it to work like Google because it looks like Google."* - R13

The technical functionality of the search function of the MSP is explained by R17.

> *"When searching, certain words carry more weight than others and the system looks for those keywords. We also add extra keywords, called meta tags. [...] If you misspell a word, it affects the results too. Some articles have tons of keywords, which keeps them at the top of the list."* - R17

R27 also sees a mismatch in the name of certain policies in contrast to what people would actually search for. While the policies may have formal or technical names, they may not align with the language or terminology that users naturally employ when seeking information. As a result, users may face obstacles in locating relevant content, leading to frustration and inefficiency.

> *"People searching for information would never look for statutory maternity entitlement, they would just say: I'm pregnant, what do I get paid?"* - R27

Multiple respondents have also pointed out the issue of certain articles consistently ranking at the top. The reason for this is that some countries have made efforts to address the searchability challenge, R27 explains. They achieve this by consolidating numerous articles into a single, easily accessible document and incorporating hyperlinks to direct users to their intended destinations. Additionally, teams have also begun adding the country name to the start of every article name for easier searchability. R13 underscores that working with meta-tagging has been a key focus to try to improve searchability for the articles that belong to the People Services function. On the contrary, R12 noted that the IT service desk has not worked extensively with keywords or meta-tagging.

4.2.3 Reliability of Presented Information

Another critical factor identified in relation to SST usage was reliability of the presented information. If employees are trying to help themselves, but are getting outdated information, it could lead to issues and problems for the company or employee. R8 argued that having access to reliable information in SSTs is the most important factor combined with a self-help culture. R6 also thought having reliable information was crucial for the success of SSTs, and called it a basic necessity. When information is good and reliable, R8 mentioned that they would be willing to spend

some extra time searching for information.

It is clear that reliable information is essential for SSTs, but are the knowledge articles in the MSP up to date and accurate?

> *"I have searched for certain things, sometimes the articles are not accessible, other times out of date, or with non-functioning links. It needs to be better, otherwise I will send tickets directly."* - R6

> *"To elevate the MSP, you really need to look at the articles. The quality of the articles is important and can be improved."* - R24

> *"Some articles have dead links or very old information [...] Some teams have done really well to update the information."* - R29

During the second half of 2023, the People Services function put a lot of resources into going through all of their 1,400 knowledge articles with the goal of simplifying information, removing old articles and combining several articles into fewer. This resulted in the number of articles being reduced by 400, without removing any crucial information. Multiple respondents have been underscoring that they think it is easier to find reliable knowledge articles from the People Services function which could be due to the clean-up of articles.

> *"I find it quite easy to find relevant and up-to-date information, specifically from the People [Services] function. This could be information about bonuses."* - R2

> *"Of the articles I look for, 9 out of 10 times they are up to date and useful."* - R13

Following the collaborative effort, if employees responsible for managing the People Services articles consistently can keep them updated, Mölnlycke's workforce will have access to reliable information. With the ServiceNow system, an owner of articles can get alerts when articles need to be reviewed after a fixed amount of time.

> *"MSP articles are flagged after a certain period of time and you get an alert to say it needs to be reviewed. Additionally, we try to update the articles when something might have triggered a change in the company, lastly, it was triggered by the new values being launched."* - R27

> *"I manage articles for the Italian market, updating articles, identifying and retiring outdated information. This can for example be done after I get feedback on the articles from employees. I also try to improve articles' attractiveness and make it more concise and clear."* - R16

Currently, IT and GBS do not use the article flagging function, nor have they put

in additional resources to improve the quality of the articles as the People Service function did, but aim to do so in the future. Therefore, there are a lot of articles with outdated information in them.

> *"The quality of the knowledge articles is okay. However, some articles are very old, old groups, links, and include information about former colleagues. [...] Updates are needed."* - R7

4.2.4 Ease of Use

A recurring topic when speaking to people all across the company is the importance of how easy the platform is to use. As explained by R10, having users click through a complex catalogue structure will drastically detract from the user experience. R24 argues that the essence of a user-friendly platform lies in its ease of use. Additionally, R4 states that getting fast and easy help from the platform inclines people to use the platform more, thus improving adoption organically. Users expect answers to be readily available and presented directly, without unnecessary complexity. A seamless experience is characterised by a clear input-output relationship, where actions and responses are intuitively linked.

> *"The platform should be intuitive, enabling users to express their needs without the constraint of specific terminology."* - R10

> *"Overall, I would say the platform is user-friendly. Although sometimes if you do not know what to ask for, navigating it can be hard."* - R32

R15 finds that the current knowledge articles leave much to be desired. They are filled with ambiguously written language and overlook the needs of the intended audience. The author, while very knowledgeable about the system, often fails to effectively communicate information that is understandable to end-users. If the articles were written in a way that everyone understands, the same text can be maintained for all personas. Additionally, R15 highlights concerns regarding language usage:

> *"There is a lot of jargon on the platform, for example the abbreviation SME has a different meaning internally, [Subject Matter Expert], than externally [Small and medium-sized enterprises]."* - R15

A good interface also plays an important role in facilitating this interaction, providing users with a visually appealing and easily navigable environment. R4 highlights that in order to provide a good user experience, the design of the platform cannot be done by someone from IT as the intended users have much less technical knowledge. Focusing on user experience is important to achieve good adoption and optimise usage and R12 believes the focus is lacking in its current state.

> *"The MSP is not designed according to the user's needs. I work in IT support myself, and I struggle with it. If I can't use it, how should others be able to?"* - R12

4.2.5 Convenience

The convenience of accessing answers anytime and anywhere was widely recognised by respondents as one of the most significant advantages of having an SST platform. Mölnlycke has made efforts to increase the convenience of the MSP by for example adding an icon on the desktop of all laptops and introducing a mobile app. R9 highlights the importance of allowing employees to access the platform from many places.

> *"MSP shortcuts are scattered across various platforms, making them impossible to overlook. We must meet users where they are, such as integrating MSP access into the Teams app"* - R9

R16 explains that as she is alone within her function in supporting her area, having a good self-service option available when she is away or not available is very useful. This view is shared by R27 who highlights that a SST allows employees to get help without relying on the availability of a support person.

Several respondents also expressed that they want to be able to help themselves as much as possible. The motivation behind this wish can be perceived autonomy as well as great satisfaction when being able to solve their own issue without help. R15 further emphasises that being able to get a fast response without taking up the time of someone else is a big motivator to use SSTs.

> *"Speed, control, the ability to do it on your own schedule—these aspects all contribute to a good user experience"* - R20

> *"I value being independent, handling things myself while not bothering others too much. It helps keep things running smoothly and gets things done faster."* - R15

Along with speed, convenience is seen as the most important factor for people working in sales. R12 stresses that 60% of Mölnlycke employees globally do not sit in sales offices and uses the USA as an example of a sales-driven organisation. With this in mind, catering to the needs of end-users in sales becomes evidently important. Some people also operate in time zones that do not align with the support staff, and thus convenience is important.

> *"Accessing resources such as the MSP outside of customer interactions or during late hours is crucial."* - R32

> *"We are ahead of everybody else, so one of our biggest pain points is*

> *sometimes having to wait until lunch to get our problem solved. That can be very frustrating."* - R26

Territory sales manager, R25, suggests adding an additional desktop shortcut for the self-help guides and improving the usability of the app as two potential improvements to increase convenience for people in sales.

4.2.6 Knowledge of System

The adoption of a system, regardless of its speed, user-friendliness, and reliability, depends on people being aware of its existence. Another problem could also be that people only have limited knowledge of the system, not understanding the full potential of it, which could lead to underutilisation and ineffective usage. Therefore, even with around 3,000 unique employees using the MSP every month, a crucial step towards increasing adoption of the system is ensuring a comprehensive understanding of the MSP's scope and existence. This point was emphasised by R7, who described it as follows.

> *"You can have really high-quality knowledge articles, but if users are not searching [using the system] for them, they become useless."* - R7

> *"Employees do not actively look for knowledge articles because many of them are unfamiliar with the term and the system."* - R10

During interviews with Mölnlycke's employees, a significant lack of awareness about the MSP system was evident. One interviewee, present in a smaller office in Europe highlighted the following:

> *"Some do not even know what the MSP platform is, maybe because they do not experience many issues or care to use it. Instead, I think many only use [Microsoft] Outlook and Edge."* - R1

While nearly all employees were familiar with the ticketing function on the MSP due to Mölnlycke removing many local IT desks a couple of years ago, many mentioned that they had never used the knowledge articles or were unaware of their existence altogether. Some elaborated on why they lacked knowledge or interest in the system, some referred to a lack of education, and going through alternative routes, and some did not think that it was a part of their job to solve their own problems.

> *"Maybe people are using it [knowledge articles] but I am not aware of them. I would go straight directly to their manager or the local IT when I have problems. Sometimes it is hard to understand what to do [when experiencing an issue or question], and therefore I go directly to local IT"* - R23

> *"I've seen it [the knowledge articles] pop up, but to be honest with you, I've never explored it. Maybe this is just my personal opinion, but I think having the accessibility to talk to somebody through it could happen a lot faster than maybe my capabilities of finding a solution to an issue. [...] I am not an IT technician."* - R30

> *"It's not a platform [MSP] that I think that we in the US, or at least my team, has not necessarily been trained to use or had a reason to use [knowledge articles]. I haven't realised that I can use that MSP portal from that perspective [self-service]"* - R32

4.2.7 Culture and Demographics

The nature in which people from diverse backgrounds and with varying prerequisites engage with SSTs has become apparent through responses from participants. Cultural nuances have the potential to significantly influence the adoption and usage of tools like the MSP. According to R5, cultural differences drastically alter how people interact with websites and how they want to search for information. R11 noted that individuals in Sweden tend to exhibit a problem-solving attitude, displaying a greater inclination to resolve their own issues. This observation aligns with findings from data collected by R17.

> *"In terms of view counts and ratings, HQ, UK, and Northern Europe stood out significantly."* - R17

R1 explains that some countries want quick fixes to their issues while others require more solid troubleshooting. Additionally, some countries have traditionally relied on support personnel or preferred alternative communication channels outside the Mölnlycke ecosystem, due to ingrained habits and preferences. Although the concept of accommodating diverse user patterns based on cultural differences has been discussed within Mölnlycke, as mentioned by R15, concrete steps to implement such adaptations have yet to be taken.

Language has also proven to be a large barrier and Mölnlycke has lately pivoted to a new approach.

> *"The initial intention was for everyone to use English as it is the company language. However, this proved to be quite challenging, leading us to provide support in many different languages."* - R10

As explained by R12, the priority for all employees is not that their English is perfect and local language support is therefore needed. This is exemplified by R31.

> *"In regions like East Germany, the language barrier can pose a significant challenge when it comes to searching [for knowledge]. [...] The*

solution needs to be providing local language support." - R31

Many countries have local knowledge articles in the local language, whereas global articles are all in English. This can mean difficulties for people to get and understand the information. R15 adds that many users prefer accessing information in their native language, but R14 brings up the challenges of providing all information in local languages.

> *"Language is a tricky issue overall as translating takes a tremendous amount of time. [...] English is the main language, so we have to stick to that. Translation should not be automatic but rather on request, similar to the approach of Sweden's municipalities."* - R14

Several respondents call attention to how age can change how people react to the implementation of SSTs. R2 notes that older individuals may not be as comfortable using technology to find information compared to younger generations. Likewise, R3 shares a similar perspective, mentioning that long-time employees may find it challenging to transition to new work methods due to their familiarity with older processes and systems. The notion of age playing a role in how people react to SSTs is also observed outside the Mölnlycke context.

> *"Younger individuals tend to find it [SST] more intuitive and efficient, often preferring text communication and automation over phone calls."* - R18

The level of an individual's familiarity with technology significantly influences their utilisation of SSTs, often referred to as their tech savviness. R3 is of the opinion that some people refrain from using the MSP due to unfamiliarity with the system and that encountering error messages often triggers panic. R11 underscores the preference of many individuals for phone support, seeking guidance through each step for reassurance. R12 points out the challenge posed by end-users technical inexperience, further complicated by language barriers. They also underscore that different countries have different applications dominating the information ecosystem, with WeChat in China being the clearest example. Consequently, individuals naturally lean towards using these systems for work, preferring them over alternatives that lie outside their societal ecosystem. R18 proposes this as a solution:

> *"Copying what people do personally can lower barriers to adoption. Familiar interfaces reduce the need to learn new systems, making the transition smoother."* - R18

Lastly, R2 emphasises that the biggest differences in terms of adoption and usage of SSTs have to do with individual preferences. They further note that searching for information is a mindset, highlighting how curiosity and self-sufficiency have become increasingly important traits for employees in recent decades.

4.3 Organisational Enhancements to Improve the Identified Factors

This subsection outlines six ideas of ways Mölnlycke as an organisation can implement to improve the identified factors discussed in Section 4.2, ultimately increasing adoption and usage of employee SSTs. The themes have been identified by drawing insights from interviews and are explained below.

4.3.1 Building a Business Case

To be able to successfully implement SSTs for employees, companies need to invest and prioritise such systems. However, as many respondents explain, this is a challenging task. Employees at Mölnlycke responsible for the MSP have mentioned that they lack resources to further improve the platform and do not have time to prioritise work with knowledge on the platform.

> *"The reason knowledge is deprioritised is because there are other tasks that must be done [e.g., switch and onboard new IT-supplier] which are more important. Since we don't have a crisis situation for knowledge, it keeps getting deprioritised over and over."* - R21

> *"Knowledge always gets kicked down the road, but it's not burning. It all comes down to priorities."* - R9

The reason for not prioritising knowledge enough can be tied to GBS's tight budget. This leads to fewer full-time employees within the team, and with certain responsibilities of the GBS function, other things get a higher priority. R10 explains this issue further.

> *"We [GBS] have a shoestring budget, the absolute minimum, for both development and operations. There's an understanding of what ServiceNow can offer from the executive team but we lack support in terms of resources, expertise, and permanent staff. I understand that anything that isn't core business or directly tied to more sales is challenging to put resources into. [...] However, if maintenance is neglected consistently [in terms of financials], it becomes the new baseline. Then, when you want what you "should" have [in terms of financials], the answer is no because it costs too much; people look year over year instead of what the business actually requires."* - R10

Other employees who are working with knowledge but not within other context than the MSP experience similar problems of getting money for knowledge. They experience that the executive leadership team see it as a cost, rather than an investment, and therefore have trouble getting the buy-in from management. However, this picture is not shared by everyone working in the knowledge sphere. R14, who

has been responsible for implementing several chatbots, argues that knowledge is not deprioritised and that you have to build a good business case if you want the support from the executive leadership team. To do so, relevant KPIs are needed.

> *"I think that you can measure the impact of knowledge, both hard and soft values. This could be fewer tickets, more sales meetings, and less stress of having a non-functioning computer."* - R12

> *"We [Mölnlycke's employees] spend so much time on trivial matters. If everyone constantly needs to search around for information and spend too much time on this, it costs a lot of money for Mölnlycke. [...] I think that you could measure the impact of knowledge with time saved and productivity. Large companies are generally nonchalant about time for employees, but for consultants, it's very important to measure."* - R15

This is further highlighted by R24, who argues that concrete business cases are all about the numbers and the savings for the company. Number of tickets, number of unique users, and number of views of articles can all be KPIs to analyse, but also looking at employee satisfaction is important.

> *"How much faster can employees get help and how is their satisfaction with the solution? You could use focus group sessions to analyse. Previously agents might have spent 30 minutes to fulfil a request, whereas with automation it can be done in 5 minutes. That is how you get management support."* - R24

Another interesting topic brought up by some interviewees is linked to how companies can get the support from executive teams. R6 and R18 both mention that external trends impact the company's decision making, which can be positive for future investments in the MSP.

> *"The external view has an impact on decision-making. The ELT [Executive leadership team] now has a sense of urgency regarding digital solutions. Strategy has changed from keeping the light on, to more new ventures, new digital solutions and quicker decision making."* - R6

> *"It [knowledge management] was very bad, until I could leverage LLMs as oil. Business leaders are often following buzzwords. [...] Today the language is knowledge. We do not own the model, but we can affect the knowledge."* - R18

4.3.2 Change Management Processes

Implementing SSTs marks a substantial change for the company, as many respondents emphasised. They also stressed the importance of having clearly outlined

change management processes to ensure successful implementation. R10 explains that Mölnlycke has a change management framework that is not frequently used, and presents an issue related to the process.

> *"The lack of prioritisation leads to a scenario where everything is deemed important, yet nothing receives proper focus. Change management is often sidelined because it's perceived as lacking immediate value."* - R10

R4 has a similar experience, emphasising that the company sees that knowledge management is something that should just exist, lacking a sense of urgency. They further note that Mölnlycke lives off its high-quality products but may lack a bit of forward thinking. Both R3 and R13 highlight the lack of dedicated knowledge managers as a potential improvement. R8 emphasises that Mölnlycke adopts the same approach to many processes, which might not be best practice, and R13 explains reasons that structure is sometimes lacking.

> *"We have an R&D QA [Quality Assurance] approach but should strive to be more entrepreneurial, especially when it comes to digital changes."* - R8

> *"We are prioritising digitalisation and growth initiatives, but there's less emphasis on change management. [...] Change is often incremental and handled incrementally as well."* - R13

There have been adaptations in how change is managed, R15 notes. The resource allocation process has become more agile, emphasising iterative work over the traditional waterfall approach. They still agree that the approach could become more flexible. R14 believes there is a focus from top management on change management, taking the company's values as an example. However, he also sees challenges.

> *"Implementing change is one thing, navigating how individuals respond to it is another. Some prefer familiarity and stability and there are often uncertainties of how the change will affect people's positions and workload."* - R14

A number of respondents stress the importance of swift change implementation at Mölnlycke, with diverse perspectives on the current state of affairs.

> *"The pace of change is accelerating. Several years ago, we weren't even discussing these digitalization improvements. [...] We can leverage this momentum to embrace a more digital way of working and enhance efficiency."* - R14

> *"We're sometimes not changing fast enough, especially when it comes to tech-related matters. It has started to get better."* - R6

Some respondents pointed out that there are often many steps to get information published on the MSP and that the process is hindering an agile mindset. R13 acknowledges that Mölnlycke is good at handling change when compared to larger scale organisations, but that the consensus-driven decision-making process hampers the speed of change. R24 also notes shortcomings related to decision making.

> *"Changes were not happening fast enough, no. [...] Decision making was generally not fast nor concrete."* - R24

Concerns from respondents have also been raised on the implementation and follow-up of changes happening at Mölnlycke. R4 points out that there's often initial enthusiasm for new changes, but the company doesn't always follow through to completion, abandoning them halfway through implementation when other priorities arise. This view is also shared by others.

> *"Mölnlycke is initiating numerous changes, but struggles to see them through to completion."* - R3

> *"The change journey begins with excitement and inspiration, but as reality sets in, there's often a dip that takes significant time to overcome."* - R9

Communicating change and getting all employees on board with new practices and processes is essential to achieve the desired results, as noted by several respondents. R6 explains that their team puts great effort into preparing and communicating change, taking help from the communications team to spread the word. As an employee involved in numerous change processes, R11 feels well-informed and receives information about changes in advance. This perspective is nuanced by other respondents.

> *"Some projects receive thorough communication, such as the project with our [Mölnlycke's] core values, while others lack any form of communication altogether."* - R21

> *"Change is often just pushed through without ensuring anchoring, communication, and proper management of people."* - R10

Technological changes can occur rapidly, but the implementation process within companies is often constrained by the human element involved in executing the work, as noted by R9. It takes time for individuals to comprehend, assimilate, and embrace the changes, transitioning into new ways of operation. While humans naturally require time to adapt, they also possess a remarkable ability to adjust. To facilitate this transition, R9 believes organisations need to employ various channels to help with change management. Effective communication plays a crucial role in ensuring that individuals feel included in the change process. Understanding and acceptance of the changes require time and effort from everyone involved.

4.3.3 Governance Structure

In navigating Mölnlycke's knowledge management landscape, insights from key stakeholders shed valuable light on the critical aspect of having a well-defined governance structure of the knowledge articles. Several respondents emphasise the necessity of dedicated ownership of knowledge articles to ensure accountability and timely updates. R1 advocates for the possibility of dedicated personnel solely focused on managing knowledge articles, suggesting that such a dedicated approach could yield significant benefits. R2 underscores the existing infrastructure for knowledge management within the organisation but notes its incomplete deployment and fluid ownership.

> *"Despite DevOps teams having end-to-end responsibility, focus tends to lean towards development over maintenance. Ownership of operational aspects is crucial."* - R2

R8 emphasises the importance of pride in content creation, suggesting that creators should prioritise quality over mere completion. They advocate for a clear delineation of responsibilities for application owners and call for an incentive structure to incentivise article updates. R7 echoes this sentiment, emphasising the need for clear accountability and suggesting that performance metrics be tied to bonus evaluations. R9 acknowledges the ownership of certain articles within the organisation but highlights a lack of routine in their review and governance.

> *"There's a lack of consistent review processes for articles. [...] Our governance of knowledge articles and catalogue items is lacking, with little consideration given to end-user impact. [...] There's a notable absence of standards in knowledge article creation."* - R9

R10 acknowledges the importance of documenting the responsibilities of a system owner in a straightforward manner.

> *"It's important to offer guidance on effective management practices. I prefer a simple approach instead of forcing compliance, setting the bare minimum for the system, [...] managing expectations, and articulating what's important and how to achieve it."* - R10

One challenge with the current governance structure within Mölnlycke is that the different functions, namely IT, People Services, and Financial Case Management, have separate routines for how to handle knowledge articles. The People organisation has a clear structure, explained by R13:

> *"I am the Global Knowledge Manager. Supporting me are dedicated knowledge managers, each focused on specific locations or topics. [...] We empower all members of the organisation to contribute as authors, with oversight and approval from the knowledge managers."* - R13

R13 further explained that the People Services organisation is more simplistic than the IT organisation. IT has an issue that stems from the separation between the IT service desk and the broader IT organisation. This separation implies a division between the team responsible for directly assisting end-users with technical issues (the service desk) and the larger IT department responsible for developing, maintaining, and managing the organisation's overall technology infrastructure.

> *"The IT organisation is very fragmented and the current lack of governance leads to misalignments. Communication needs to be improved and we are trying. [...] It is part of our goals for 2024"* - R21

> *"Aligning the roadmaps and ambitions [of different functions] is crucial to improve user-experience."* - R24

Furthermore, several respondents suggest automation and simplification as a way to streamline processes and reduce complexity.

> *"Application owners are good with tech, but not necessarily communication. It's crucial to offer communication training or tools, including the use of templates. A designated knowledge coordinator should oversee this process."* - R12

> *"Ownership is important. There may be ways to automate or simplify certain things. [...] Addressing duplicate content is also essential."* - R6

4.3.4 Communication Strategy

A factor identified in Section 4.2 which related to adoption and usage of SSTs was knowledge about the system. To ensure that employees have this knowledge, several methods have been highlighted by the interviewees. These include creating a clear communication strategy, having a dedicated marketing process, preferably combined with new functionality of broader scope, and providing easy feedback channels to help employees improve the existing MSP. Multiple interviewees have expressed that they do not receive communication regarding the MSP and that they would appreciate this to know what is possible with the system. Currently, there are numerous communication channels available, including the Intranet, email, Yammer, and direct postings within the affected system. However, there is a lack of a clear policy specifying where information is published.

> *"Today the communication is very fragmented, perhaps there should be a common policy on where things are published, where to find things, framework, and structure."* - R4

> *"We must have an internal communication strategy. [...] we also need to inform in different channels [e.g., Intranet, Yammer] and provide multi-*

> *ple sources of information [written, videos, presentations] because people have different ways of learning."* - R12

Others noted that communication does not always need to be made available for all employees, since they do not care about the regular updates. They rather see the MSP as a product that just should work, but have no or little interest in how the platform is changed and developed. However, for significant updates, promotion should occur only after a silent release has been made to ensure that the functionality works as planned, as mentioned by R10. This approach prevents promoting a flawed product, which could negatively impact perceptions of the system.

> *"Most people don't care whether MSP has a new layout or not, and only internal stakeholders have been informed of the update. [...] The approach [when a large update is made] should be a silent release initially, followed by leveraging ambassadors and success stories, and then promoting it across all channels. This includes emails, Intranet, news articles, interviews [with various personas], videos, lunch and learns."* - R10

R27 discussed the predecessor to the MSP, the PX platform, which was a platform only for People Services matters. During the time of the PX platform, there was extensive branding, interactive sessions, and gamification initiatives like quizzes with prizes. However, with the transition to the MSP, incorporating IT and Financial Case Management functionalities, R27 noted a lack of similar branding and communication strategies.

Promoting information in many channels is something several employees have highlighted as something good, since different personas use different systems, and if the goal is to find new employees to adopt, you cannot just promote it via the MSP. Mölnlycke is a global company, with a strong HQ base, but have not differentiated their communication based on region, role, or demographic factors.

> *"How you promote it [MSP] is the important thing to increase knowledge of the system. [...] We have used the same strategy for communication regardless of location."* - R9

One thing that was used during the implementation of the PX platform was targeted communication towards managers, R27 explains. This would help in the adoption of SSTs since managers often get questions from their employees and then redirect them where to look. However, no such strategy of targeting managers exists for the MSP communication.

> *"As a manager, if you would like more of our time and to work with you on the things that matter, then you and your employees need to self-serve on the basics so that then we have time to partner with you on the real stuff."* - R27

The homogenous communication strategy is something interviewees in timezones far away from the Gothenburg HQ has mentioned as a struggle. When they cannot attend these calls due to time zone differences, employees risk missing important information. It is unclear whether the meetings are recorded and where the recordings are saved, which makes it challenging for the employees to use systems such as the MSP effectively. Additionally, being far from the Gothenburg office makes it more difficult for them to access key personnel, further complicating matters.

> *"Global conferences and meetings are often scheduled in the middle of the night for us in the US. I think that maybe if there was more of a US-based time zone-friendly call where people had more access to be on those."* - R32

With regards to which channels employees want information, there are many differing opinions. Some want one dedicated channel for all information, whereas others want multiple ones. Employees that are more frequent users might also want more information about when specific knowledge articles have been updated which might cause difficulties when creating a communication strategy for the whole company.

> *"Consolidated emails are not the best way of sending information. Having one clear channel instead of 20 different ones is better."* - R3

> *"Partnering with the Mölnlyckes communication team is something we have done in other projects. They help us to make the right level of communication, and also use the right channels."* - R6

> *"I think just having an hour call that is mandatory [to show the updated functionality] is something that would work well. As salespeople, we often have busy schedules and may not always prioritise reading emails about updated systems [especially emails that are not linked to our core business]. However, if there's a mandatory call, we make time to attend."* - R32

> *"Yammer is used a lot, and I prefer such a channel over using the MSP or email, and complementing with multiple channels."* - R2

Another critical aspect of communication is enabling employees to provide feedback on the MSP and specific knowledge articles. Many have expressed uncertainty about how to give feedback through the MSP platform. However, when encountering something highly inaccurate, some mention that they reach out to someone they know within IT, Financial Case Management, or People Services via Teams or email. R21 explains that employees can directly rate knowledge articles on the MSP. This feature is located at the bottom of each knowledge article and consists of five stars. Additionally, employees can leave comments or provide feedback by rating articles with a simple "Was this article helpful? Yes/No", which is located on the top of the article. R4, working within the IT department, highlighted that

feedback channels are especially important for regular employees that do not know IT or People Services employees personally.

> *"We have to work more with feedback. For us in IT, sitting with each other, we can easily ask a colleague for help, but regular employees do not always have this possibility."* - R4

Another issue with the feedback channels that exist today, is the lack of governance for how to work with feedback. Mölnlycke might get a lot of thumbs down on articles, but no one is actively updating and trying to understand the issue with the article, R21 notes. As some interviewees mentioned, this may result in people being less keen to provide feedback in the future due to lack of response or updated information previously.

Another way of getting feedback from employees could be through analysing incoming tickets. By analysing the incoming tickets, Mölnlycke can directly see where the organisation has knowledge gaps and work to fill these. This could be considered a feedback channel since employees must create a ticket to resolve their issue, essentially voicing their problems or needs. Analysing tickets can therefore in the long-term lead to fewer tickets being opened, freeing up service desk technicians who can instead focus their time on more important matters. R14 explain their strategy:

> *"By registering incoming questions, understanding user inquiries, and proactively addressing issues, we can shift from reactive to proactive problem-solving. Documenting solutions ensures we're prepared for future challenges. Instead of dedicating 100% of our time to answering questions, investing 30% of our time in documenting solutions can make a lasting impact."* - R14

4.3.5 Organisational Support and Policies

The organisation can facilitate higher adoption rates and usage of SSTs by implementing several strategies. One way is by pushing people towards the platform and limiting alternative routes, a strategy that R18 sees as the solution for his organisation.

> *"Encouraging self-service adoption often involves the deliberate restriction of alternative communication channels like email or phone, look at how it is done in the airline industry [making it impossible to find direct channels, forcing people to use a certain form]."* - R18

R12 recommends a proactive role for Service Desk technicians, seeing them as promoters of self-service solutions. Having them actively encourages end-users to utilise the SST for addressing future issues, fostering a culture of self-sufficiency and efficient problem-solving. This idea is shared by R11, who tries to promote the self-

service option at all times.

> *"It is all about the mindset. We can push the MSP, trying to create a wiring in their [the user's] head."* - R11

However, some respondents raise concerns of whether pushing people is the right way to go. R2 raises concerns around forced adoption.

> *"If you've had local support previously, the transition can feel forced and needs to be managed. [...] Even after the shift, people might still turn to local assistance, especially in more remote locations away from the HQ. If this is not managed, 'shadow organisations' might evolve."* - R2

Another key part of the organisational support that has been raised by respondents is sufficient training and education for employees on the SST tools. R24 notes that successful self-service is closely linked to the organisation's readiness, and in the long run people's readiness. R4 and R12 emphasise the importance of tailoring communication and training to suit individuals with varying levels of technological literacy. Making information easily understandable and accessible to all employees, regardless of their technical background, is essential for promoting adoption of self-service technologies.

> *"We need to listen to the less technologically literate group when we educate. Different roles have different prerequisites, whether in the factory or the office."* - R4

> *"We need to educate users on becoming more digital. If we're moving towards self-service, we need to create conditions for people at different levels of competency. Ask ourselves: What do employees need to increase their digital skills?"* - R12

R13 stresses the importance of educating people on why they should use SSTs, and make it part of the onboarding process. This notion is agreed upon by R11, who suggests that the introduction of self-service should align with communicating the broader company culture when onboarding new employees.

> *"During onboarding it should be emphasised that Mölnlycke is a tech-savvy organisation, that endorses self-service."* - R11

They further suggest incorporating a follow-up reminder at a later stage. R9 supports this approach, highlighting the importance of repetitive sessions to ensure effective comprehension and retention of the information over time. R1 suggests workshops and explaining technology in a fun way could be a tool for this. R19, as a manager, emphasises the importance of incorporating training and repetition.

> *"There are constantly new hires and consultants that need to get up to*

> *speed. [...] Maybe it is the managers' responsibility to teach them but given the extensive information overload in the beginning, a follow-up would really help."* - R19

Several respondents suggested leveraging lead users or ambassadors to enhance adoption rates among the wider end-user community. R9 elaborated on this strategy, citing an example from the recent MSP update. A reference group comprising 50 individuals from various organisational departments was formed to provide feedback on the update. Additionally, these members served as advocates, disseminating information about the update to their respective colleagues, thereby facilitating broader awareness and acceptance. In the USA, each team has a tech champion, R32 explains.

> *"I was asked by my manager to take on the role [as tech champion] as an additional responsibility. [...] I have not been educated specifically on the MSP or SSTs."* - R32

R7 suggests that each team should have an ambassador, a regular employee that has a deeper understanding of the systems and setups. They suggest some sort of incentive structure to recruit these people. R1 elaborates on this, emphasising the impact a lead user can have and the need for incentives.

> *"The most impactful approach involves engaging line managers and colleagues who willingly take on the role of promoters, actively spreading the word. [...] The role should be voluntary, but there needs to be some sort of incentive."* - R1

On a similar track, R4 suggests recruiting "influencers" that are often seen in organisational communications. These individuals would play a pivotal role in emphasising the advantages of the MSP, potentially incentivised with perks like receiving the latest phone or laptop.

> *"It is an investment but worth it. Making it a natural part of people's workflow, going into the portal and searching for help. [...] Word of mouth is very effective."* - R4

R18 advocates for a similar approach. They underscore that the communication coming from IT is far less effective than from line managers. Therefore, R18 stresses the importance of having the most senior people to be a champion for the adoption process. An idea driving this is dividing people into adoption categories.

> *"Recognise the early adopters among your team. They are the people who embrace change in just a couple of weeks. Empower them to lead the way, helping others along the journey. [...] Some people may take years to adapt to change."* - R18

4.3.6 Life Cycle Management of Knowledge

Related to the governance model, many respondents underscore the significance of effective life cycle management of knowledge to enhance self-service and optimise the MSP platform. This refers to the systematic management of knowledge assets throughout their entire lifespan within an organisation, encompassing creation, preservation, and eventual removal. As of today, there are uncertainties regarding the organisation of the current process for updating articles. While two respondents describe a system where article owners receive annual notifications to review their articles, two others are unaware of such a system being in place. Both R4 and R12 recognise the importance of implementing a lifecycle management system but acknowledge the challenges associated with its establishment.

> *"When we introduce new implementations needing support, KM [Knowledge Management] is part of the process, yet its setup is resource intensive. Lifecycle management is crucial but administratively demanding."* - R4

> *"Keeping information updated requires a lot of work [...] We may need to initiate a one-time effort, conducting a preliminary study: assessing the current state, evaluating content older than X years, and determining its relevance."* - R12

Retention of knowledge is another important part of the life cycle management of knowledge, as noted by several respondents. R9 and R11 highlight that this is a challenge for Mölnlycke, elaborating on reasons:

> *"When someone leaves the company, knowledge seems to follow them out of the door. [...] As Mölnlycke has a high reliance on consultants and outsourcing in IT, we face the challenge of undocumented knowledge. This often leaves newcomers starting from square one."* - R9

> *"We lack the resources and structure to manage feedback or transitions when employees leave, leaving Service Desk technicians in the dark."* - R11

R1 highlights a common occurrence where managers and project leaders often turn to individuals like themselves for insights and opinions, drawn from their deep familiarity with the company's operations. However, they underscore that this knowledge is not formally documented or stored anywhere within the organisation. As a result, while these individuals may serve as valuable repositories of institutional knowledge, their insights remain largely informal and inaccessible to others within the company.

Furthermore, R8 elaborates on Mölnlycke's varying system requirements across different tiers. Platinum and gold systems are the most important, with a large internal user base or the potential for significant disruptions if they encounter issues. Historically, the organisation has predominantly focused on these higher-tier systems,

often neglecting the bronze level. However, R8 emphasises the importance of not disregarding the bronze level when it comes to knowledge articles. Service Desk personnel may lack expertise regarding these less prioritised systems.

R14 has worked with knowledge life cycle management extensively within their team and explains the reasoning:

> *"The cornerstone of these platforms [like the MSP] lies in their relevance and currency. It's not merely about deploying them once; it's about implementing lifecycle management. Our team has invested heavily in this, daring to remove outdated and irrelevant content."* - R14

4.4 Implementing AI Technology

This subsection addresses the third research question and provides an exploration of the prospect of incorporating AI technology for SSTs within Mölnlycke. It examines the potential benefits, challenges, and considerations associated with implementing AI-driven solutions to enhance employee SSTs.

4.4.1 General Improvements and Benefits

One of the key potential benefits of AI mentioned by many respondents is time savings. R13 emphasised the time-saving advantages of AI in service delivery and enhancing user experience. They stated that AI can save a lot of time for the service personnel within the People Services function, allowing for both improved service delivery and reliability. R17 also discussed the potential of AI to automate administrative tasks, thereby freeing up resources for more strategic activities. They mentioned the benefits of reducing administration tasks through automation, particularly those that do not require brain power. As previously explained, the MSP currently uses metatagging to search for articles. The company has recently explored transitioning to an AI-driven search functionality, something that will be implemented soon. R24 highlighted the efficiency improvements achievable with AI search. Something also noted by R9.

> *"An AI-powered system can point the user to the right knowledge article and thereby lead to problems being solved in minutes or seconds."* - R24

> *"In looking for information, AI is far superior to meta tagging. It can help in finding the essence of an inquiry. [...] AI search will try to work out context and uses ML based on previous searches and clicks."* - R9

R10 and R2 both recognise the significant benefits of AI in language and translation capabilities. One proposed solution to the challenges related to language that Mölnlycke are facing could be automatic translation, a possibility that the company

is currently exploring. R9 elaborates that their ServiceNow licence was recently upgraded, providing access to additional features that include direct translations. R10 also emphasises the importance of this feature, highlighting its potential to enhance user experience and accessibility. Similarly, R2 underscores the value of speech-to-text functionality in local languages, noting its potential to facilitate the adoption of SSTs among individuals less proficient in English. By enabling communication in users' native languages and offering alternative methods like speech-to-text for those who prefer it, AI enhances inclusivity and usability across diverse user bases. Having this feature also increases convenience, as explained by R10.

> *"AI can give consistent responses regardless of global location or time zone. Common end-users are often unaware whether their 'issues' are problems, incidents, requests, etc. Usability must cater to all scenarios."* - R10

R6 proposes leveraging AI in knowledge management to proactively identify knowledge gaps and recommend optimal solutions for future queries. R24 emphasises that AI can be employed to summarise knowledge articles, making them more comprehensible and accessible to individuals less familiar with technical jargon. Other respondents also highlight the opportunity to improve the user experience.

> *"AI can improve the user experience in many ways. [...] If it [the AI] is good enough, no human can replicate its capabilities. It can for example be used for prefilling templates, giving personalised recommendations, and predicting user needs from data."* - R13

> *"We aim for an AI that simply delivers information in an easy-to-understand way, using natural language to make interactions feel smooth and familiar."* - R9

R14 underlines that it is important to consider what parts of people's work that can be automated. They add that clear documentation is needed but if that is in place, there is the possibility of accomplishing a lot with AI. The pace of technology is incredibly fast, and R14 believes that the end-user has been considered in the very nature of the new AI-technology. Now, people can focus more on what they want to achieve, rather than having to do everything entirely on their own and master different systems beforehand. R18, whose company has invested in the AI solution ServiceNow explains the logic behind trying to implement AI when possible and the potential improvements.

> *"With AI, we can scrape the entire ecosystem, gather articles, and assist users in finding the right information through queries, which is much more efficient than traditional click-through or search methods. [...] We have noticed agents logging tickets more quickly, but it's too early to determine if this will result in fewer tickets overall."* - R18

4.4.2 Challenges

Implementing AI technology for SSTs can be challenging and create many problems if not done correctly. As R14 highlighted, AI is a new technology with high uncertainty, and how AI will impact businesses in the future is unknown. First of all, businesses need to be certain that AI will bring value and be used by the company's employees. R6 argued that expectation management is necessary since AI is not magic, and raised that if AI teams develop AI-tools which are not used, it is useless and a waste of money. To handle this, firms need to analyse whether AI actually is the best solution to solve the specific problem, or if there are alternative simpler solutions that are better suited.

Secondly, organisations need to create clear rules on AI usage as highlighted by several respondents. One issue could be if employees are using a public AI and feeding it with confidential Mölnlycke information. Today Mölnlycke has launched a secure private Microsoft Copilot solution, meaning that employees can write confidential information in their queries. However, there is nothing hindering employees from going to another public AI and writing their questions there which ultimately can cause problems if used incorrectly. R2 noted that information leaks could be a risk of using AI, and R11 further elaborates.

> *"Machine learning is hard. It [the AI system] cannot unlearn information. [...] However, it will not be as useful if it cannot learn new info."*
> - R11

R11 underscores a critical dilemma: how much information should AI be granted access to? If the data is too limited, the AI might lack the necessary information to give good results and improve. On the contrary, if you give it too much it can be difficult making it refrain from storing or sharing confidential information. R9 elaborates further the importance of good data quality with AI technology.

> *"If you give the AI bad data, the AI will give you bad data back. Garbage in, garbage out."* - R9

R18 and R10 both discuss that regardless of how good an AI solution companies might have, without proper data quality, there is no use case for an AI tool. R21 emphasises that systems are never better than its weakest link, and with the use of AI, this weak link might be data quality.

Another issue can also be if the AI is feeded incorrect information or even makes up its own information. Employees might need to validate information from the AI and if the guidelines and rules are lacking, this might be challenging. Additionally, there might be a need for employee training, in order to use AI tools accordingly. Multiple employees, primarily people not working within IT or with limited AI experience, stressed the need for AI education if the company expected the employees to use such technologies in their work.

> *"If there is an expectation or at least an option to use AI in the workplace, they have a corporate responsibility to educate people on using it."* - R30

However, the more frequent AI users did not share this idea of having training for the employees. R10, who had changed his mind on this topic about a month ago, argued as follows.

> *"A few months ago, I believed that we had to educate people on things like prompting, but when the time comes [for Mölnlycke to implement AI technology for all users], it [the AI] will understand what the user wants. I do not think we need an educational part, however, now is a good time for disarming employees' scepticism and fear with them trying to use AI systems."* - R10

4.4.3 Chatbots and Large Language Models (LLMs)

As highlighted by several interviewees, the adoption of AI technology, particularly in the form of SST chatbots, across various functions within Mölnlycke is not a question of whether it will happen, but rather when. R6 and his team, tasked with AI initiatives within the company, have engaged in discussions with numerous internal teams eager to explore chatbot applications. Already, they have begun implementing some solutions, including collaborative efforts with R14.

> *"There's a strong demand for leveraging Gen-AI [generative AI] internally through chatbots, referencing internal knowledge and information. [...] Currently, we're utilising Microsoft Studio for low-code development."* - R6

> *"Our Microsoft Azure solution is tailored for a specific software, restricting it to internal documentation and allowing direct corrections to the source code if needed. The chatbot sifts through data, presenting answers found within documents and providing links for further reading."* - R14

R6 elaborates on the underlying technology powering their current solution, which leverages Retrieval-Augmented Generation (RAG) technology. RAG refers to a technique where a LLM generates responses by first retrieving relevant information from a large database or knowledge base. This approach combines elements of both retrieval-based and generation-based methods to produce more accurate and contextually relevant responses. By leveraging RAG, R6 explains that documents are effectively indexed and stored in a database based on their content and relevance. This indexing process allows for efficient retrieval of information when needed, enhancing the reliability and accuracy of responses provided to users. R18, who have implemented the AI-powered LLM offered by ServiceNow called NowAssist, clarifies their approach.

> *"We launched NowAssist for ServiceNow in February, as the first company in Sweden. The chatbot is equipped with predefined topics from the ecosystem, and learns through training on our data. It can also assist in filling out forms directly within the chatbot interface."* - R18

The IT service desk has experimented with an AI-driven chatbot solution for its technicians, collaborating with a third-party startup to implement the technology. However, as mentioned by R10, the outcome was not as desired due to low accuracy in the responses, despite an overall positive attitude toward using the tools. This was further exemplified by R11.

> *"You could see what everyone else was asking, which was not ideal. It is important that internal data is also secure."* - R11

Many of the respondents hold negative perceptions of chatbots based on past experiences. As an example, R16 and R2 share encounters with chatbots utilised by different companies as a customer, portraying the experiences as predominantly negative, not getting the help they were looking for. R28 describe their experiences:

> *"I don't enjoy chatbots, at least not for the purposes I've tried them for. They seem to have limited responses and just go in circles, repeating the same things. I'd gladly embrace them if I felt they were providing the answers I truly sought."* - R28

However, when asked about the prospect of integrating AI into chatbots, the responses were overly positive. R3 notes that they think people would utilise a chatbot far more than the current solution. This is something agreed upon by R21, who states that chatbots are something people are becoming more and more accustomed to. Other respondents are also positive but emphasise the need for an escalation option.

> *"It would greatly benefit if set up correctly, automating the most common requests. Make it swift, with the functionality to escalate if needed, [...] avoiding getting stuck in a loop of questions from the AI."* - R22

> *"I imagine a chatbot—a virtual assistant that's truly effective. It asks questions and provides answers promptly. If necessary, it can escalate, especially for personal inquiries."* - R13

There is also emphasis on the need for the chatbot to be user-friendly to achieve widespread adoption within Mölnlycke of the SST solution. Many respondents want to be able to get solutions to issues without having to go through many pages of knowledge articles, achieving a similar experience to browsing the internet. R21 envisioned chatbots seamlessly integrated, either as a replacement for search bars or as a complementary tool. The ideal scenario involves the user getting access to in-

formation directly without the need to manually search for files or navigate through complex systems. Simplified chat interfaces, supporting both voice and text queries, are seen as the way forward by R9, enabling users to effortlessly interact and obtain the information they need.

Most of the respondents believe the LLM should have some access to personal data, albeit not sensitive information. R7 exemplifies this perspective. Additionally, R8 raises concerns about the potential drawbacks of deploying a chatbot with human-like qualities.

> *"Personalisation should extend beyond basic details like name and office. It could involve knowing whether you're using a laptop and which country you're currently in."* - R7

> *"It [the chatbot] should be personalised to various users, but not human-like. It might even lead to confusion for the user if mistaken for human interaction."* - R8

There are also issues highlighted by respondents that hinder Mölnlycke from effectively implementing an AI-powered chatbot as a SST in the MSP. The main struggle is the quality of the data, something that R6, R18, and R24 all have experience with.

> *"The data not being ready for use is a common issue. Often, the main challenge lies in ownership and governance structures."* - R6

> *"We realised our forms were not conversational and thus not made for a chatbot, the responses did not make sense. So, we had to adapt the forms to the style of the chatbot. This disclosed many years of working around the issues."* - R18

> *"A virtual agent is not a silver bullet. There are examples of chatbots just sending the user around and around. [...] The prerequisites need to be there; you need to do some homework."* - R24

R14 highlights the need for communicating clear use cases when launching a chatbot, something that R18 also sees as important. They highlight that service desk technicians are often pressed to resolve tickets quickly rather than thoroughly analysing each issue, leading to inadequate documentation. Generatie AI offers a solution by summarising information without necessitating the creation of new knowledge articles. However, R18 further noted that ServiceNow represents just one LLM in the user journey process, emphasising the need to integrate with other LLM models. Consequently, the challenge of adoption shifts to AI chatbots, necessitating structured approaches for effective implementation.

4.4.4 Implementation Strategy

Regardless of which AI technology Mölnlycke decides to implement, collaboration internally is important. R8 highlighted that specific business areas should not have in their yearly scorecards to implement the technology, rather they should investigate possibilities with AI, and then take a joint decision with AI-teams and IT if implantation should occur. Whether Mölnlycke should have a consolidated solution or a fragmented one, different opinions exist. R8 argues that the AI-team has the best knowledge of this and that they should be responsible for the architecture. R13 was also discussing that a fragmented solution might be the best, since no platform would allow for a monopolistic AI consolidator to access their services. However, R13 argued that the AI systems should be integrated and be able to communicate with each other and either give direct answers about e.g., an employee's payslip, or guide how to find the payslip via e.g., a link. R4 was a bit uncertain if a consolidated approach was feasible but highlighted user-experience as key.

> *"Having end-user [employee] focus is important. I am ambivalent about whether it is possible to actually have a system for everything. If not, the fragmented solutions need to be able to communicate to ensure ease of use for the employees."* - R4

Having a fragmented solution is hard and expensive according to R18. If companies could have a unified platform, combined with a good governance structure, the cost of the system will be cheaper long term. Several respondents expressed a preference for a single solution since it will be more user-friendly and easier to know where to search for information. On the other hand, others argued that they prefer using technology within the system where they encounter issues or have questions.

> *"If I encounter an issue with Salesforce, I would prefer to address it directly within the Salesforce platform. It is more convenient for me to stay within the app and type my question there, rather than switching to another platform like the MSP to write it down."* - R32

R12 highlighted that Mölnlycke currently lacks a joint roadmap for AI development which could be a first step in order to align all business areas and stakeholders. R10 argued that Mölnlycke needs to be more open to testing different solutions and try scale ups or smaller companies' solutions since everything is new territory. Moreover, R10 expressed concern that companies like ServiceNow might face challenges in keeping pace with pure AI-focused companies. They suggested that if ServiceNow's products are easy to integrate, "plug and play", they may fare well. Otherwise, navigating the landscape could prove troublesome. Lastly, how many solutions and which ones Mölnlycke should implement all comes down to cost, usability and relevance for employees. R6 thinks that if vendors have incorporated generative AI in their products, Mölnlycke should use that one instead of buying a product from an additional third-party provider.

> *"If the vendor has incorporated Gen-AI we should use it. There is no*

point in building our own solution. The big companies move so quickly, it is useless to work with startups as they will not exist in a year. Things [within AI] become a commodity very quickly. I think that ServiceNow's chatbot will definitely deliver." - R6

5
Analysis

Based on the theoretical summary presented in Section 2.5 and the themes identified in the empirical result, the analysis has been divided into three parts. This approach aims at combining the theoretical models presented with results from interviews to create a comprehensive understanding of the subject matter.

5.1 User-Centric Design for Adoption

The interviews identified seven key factors important for adoption and usage of employee SSTs. One prominent adoption hurdle, as highlighted by Bitner et al. (2002), can be the lack of knowledge of a system's existence. This was something mentioned by several employees at Mölnlycke, indicating a knowledge gap within the organisation regarding the existence of knowledge articles. Moreover, the interviews have provided evidence that several of the factors in the TAM and UTAUT models can be applied in the field of employee SSTs.

In the interviews, the usefulness of a SST system was found to be primarily influenced by the speed, accuracy and reliability of the presented information, similar to how Marangunić and Granić (2015) exemplify PU in the TAM. These factors are also in line with what Momani (2020) presents as performance expectancy in the UTAUT model. Employees are more likely to adopt and use SSTs when they perceive it as useful in improving their work efficiency or overall job performance. As highlighted by R7, one of SSTs largest benefits is when immediate answers are provided. This benefit underscores the essence of SSTs, which prioritise efficiency and convenience for users. The system must be reliable, and employees need to find the right information quickly, otherwise they will pivot to alternative routes, as explained by R6. AI-powered search engines can help improve the speed and accuracy by gaining a deeper understanding of user intent (Bider, 2023), ultimately enhancing the user experience of SSTs. With recent advancements in ML and NLP (Caldarini et al., 2022), conversational chatbots similar to the one implemented by R18's organisation, emerge as a solution for Mölnlycke. Such chatbots could provide quick and reliable responses while also offering opportunities for task automation (Luo et al., 2019). As explained by R6, RAG technology offers a great opportunity to implement chatbots that provide both accurate and reliable responses.

As Hassenzahl (2018) explained, both utilitarian and hedonic values can be used to

analyse adoption and usage of IT systems. The former is closely connected to the factors outlined above and the PU of the TAM, while the latter is associated with PEU and effort expectancy in the UTAUT. This is exemplified by the identified factor of speed. The faster response times, the more concrete benefits, such as time and effort savings are achieved, thereby enhancing the perceived value of the SST, noted by R14. However, as demonstrated by Collier and Sherrell (2010), speed can also impact hedonic values when faster user experiences evoke positive emotions such as enjoyment or satisfaction.

At Mölnlycke, these feelings could arise for employees with the identified factors of convenience and ease of use. As noted by several respondents, being able to work independently and not interrupting colleagues, and having access to information whenever it suits the employee is a high motivator to use SSTs. This convenience improves employees' curiosity and willingness to explore the platform (Collier & Sherrell, 2010), leading to increasing usage over time. An intuitive and user-friendly platform is crucial as it directly impacts PU (Davis et al., 1989; Marangunić & Granić, 2015), consequently fostering higher user retention rates. However, feedback from respondents like R32 suggests that while the platform is perceived as easy to use, this ease is contingent on having prior knowledge of what to search for. Conversely, R12 highlights a lack of user-centricity in the platform's layout. Therefore, to enhance the adoption and utilisation of SSTs at Mölnlcyke, prioritising user-centric designs is imperative. For these factors, AI has the potential to further optimise the user experience by tailoring it to individual preferences, creating a more engaging and immersive interaction (Reid, 2023). Additionally, insights from the interview indicate a general lack of interest among Mölnlycke employees in having a chatbot with human-like qualities. This contradicts the perspectives of Barone and Stagno (2023), who propose that these features are crucial considerations in chatbot design.

The interviews also identified culture and demographics as important factors for adoption and usage of employee SSTs, linking to external variables in TAM (Davis, 1989), as well as gender and age, outlined in the UTAUT model (Venkatesh et al., 2003). Although the impact of gender remains inconclusive, consistent with Draxler et al. (2023), age emerges as a significant factor in SST adoption. Older individuals may encounter challenges in adapting to new technology, as noted by R2 and R3. In contrast, younger generations tend to embrace SSTs more readily, finding them intuitive and efficient, as highlighted by R18. To better engage older generations, Mölnlycke could implement tailored training sessions, a strategy advocated by Venkatesh et al. (2003).

This approach could also serve to mitigate the risk of encountering "the Chasm," as defined by Moore (2014), by effectively addressing the concerns of the early majority. By showcasing tangible enhancements in productivity, user experience, and overall organisational performance, it cultivates confidence among this demographic. This, in turn, promotes broader adoption and mitigates the risk of the SST adoption stagnating. However, democratic and cultural differences such as language barriers

could be an additional barrier to adoption as elaborated on by R31 and R12. A potential solution to many issues regarding language is AI translation, as noted by several respondents. This functionality can enhance usability by enabling communication in users' native languages and providing options like speech-to-text. Finally, experience is a pivotal factor in adoption (Venkatesh et al., 2003), also noted by R18. Crafting layouts and interfaces similar to those employees are personally accustomed to can thus serve as a strategy to lower adoption barriers for SSTs.

5.2 Organisational Foundation

Based on the findings from the interviews, it is evident that to be able to successfully implement SSTs for employees, companies need to invest resources and prioritise these systems. However, getting buy-in from business leaders and securing resources can be challenging, especially if they are unable to see the immediate benefits such as increased sales. At Mölnlycke, knowledge-related initiatives often get deprioritised due to budget constraints and other pressing tasks. Strategies outlined by Kotter (2012) and from the ADKAR model (Hiatt, 2006) can play crucial roles in addressing this challenge, while also proactively contributing to long-term business sustainability.

For instance, employees like R14 emphasise the importance of identifying KPIs and building a strong business case to demonstrate the potential return on investment of knowledge initiatives. The focus of the KPIs should be around the time saved using SSTs by enhancing efficiency, enabling employees to allocate more time to value-creating tasks within the core business. This aligns with Kotter (2012)'s idea of creating a sense of urgency, highlighting the need for change and the potential benefits of technology implementation. Furthermore, leveraging external trends and industry shifts, as indicated by R6 and R18, can create a sense of urgency among executive teams, prompting them to prioritise digital solutions like SSTs. Additionally, it is important to ensure that awareness of the benefits of SSTs is effectively communicated to stakeholders, in accordance with Hiatt (2006). This involves building a desire for change by emphasising how SSTs can address specific pain points and enhance work processes.

Furthermore, Socialisation, as described by Nonaka and Takeuchi (1995), plays a crucial role in gaining support for knowledge-related initiatives. By showcasing success stories and demonstrating the tangible benefits of SSTs, Mölnlycke can build momentum and generate enthusiasm among stakeholders, further reinforcing the motivation of change. The capabilities of AI can be a way to showcase benefits of SSTs, leveraging executive managers' interest in emerging trends. By highlighting the potential cost and time savings that such a solution might yield (Barone & Stagno, 2023; Huang & Dootson, 2022), companies can effectively showcase the value proposition of SST implementation.

As outlined by R10 and R4, Mölnlycke has a similar issue with change management

processes, lacking the sense of urgency and clear prioritisation guidelines. Respondents recommend the establishment of dedicated knowledge managers tasked with overseeing knowledge management, which could facilitate change. Establishing a clear vision with change roadmaps and detailed project planning is also crucial in today's digital landscape (Ganzarain Epelde & Errasti, 2016). This approach allows companies to respond to change faster and be more flexible. Moreover, as Mölnlycke moves towards implementing a widespread AI solution, it is essential to maintain a clear vision and roadmap. This will ensure that the benefits of AI are fully harnessed while mitigating potential issues. Adopting agile methodologies can be beneficial in order to maximise value in change projects (Bergmann & Karwowski, 2019), building on ideas from R15. Mölnlycke can with this approach mitigate concerns raised by R13 regarding the incremental nature of change management. Additionally, adopting more cross-functional collaboration, as emphasised in agile methodologies (Thesing et al., 2021), can help overcome the siloed approach mentioned by R8 and foster a more entrepreneurial mindset across different departments. Iterative cycles can also enhance the accountability and continuity of change initiatives by providing clearer guidelines and incentives for follow-through and follow-up, something that is currently lacking at the company.

Interviewed stakeholders underscore the current absence of a clear governance structure for knowledge articles at Mölnlycke, citing challenges related to dedicated ownership, accountability, and timely updates. Currently, Mölnlycke's business functions have separate routines for managing knowledge articles, leading to a lack of alignment.

To boost SST adoption and usage, interviewees indicate that Mölnlycke should focus on establishing a unified structure for knowledge management that aligns all stakeholders. This approach not only enhances knowledge management practices but also fosters commitment and provides a sense of direction and purpose (Appelbaum et al., 2012; Whelan-Berry & Somerville, 2010). Without such a vision, initiatives can struggle to progress, as highlighted by Kotter (2007). For example, this means defining the responsibilities of application owners and service desk technicians, ensuring accountability, and putting in place incentives to drive performance and motivation. A large aspect of this effort is encouraging technically skilled individuals to document their extensive knowledge, a practice referred to as Externalisation by Nonaka and Takeuchi (1995). Having a unified governance structure will further promote collaboration across different functions and drive meaningful advancements in knowledge management. Governance will also be important to ensure successful implementation of new technologies such as AI (Schumacher et al., 2016), in order to address ethical concerns and limit ambiguity regarding roles and responsibilities.

5.3 Implementation and Continuous Learning

Once a foundation is in place, effectively communicating and maintaining it becomes crucial to fully leverage the value derived from SSTs. This involves establishing a

clear communication strategy to keep employees well-informed about systems like the MSP and any updates they entail. The strategy should include creating consistent messaging across various channels such as the Intranet, email, Yammer, and within the SST itself. Interviewees emphasise the need for a unified approach to communication, with structured policies on where and how information is published to avoid fragmentation and ensure accessibility. As Kotter (2007) highlights, managers should utilise all types of communication channels to ensure comprehensive coverage across different employee preferences, an idea observed at Mölnlycke as well but not currently utilised. Issues related to time differences and cultural preferences should also be taken into account when addressing different groups of people within the company. As noted by Hiatt (2006), organisational change is the sum of individual changes, underscoring the significance of reaching every individual effectively.

Effective feedback mechanisms are essential for improving the usability of platforms such as the MSP and addressing knowledge gaps within the organisation. However, interviewees highlight a lack of proactive management of feedback channels to ensure timely responses and updates to knowledge articles. The essence of SSTs lies in empowering users to co-create customised service experiences (Meuter et al., 2000; Shin & Perdue, 2019), and the absence of this opportunity significantly diminishes the value of the system. Analysing incoming tickets and user inquiries can provide valuable insights into common issues and knowledge gaps, allowing Mölnlycke to proactively address these challenges and improve overall system performance and operational efficiency.

Furthermore, the strategies for how to help users adopt and use SSTs are several. The issue of whether to force people to use technology is an intricate one to deal with. As mentioned by R2, the potential rise of shadow organisations highlights a challenge with this approach. Additionally, as outlined by Ram and Jung (1991), forcing people to use technology can have negative consequences. The perception that SSTs like the MSP are less useful or convenient than previous, more personal solutions, is one such concern at Mölnlycke.

To address this and other challenges, both interviews and established theories emphasise the importance of employee education. Providing employees with tailored training opportunities is a crucial step in increasing adoption and optimising usage of new technologies (Hiatt, 2006). Interviews clearly indicate the necessity of Mölnlycke tailoring education to individuals' technological literacy levels, aligning with Rogers (2003)' concept of addressing different adoption categories. However, simply discussing SSTs may not be the most effective approach. Instead, showcasing the tools in action (Dearing, 2009), presenting successful use cases (Ram & Jung, 1991), and providing opportunities for hands-on practice (Hiatt, 2006) are essential to bridge any skill gap and build people's confidence in using the technology. These methods can also be effective when addressing the introduction of new technologies with high uncertainties, such as an AI-powered chatbot. For instance, hands-on practice could mitigate the negative perceptions expressed by respondents, often influenced by past encounters with chatbots, instead emphasising the benefits of

AI. Workshops, as suggested by R1, could be a useful strategy for Mölnlycke to implement in achieving these objectives. The most crucial aspect lies in adopting a human-centric approach, emphasising employee autonomy (Schumacher et al., 2016).

Ultimately, the goal at Mölnlycke should be to achieve what Nonaka and Takeuchi (1995) refer to as Internalisation. This means that people within the Mölnlycke organisation are able to absorb the information that they get from the SSTs and turn it into tacit knowledge, thereby expanding their professional problem-solving abilities. Such transformative processes empower employees to not only acquire explicit information via the MSP but also internalise it, enabling a deeper understanding and practical application in their work. Consequently, employees become more adept at addressing challenges and driving innovation within their respective roles.

Another effective strategy can be identifying lead users in the organisation, building on the tech champion concept established in the US market described by R32. These people should be what Rogers (2003) calls innovators or early adopters, characterised by their extensive knowledge of technology, and expected benefits of new solutions (Hau & Kang, 2016). A more effective approach would likely involve appointing one representative from each team to facilitate direct communication, thereby facilitating widespread adoption of technologies like SSTs among individuals in later adoption categories. Another initial step could be forming a small group frequently featured in company communications, as suggested by R4. It is also important to explore implementing an incentive structure for those assuming the role of lead users, whether through monetary bonuses or other benefits, based on the answers from Mölnlycke employees. This aligns with the concept of sparking desire as presented by Hiatt (2006).

The final critical aspect to consider improving adoption and optimise usage of employee SSTs is ensuring effective knowledge management throughout its entire lifecycle. As highlighted by interviewees, companies like Mölnlycke must allocate adequate resources for both the initial setup and continuous maintenance of knowledge articles, given the resource-intensive nature of these tasks. In essence, this is about making sure to fulfil the final step presented by Kotter (2012), embedding the change into the culture of the company. The first task is to clearly establish how the continuous updating of articles should work, resolving the current ambiguities. Having a clear process for life cycle management of knowledge helps in solidifying an environment where changes like widespread SST adoption are embedded. This ensures sustained success over time, with recognition of achievements as a vital component of reinforcement (Hiatt, 2006).

Ensuring the retention of knowledge when employees depart is critical, as highlighted by R9, an area Mölnlycke needs to address. This returns to Nonaka and Takeuchi's (1995) notion of Externalisation, emphasising the importance of capturing the tacit knowledge possessed by individuals within the company. Such measures will reduce Mölnlycke's dependence on employees who are specialised in their field. The preserved expertise from these individuals can then be leveraged in the process of

Combination (Nonaka & Takeuchi, 1995), integrating explicit knowledge to generate new insights. AI can be a great tool in analysing data (Sheikh et al., 2023), allowing companies like Mölnlycke to identify knowledge gaps and seek areas for enhancement. By employing AI-driven analytics, Mölnlycke can efficiently sift through vast amounts of information, uncovering patterns, trends, and insights that might otherwise remain hidden. This allows for informed decision-making and strategic planning, empowering Mölnlycke to improve the adoption of SSTs and optimise its platforms for a greater user experience. When aiming to leverage the benefits of new technology such as AI, having a data-driven culture with a human-centric approach is essential (Chaudhuri et al., 2024).

6
Conclusion

The purpose of this study has been to describe and analyse what factors influence the adoption and usage of employee SST. Based on the factors the aim was further to identify organisational improvements to help improve the adoption and optimise usage of employee SSTs. Lastly, the prospect of how AI can enhance organisations ESM frameworks was explored. The research has been done through collaboration with the medical solutions company Mölnlycke Health Care with focus on providing strategic guidelines and ideas of operational enhancements. The findings of the research questions offer valuable insights into the field of employee SST, laying a solid foundation for further exploration and development in the area.

What key factors influence adoption and usage of SSTs for employee use?

Based on the findings of this study, it is evident that widespread adoption of employee SSTs depends on a variety of factors. Specifically, seven key factors have been identified as crucial contributors to the spread of adoption in this domain. Speed of answers, along with the accuracy and reliability of information, emerged as three critical determinants shaping the perceived utility of such systems for end-users. These factors form a foundation for a successful employee SSTs, underscoring their importance in ensuring the effectiveness of the system and its information. To further elevate the user experience of the system, emphasis should be placed on both how easy the system is to use and the perceived convenience. Ease of use relates to the intuitiveness of the platform's design, while convenience is often derived from the self-service nature. Addressing the diverse cultural and demographic backgrounds of individuals has also proven to be an important matter when aiming to achieve improved adoption and optimising usage of employee SSTs in a global company. Although the above factors are all important to consider, findings have highlighted that employees need to have an initial understanding of the functionalities and benefits of the SST to motivate adoption. Ultimately, the key to improve adoption and usage lies in the user-centric design of the system. The findings of this study align well with existing models on technology adoption, confirming the possibility to utilise these frameworks in the field of employee SSTs.

What organisational enhancements can be implemented to improve the identified factors, increasing adoption and optimising usage of employee SSTs?

Combining change management and knowledge management principles within the context of employee SSTs can lead to a significant increase in adoption and usage. Overcoming the issues of low prioritisation by presenting a business case and defining relevant KPIs that demonstrate how upgraded SST solutions can significantly improve both employee and organisational efficiency. Moreover, establishing a clear vision with concrete road maps and building momentum through success stories of SSTs are essential strategies for ensuring alignment among all stakeholders within companies. Given that employee SSTs typically involve multiple business units, effective cross-collaboration and a well-defined governance structure is crucial. These measures are imperative for building an organisational foundation that fosters accountability and enables advancement of the system.

Establishing a coherent communication strategy and maintaining it is vital to fully leverage the value derived from employee SSTs. Consistent messaging across various channels makes sure users feel well informed about functionalities and major updates. A unified approach to communication with structured policies on information publishing is also essential to avoid fragmentation and ensure accessibility. Offering customised training sessions and hands-on experiences can serve as a cornerstone for increasing adoption and optimising technology utilisation. Further, hosting workshops, live demonstrations, and engaging lead users are instrumental in addressing skill gaps and fostering confidence in technology usage. By prioritising a human-centric approach and empowering employee autonomy, long-term user retention can be guaranteed. Lastly, companies need to continually update the information delivered through employee SSTs, thereby increasing information reliability and performance for employees. The ultimate aim is to integrate the technology and its ongoing enhancement seamlessly into the core of the company culture.

How could the integration of AI solutions in employee SSTs enhance a company's ESM framework?

The integration of AI technology, particularly in the form of AI-powered search engines and conversational chatbots, offers immense potential in the landscape of employee SSTs. These advancements promise to enhance the speed, accuracy, and user experience of SSTs, ultimately leading to improved efficiency within organisations' ESM framework. Moreover, prioritising user-centric design and leveraging AI capabilities such as personalisation and language translation can address existing challenges and foster widespread adoption of SSTs. Additionally, the use of AI-driven analytics enables organisations to extract valuable insights from data, facilitating informed decision-making and continuous optimization of SST platforms. However, successful implementation of AI in SSTs requires careful consideration of governance, ethical considerations, and clear communication of roles and responsibilities. By maintaining a clear vision and road map, organisations can navigate the complexities of AI adoption while maximising its benefits. Overall, as organisations continue to embrace AI technology within their ESM framework, it is essential to adopt a forward-thinking approach, leveraging AI's capabilities to drive innovation, efficiency, and user satisfaction within the field of employee SSTs.

6.1 Further Research

A promising direction for further exploration can involve looking into the dynamics between the factors identified in this study. This approach would yield additional insights into the relative significance of these factors, thereby enhancing the generalisability and validity of the findings. Moreover, using a longitudinal study to analyse what organisational enhancements have the most positive effect on adoption and usage over time would offer valuable insights into the effectiveness of various strategies.

Additionally, investigating how specific demographic factors, such as age, job role, and technological proficiency, influence SST usage and preferences represents another promising area for research. This would not only deepen the understanding of potential demographic differences but also offer insights into tailoring SST solutions to a diverse user base.

Furthermore, conducting comparative analyses between employee SSTs and customer-facing or B2B self-service tools can reveal similarities and differences that inform the design and implementation of internal self-service solutions. This is particularly interesting as other SST types have reached a higher level of maturity, potentially providing valuable insights from the broader spectrum of the field, identifying best practices and key success factors.

Bibliography

Al-Asoufi, B. B. & Akhorshaideh, A. H. O. (2017). The impact of employee empowerment on the success of organizational change: a study in privatized enterprises in jordan. *Journal of Public Administration and Governance*, 7(1), 87–101.

Amberg, M., Fischer, S., & Schroeder, M. (2005). Analysis of user acceptance for web based aptitude tests with dart. *AMCIS 2005 Proceedings*, (pp. 380).

Appelbaum, S. H., Habashy, S., Malo, J.-L., & Shafiq, H. (2012). Back to the future: revisiting kotter's 1996 change model. *Journal of Management development*, 31(8), 764–782.

Barone, A. M. & Stagno, E. (2023). *Artificial Intelligence Along the Customer Journey: A Customer Experience Perspective*. Springer Nature.

Bayaga, A. & du Plessis, A. (2023). Ramifications of the unified theory of acceptance and use of technology (utaut) among developing countries' higher education staffs. *Education and Information Technologies*, (pp. 1–26).

Beck, K., Beedle, M., van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., Grenning, J., Highsmith, J., Hunt, A., Jeffries, R., Kern, J., Marick, B., Martin, R. C., Mellor, S., Schwaber, K., Sutherland, J., & Thomas, D. (2001). Manifesto for agile software development. Available at `https://agilemanifesto.org/`.

Bell, E., Bryman, A., & Harley, B. (2022). *Business research methods*. Oxford university press.

Bergmann, T. & Karwowski, W. (2019). Agile project management and project success: A literature review. In *Advances in Human Factors, Business Management and Society: Proceedings of the AHFE 2018 International Conference on Human Factors, Business Management and Society, July 21-25, 2018, Loews Sapphire Falls Resort at Universal Studios, Orlando, Florida, USA 9* (pp. 405–414).: Springer.

Bider, A. (2023). How ai will revolutionize the future of seo. *Forbes*. Available at `https://www.forbes.com/sites/forbesagencycouncil/2023/04/19/how-ai-will-revolutionize-the-future-of-seo/?sh=5dbebd6c138a`.

Bitner, M. J., Ostrom, A. L., & Meuter, M. L. (2002). Implementing successful self-service technologies. *Academy of management perspectives*, 16(4), 96–108.

Caldarini, G., Jaf, S., & McGarry, K. (2022). A literature survey of recent advances in chatbots. *Information*, 13(1), 41.

Cappetta, R., Maruping, L., Madden, J., & Magni, M. (2015). Employee self-service technology and performance: The role of learning transfer and involvement.

Chaudhuri, R., Chatterjee, S., Mariani, M. M., & Wamba, S. F. (2024). Assessing the influence of emerging technologies on organizational data driven culture and innovation capabilities: A sustainability performance perspective. *Technological Forecasting and Social Change*, 200, 123165.

Chen, Q., Gong, Y., Lu, Y., & Tang, J. (2022). Classifying and measuring the service quality of ai chatbot in frontline service. *Journal of Business Research*, 145, 552–568.

Chong, T., Yu, T., Keeling, D. I., & de Ruyter, K. (2021). Ai-chatbots on the services frontline addressing the challenges and opportunities of agency. *Journal of Retailing and Consumer Services*, 63, 102735.

Chugh, R. (2015). Do australian universities encourage tacit knowledge transfer? In *International Conference on Knowledge Management and Information Sharing*, volume 2 (pp. 128–135).: Scitepress.

Ciric, D., Lalic, B., Gracanin, D., Tasic, N., Delic, M., & Medic, N. (2019). Agile vs. traditional approach in project management: Strategies, challenges and reasons to introduce agile. *Procedia Manufacturing*, 39, 1407–1414.

Clarke, V. & Braun, V. (2017). Thematic analysis. *The journal of positive psychology*, 12(3), 297–298.

Collier, J. E. & Sherrell, D. L. (2010). Examining the influence of control and convenience in a self-service setting. *Journal of the Academy of Marketing Science*, 38, 490–509.

Creswell, J. W. & Zhang, W. (2009). The application of mixed methods designs to trauma research. *Journal of Traumatic Stress: Official publication of the international society for traumatic stress studies*, 22(6), 612–621.

Cu, M., Chan, J., Peko, G., & Sundaram, D. (2021). Knowledge management practices: Innovation the path to organizational performance. In *International Conference on Context-Aware Systems and Applications* (pp. 20–37).: Springer.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, (pp. 319–340).

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management science*, 35(8), 982–1003.

Dearing, J. W. (2009). Applying diffusion of innovation theory to intervention development. *Research on social work practice*, 19(5), 503–518.

Dearing, J. W. & Cox, J. G. (2018). Diffusion of innovations theory, principles, and practice. *Health affairs*, 37(2), 183–190.

Deng, L., Turner, D. E., Gehling, R., & Prince, B. (2010). User experience, satisfaction, and continual usage intention of it. *European Journal of Information Systems*, 19(1), 60–75.

Denscombe, M. (2017). *EBOOK: The good research guide: For small-scale social research projects*. McGraw-Hill Education (UK).

Dhar, R. & Wertenbroch, K. (2000). Consumer choice between hedonic and utilitarian goods. *Journal of marketing research*, 37(1), 60–71.

Di Mascio, R. (2016). Firms' adoption of self-service technology: how managerial beliefs shape co-production decisions. *AMS review*, 6, 79–97.

Diez-Olivan, A., Del Ser, J., Galar, D., & Sierra, B. (2019). Data fusion and machine learning for industrial prognosis: Trends and perspectives towards industry 4.0. *Information Fusion*, 50, 92–111.

Dingsøyr, T., Nerur, S., Balijepally, V., & Moe, N. B. (2012). A decade of agile methodologies: Towards explaining agile software development. *Journal of systems and software*, 85(6), 1213–1221.

Draxler, F., Buschek, D., Tavast, M., Hämäläinen, P., Schmidt, A., Kulshrestha, J., & Welsch, R. (2023). Gender, age, and technology education influence the adoption and appropriation of llms. *arXiv preprint arXiv:2310.06556*.

Duka, M., Sikora, M., & Strzelecki, A. (2023). From web catalogs to google: A retrospective study of web search engines sustainable development. *Sustainability*, 15(8), 6768.

Dwivedi, Y. K., Rana, N. P., Jeyaraj, A., Clement, M., & Williams, M. D. (2019). Re-examining the unified theory of acceptance and use of technology (utaut): Towards a revised theoretical model. *Information systems frontiers*, 21, 719–734.

Eisenhardt, K. M. & Graebner, M. E. (2007). Theory building from cases: Opportunities and challenges. *Academy of management journal*, 50(1), 25–32.

FactSet (2024). ServiceNow, Inc. (NOW-US). Available at `https://my.apps.factset.com/workstation/navigator/company-security/snapshot/NOW-US`.

Feng, W., Tu, R., Lu, T., & Zhou, Z. (2019). Understanding forced adoption of self-service technology: the impacts of users' psychological reactance. *Behaviour & Information Technology*, 38(8), 820–832.

Forrester (2023). Leverage self-service data strategies to drive business value. Available at `https://ecm.capitalone.com/WCM/software/self-service-data-strategies---capital-one-software.pdf`.

Galli, B. J. (2018). Change management models: A comparative analysis and concerns. *IEEE engineering management review*, 46(3), 124–132.

Gamble, J. R. (2020). Tacit vs explicit knowledge as antecedents for organizational change. *Journal of Organizational Change Management*, 33(6), 1123–1141.

Gangwar, H., Date, H., & Ramaswamy, R. (2015). Understanding determinants of cloud computing adoption using an integrated tam-toe model. *Journal of enterprise information management*, 28(1), 107–130.

Ganzarain Epelde, J. & Errasti, N. (2016). Three stage maturity model in sme's towards industry 4.0.

Gartner (2023). Gartner forecasts worldwide public cloud end-user spending to reach $679 billion in 2024. Available at `https://www.gartner.com/en/newsroom/press-releases/11-13-2023-gartner-forecasts-worldwide-public-cloud-end-user-spending-to-reach-679-billion-in-20240#:~:text=Worldwide%20end%2Duser%20spending%20on,Vice%20President%20Analyst%20at%20Gartner`.

Granić, A. (2022). Educational technology adoption: A systematic review. *Education and Information Technologies*, 27(7), 9725–9744.

Guan, X., Xie, L., Shen, W.-G., & Huan, T.-C. (2021). Are you a tech-savvy person? exploring factors influencing customers using self-service technology. *Technology in Society*, 65, 101564.

Gummerus, J., Lipkin, M., Dube, A., & Heinonen, K. (2019). Technology in use–characterizing customer self-service devices (ssds). *Journal of Services Marketing*, 33(1), 44–56.

Haddara, M. & Moen, H. (2017). User resistance in erp implementations: A literature review. *Procedia Computer Science*, 121, 859–865.

Hameed, M. A., Counsell, S., & Swift, S. (2012). A conceptual model for the process of it innovation adoption in organizations. *Journal of Engineering and Technology Management*, 29(3), 358–390.

Hassenzahl, M. (2018). The thing and i: understanding the relationship between user and product. *Funology 2: from usability to enjoyment*, (pp. 301–313).

Hau, Y. S. & Kang, M. (2016). Extending lead user theory to users' innovation-related knowledge sharing in the online user community: The mediating roles of social capital and perceived behavioral control. *International Journal of Information Management*, 36(4), 520–530.

Heidenreich, S. & Talke, K. (2020). Consequences of mandated usage of innovations in organizations: developing an innovation decision model of symbolic and forced adoption. *AMS Review*, 10(3), 279–298.

Hiatt, J. (2006). *ADKAR: a model for change in business, government, and our community*. Prosci.

Hong, E. & Ahn, J. (2023). The role of autonomy, competence and relatedness in motivation to use self-service technology (sst) among customers with difficulties in sst. *Journal of Hospitality and Tourism Technology*, 14(4), 630–642.

Huang, Y.-S. S. & Dootson, P. (2022). Chatbots and service failure: When does it lead to customer aggression. *Journal of Retailing and Consumer Services*, 68, 103044.

Janssen, A. H. A., Grützner, L., & Breitner, M. H. (2021). Why do chatbots fail? a critical success factors analysis. In *ICIS*.

Kotter, J. (2007). Leading change: Why transformation efforts fail. *Engineering Management Review, IEEE*, 37.

Kotter, J. P. (2012). *Leading change*. Harvard business press.

Kulturel-Konak, S., Konak, A., Kremer, G. O., & Esparagozza, I. E. (2015). Professional skills assessment: Is a model of domain learning framework appropriate? *International Journal of Quality Assurance in Engineering and Technology Education (IJQAETE)*, 4(1), 33–60.

Kumar, N., Liu, Z., & Jin, Y. (2022). Evaluation of employee empowerment on taking charge behaviour: an application of perceived organizational support as a moderator. *Psychology Research and Behavior Management*, (pp. 1055–1066).

Kvale, S. (1994). *Interviews: an introduction to qualitive research interviewing*. Sage.

Lasi, H., Fettke, P., Kemper, H.-G., Feld, T., & Hoffmann, M. (2014). Industry 4.0. *Business & information systems engineering*, 6, 239–242.

Legris, P., Ingham, J., & Collerette, P. (2003). Why do people use information technology? a critical review of the technology acceptance model. *Information & management*, 40(3), 191–204.

Lin, M.-H. & Hong, C.-F. (2011). Opportunities for crossing the chasm between early adopters and the early majority through new uses of innovative products. *The Review of Socionetwork Strategies*, 5, 27–42.

Lin, T.-C., Huang, S.-L., & Chiang, S.-C. (2018). User resistance to the implementation of information systems: A psychological contract breach perspective. *Journal of the Association for Information Systems*, 19(4), 2.

Lines, R. (2007). Using power to install strategy: The relationships between expert power, position power, influence tactics and implementation success. *Journal of Change Management*, 7(2), 143–170.

Liu, S. (2012). The impact of forced use on customer adoption of self-service technologies. *Computers in Human Behavior*, 28(4), 1194–1201.

Lu, Y. (2017). Industry 4.0: A survey on technologies, applications and open research issues. *Journal of industrial information integration*, 6, 1–10.

Luo, X., Tong, S., Fang, Z., & Qu, Z. (2019). Frontiers: Machines vs. humans: The impact of artificial intelligence chatbot disclosure on customer purchases. *Marketing Science*, 38(6), 937–947.

Maheshwari, R. (2023). Advantages of artificial intelligence (AI) in 2024. *Forbes*

Advisor INDIA. Available at https://www.forbes.com/advisor/in/business/software/advantages-of-ai/.

Mantere, S. & Ketokivi, M. (2013). Reasoning in organization science. *Academy of management review*, 38(1), 70–89.

Marangunić, N. & Granić, A. (2015). Technology acceptance model: a literature review from 1986 to 2013. *Universal access in the information society*, 14, 81–95.

Marler, J. H., Fisher, S. L., & Ke, W. (2009). Employee self-service technology acceptance: A comparison of pre-implementation and post-implementation relationships. *Personnel Psychology*, 62(2), 327–358.

Mårtensson, M. (2000). A critical review of knowledge management as a management tool. *Journal of knowledge management*, 4(3), 204–216.

Melides, C. (2023). What is enterprise service management (esm)? *TechnologyAdvice*. Available at https://technologyadvice.com/blog/information-technology/what-is-enterprise-service-management-esm/.

Meuter, M. L., Ostrom, A. L., Roundtree, R. I., & Bitner, M. J. (2000). Self-service technologies: understanding customer satisfaction with technology-based service encounters. *Journal of marketing*, 64(3), 50–64.

Mohr, J. (2023). The future of itsm and esm. *Forrester*. Available at https://www.forrester.com/blogs/the-future-of-itsm-and-esm/.

Momani, A. M. (2020). The unified theory of acceptance and use of technology: A new approach in technology acceptance. *International Journal of Sociotechnology and Knowledge Development (IJSKD)*, 12(3), 79–98.

Moore, G. (2014). *Crossing the Chasm, 3rd Edition: Marketing and Selling Disruptive Products to Mainstream Customers*. Collins Business Essentials. HarperCollins.

Mölnlycke Health Care (2024). Annual report 2023. Available at https://www.molnlycke.com/SysSiteAssets/corporate/documents/molnlycke-annual-report-2023-digital.pdf.

Nerur, S., Mahapatra, R., & Mangalaraj, G. (2005). Challenges of migrating to agile methodologies. *Communications of the ACM*, 48(5), 72–78.

Nili, A., Tate, M., & Johnstone, D. (2019). The process of solving problems with self-service technologies: a study from the user's perspective. *Electronic Commerce Research*, 19, 373–407.

Nonaka, I. (2009). The knowledge-creating company. In *The economic impact of knowledge* (pp. 175–187). Routledge.

Nonaka, I. & Takeuchi, H. (1995). *The Knowledge-creating Company: How Japanese Companies Create the Dynamics of Innovation*. Everyman's library. Oxford University Press.

Noteboom, C., Ofori, M., Sutrave, K., & El-Gayar, O. (2021). Agile project management: A systematic literature review of adoption drivers and critical success factors.

Park, J., Kim, D., & Hyun, H. (2021). Understanding self-service technology adoption by "older" consumers. *Journal of Services Marketing*, 35(1), 78–97.

Phillips, J. & Klein, J. D. (2023). Change management: from theory to practice. *TechTrends*, 67(1), 189–197.

Pollack, J. & Pollack, R. (2015). Using kotter's eight stage process to manage an organisational change program: Presentation and practice. *Systemic practice and action research*, 28, 51–66.

Rachinger, M., Rauter, R., Müller, C., Vorraber, W., & Schirgi, E. (2018). Digitalization and its influence on business model innovation. *Journal of manufacturing technology management*, 30(8), 1143–1160.

Raisian, K. & Yahaya, J. (2014). Review paper: Critical factors of user resistance in post-erp implementation within an organization. *International Journal of Research in Social Sciences*, 4(8), 14–23.

Ram, S. & Jung, H.-S. (1991). "forced" adoption of innovations in organizations: Consequences and implications. *Journal of Product Innovation Management*, 8(2), 117–126.

Reid, E. (2023). Supercharging search with generative AI. Available at `https://blog.google/products/search/generative-ai-search/`.

Richardson, P. & Denton, D. K. (1996). Communicating change. *Human Resource Management*, 35(2), 203–216.

Roehr-Brackin, K. (2022). Explicit and implicit knowledge and learning of an additional language: A research agenda. *Language Teaching*, (pp. 1–19).

Rogers, E. M. (2003). *Diffusion of innovations*. Free Press.

Rogers, W., Mitzner, T., Boot, W., Charness, N., Czaja, S., & Sharit, J. (2017). Understanding individual and age-related differences in technology adoption. *Innovation in Aging*, 1(Suppl 1), 1026.

Rosenbaum, M. S. & Wong, I. A. (2015). If you install it, will they use it? understanding why hospitality customers take "technological pauses" from self-service technology. *Journal of Business Research*, 68(9), 1862–1868.

Ryan, G. W. & Bernard, H. R. (2003). Techniques to identify themes. *Field methods*, 15(1), 85–109.

Schulz-Knappe, C., Koch, T., & Beckert, J. (2019). The importance of communicating change: Identifying predictors for support and resistance toward organizational change processes. *Corporate Communications: An International Journal*, 24(4), 670–685.

Schumacher, A., Erol, S., & Sihn, W. (2016). A maturity model for assessing industry 4.0 readiness and maturity of manufacturing enterprises. *Procedia Cirp*, 52, 161–166.

ServiceNow (2023). What does servicenow do? Available at `https://www.servicenow.com/blogs/2023/what-does-servicenow-do.html`.

ServiceNow (n. d.). What is self-service? Available at `https://www.servicenow.com/products/customer-service-management/what-is-self-service.html`.

Sharma, P., Ueno, A., & Kingshott, R. (2021). Self-service technology in supermarkets–do frontline staff still matter? *Journal of Retailing and Consumer Services*, 59, 102356.

Sheikh, H., Prins, C., & Schrijvers, E. (2023). Artificial intelligence: Definition and background. In *Mission AI: The New System Technology* (pp. 15–41). Springer.

Shin, H. & Perdue, R. R. (2019). Self-service technology research: A bibliometric co-citation visualization analysis. *International Journal of Hospitality Management*, 80, 101–112.

Taherdoost, H. (2018). A review of technology acceptance and adoption models and theories. *Procedia manufacturing*, 22, 960–967.

Thesing, T., Feldmann, C., & Burchardt, M. (2021). Agile versus waterfall project management: decision model for selecting the appropriate approach to a project. *Procedia Computer Science*, 181, 746–756.

Turing, A. M. (1950). Computing machinery and intelligence. *Mind*, 59(236), 433–460.

Van der Heijden, H. (2004). User acceptance of hedonic information systems. *MIS quarterly*, (pp. 695–704).

Venkatesh, V. & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management science*, 46(2), 186–204.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, (pp. 425–478).

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of business research*, 122, 889–901.

Volle, A. (2023). search engine. encyclopedia britannica. Available at `https://www.britannica.com/technology/search-engine`.

Weber, P. & Ludwig, T. (2020). (non-) interacting with conversational agents: perceptions and motivations of using chatbots and voice assistants. In *Proceedings of Mensch und Computer 2020* (pp. 321–331).

Whelan-Berry, K. S. & Somerville, K. A. (2010). Linking change drivers and the

organizational change process: A review and synthesis. *Journal of Change Management*, 10(2), 175–193.

Wirtz, J. & Pitardi, V. (2023). How intelligent automation, service robots, and ai will reshape service products and their delivery. *Italian Journal of Marketing*, 2023(3), 289–300.

Wu, J. & Du, H. (2012). Toward a better understanding of behavioral intention and system usage constructs. *European Journal of Information Systems*, 21(6), 680–698.

Xu, L. D., Xu, E. L., & Li, L. (2018). Industry 4.0: state of the art and future trends. *International journal of production research*, 56(8), 2941–2962.

Yin, R. K. (2018). *Case study research and applications*, volume 6. Sage Thousand Oaks, CA.

Yue, G. & Peng, S. (2021). Application of artificial intelligence in the academic search engine. In *International Conference on Applications and Techniques in Cyber Security and Intelligence* (pp. 611–616).: Springer.

Zhong, R. Y., Xu, X., Klotz, E., & Newman, S. T. (2017). Intelligent manufacturing in the context of industry 4.0: a review. *Engineering*, 3(5), 616–630.

Zhou, Y. (2008). Voluntary adopters versus forced adopters: integrating the diffusion of innovation theory and the technology acceptance model to study intra-organizational adoption. *New media & society*, 10(3), 475–496.

Zizic, M. C., Mladineo, M., Gjeldum, N., & Celent, L. (2022). From industry 4.0 towards industry 5.0: A review and analysis of paradigm shift for the people, organization and technology. *Energies*, 15(14), 5221.

A

Appendix: Interview Guides

Interview Guide for Employees With a Connection to the MSP/ESM

Provide general background about the thesis, goal and aim, semi-structured, anonymisation and recording.

Introduction

a. In short, can you describe your role and your responsibilities at Mölnlycke?
b. How long have you been with the company? Previous roles?

Understanding Current Practices and Perceptions

a. How do you work with knowledge management (KM) within Mölnlycke?
    i. Routines, tools, channels?
b. Can you describe the current use of SST within Mölnlycke for KM?
    i. How many employees use it and who are the intended users?
    ii. How frequently do you and other employees interact with these SST platforms?
    iii. What are some common tasks or functions performed through SST by you and other employees?
c. How do you perceive the usability of the existing SST systems?
    i. What do you think are the largest benefits with the current SSTs for employees?
    ii. What challenges have you observed in the utilisation of SST among employees?
d. What resources (financial, human, technological) are allocated towards the ongoing maintenance and enhancement of the SST platform?
e. How do you provide/receive information about updated functionalities or new SST platforms?
    i. Do you believe this is the best way?
    ii. Through which media would you like to provide/get information from?

f. How do you measure the success of SSTs?
   i. KPIs?
   ii. What goals exist regarding adoption and usage of SSTs?
   iii. How do you follow up on feedback?

g. Who are the key stakeholders and how do they cooperate (Governance structure)?
   i. Do they have the same goal and vision?
   ii. If not, what are the differences?
   iii. What measures are in place to ensure that improvements to the SST platform align with the organisation's overall strategic objectives and goals?

Factors Influencing Adoption and Usage

a. What reasons do employees have to adopt the provided SSTs? (forced adoption, managers, autonomy)
   i. What do you believe are the primary motivators for employees to use SST? (ease of use, usefulness, reliability, quick solutions, social factors, enjoyment, personalisation, autonomy, etc)
   ii. What current pain points exist for both employees and the organisation?
   iii. Are there any perceived risks or barriers associated with using SST? (e.g., reliable information, privacy issues, fear of job displacement)

b. How do the needs and preferences within the organisation vary concerning SST usage?
   i. What demographic factors do you believe might influence the adoption of SST?
   ii. What cultural or behavioural factors within the organisation affect the adoption and usage of SST?
   iii. Are there any specific customization or personalization requirements of different user groups or departments that need to be addressed?

c. How can the level of technological literacy among employees affect their willingness to adopt and utilise SST?
   i. Does the technological literacy among employees differ based on age, gender, and geographical location?

d. How can organisational policies and support structures impact the adoption or usage of SST? (e.g., management support, training programs, incentives, lead users)

Identifying Improvement Opportunities

a. How do you envision the ideal SST platform for your organisation?

   i. Are there any features or functionalities that employees frequently request or that you desire as part of an SST platform?
   ii. When was the last time the organisation implemented and improved the SSTs?

b. What feedback channels are available for employees to provide suggestions and report issues related to the SST platform?
   i. How frequently is this feedback collected and acted upon?

c. Do you believe Mölnlycke is well equipped to handle change?
   i. How do you think the organisational culture can influence employees' attitudes towards embracing technological changes like SST?
   ii. What leadership strategies do you believe are required to implement change?
   iii. What role does communication play in awareness and acceptance of SSTs among employees?

d. What external factors might influence the organisation's decision to implement new technologies such as SST?
   i. Do you know of the current industry best practices and emerging trends in SST implementation and improvement?
   ii. How does Mölnlycke benchmark its SST platform against these standards?

Exploring Integration of AI

a. What are your thoughts on integrating AI capabilities into KM, specifically through an SST platform?
b. In what ways do you think AI could improve the user experience and functionality of SST (ease of use, usefulness, reliability, quick solutions, social factors, enjoyment, personalisation, autonomy, etc)?
c. Are there any concerns or challenges that you foresee with integrating AI into SST systems?
   i. Does Mölnlycke possess the organisational capabilities to handle this change?

d. How do you foresee AI impacting your and other employees' interactions with SST in the future?
   i. Do you believe employees have sufficient knowledge to use these tools?
   ii. What tools are needed?

e. What steps do you believe are necessary to successfully implement AI integration in SST?
   i. Combining many different tools or use a one-size-fits-all solution? Why? (ServiceNow AI vs Co-pilot + Startups etc)

Ending Remarks

a. Any topic or question that we have missed or something else you want to add?
b. Is there anyone that you think that we should talk with?

Thank the respondent, final report will be provided.

Interview Guide for Regular Employees

Provide general background about the thesis, goal and aim, semi-structured, anonymisation and recording.

Introduction

a. In short, can you describe your role and your responsibilities at Mölnlycke?
b. How long have you been with the company? Previous roles?

Understanding Current Practices and Perceptions

a. How would you go about solving a question or problem related to IT?
b. How would you go about solving a question or problem related to People/HR?
    i. If this process differs from how you solve IT questions or problems, why?
c. What do you know about the MSP (Mölnlycke Service Portal)?
d. How frequently do you use the platform? For what purposes?
    i. As you might know the MSP has Knowledge Articles, which enables employees to help themselves without raising a ticket. Do you use this feature?
e. How do you perceive the usability of the MSP?
    i. What do you think are the largest benefits with the MSP for you as an employee?
    ii. What challenges do you perceive when using the MSP as an employee?
f. What do you believe are the primary motivators for employees to use SST? (ease of use, usefulness, reliability, quick solutions, social factors, enjoyment, personalisation, autonomy, etc.)
g. What previous experience do you have with processes for getting help with IT and/or People/HR issues, from other engagements or previously at Mölnlycke?
    i. In what way is your current experience differ from that, positives and negatives?
    ii. Is there anything missing with your current experience in relation to previous experience?
h. How do the needs and preferences within the organisation vary concerning MSP usage?
    i. What demographic factors do you believe might influence the adoption of the MSP?
    ii. What cultural or behavioural factors within the organisation affect the adoption and usage of the MSP?
    iii. Are there any specific customization or personalisation requirements of different user groups or departments that need to be addressed?

   iv. How do you think the level of technological literacy among employees can affect their willingness to adopt and utilise SST?

i. How can organisational policies and support structures impact the adoption or usage of SST? (e.g., management support, training programs, incentives, lead users)

j. How do you receive information about updated functionalities or features of the MSP?

   i. Do you believe this is the best way?

   ii. Through which media would you like to get information from?

k. What feedback channels do you know of to provide suggestions and report issues related to the MSP?

   i. Have you provided any suggestions or reported issues related to the MSP?

   ii. Do you know if and how the feedback was acted upon?

Identifying Improvement Opportunities and Integrating AI

a. How do you envision the ideal SST platform?

   i. What features or functionalities would you like to see?

   ii. What is the most important motivator for good usability?

   iii. What about the current process or system should not be removed?

b. What are your thoughts on integrating AI capabilities into KM, specifically through an SST platform?

   i. How do you foresee AI impacting your and other employees' interactions with SST in the future? (ease of use, usefulness, reliability, quick solutions, social factors, enjoyment, personalisation, autonomy, etc)

   ii. Are there any concerns or challenges that you foresee with integrating AI into SST systems?

c. How would you like to interact with the AI?

   i. Should it be personal? Human-like?

   ii. Combining many different tools or cross-functional one-size-fits-all solution?

Thank the respondent, final report will be provided.

DEPARTMENT OF TECHNOLOGY MANAGEMENT AND ECONOMICS
DIVISION OF ENTREPRENEURSHIP AND STRATEGY
CHALMERS UNIVERSITY OF TECHNOLOGY
Gothenburg, Sweden
www.chalmers.se

CHALMERS
UNIVERSITY OF TECHNOLOGY