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Key Success Factors for Digital B2B Self-Service

The Case for the ICT Industry

Master's thesis in Management and Economics of Innovation

MÅNS LUNDQVIST

ADAM SANDÉN

DEPARTMENT OF TECHNOLOGY MANAGEMENT AND ECONOMICS
DIVISION OF ENTREPRENEURSHIP AND STRATEGY

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Department of Technology Management and Economics
Chalmers University of Technology
SE-412 96 Gothenburg
Sweden
Telephone + 46 (0)31-772 1000

Gothenburg, Sweden

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Abstract

Background and Problem: Despite increasing demand for Self-Service Technologies (SSTs) in the B2B landscape, ICT firms are yet to untap the potential for competitive advantage enabled by SSTs. An increased understanding of success factors for SSTs can help ICT players to serve customer needs more accurately.

Purpose: Identify key success factors for B2B self-service tools in the ICT industry.

Literature Overview: As a result of reviewing literature around the topics technology adoption, information system success, and SSTs, a conceptual framework was built which highlighted 12 determinants of general SST success. These are: perceived ease of use, design, convenience, service quality, customization, subjective norm, voluntariness, result demonstrability, functionality, enjoyment, security, and assurance.

Method: A qualitative approach was employed, where semi-structured interviews were conducted with users, sellers providing self-service, and third-party providers of self-service solutions. The 12 determinants of SST success identified in the conceptual framework constituted the themes which formed the basis of the interview topics and analysis of results.

Findings: Subjective norm, enjoyment and assurance was rejected as determinants of SST success within the scope of B2B and ICT. Within the areas of the remaining nine determinants, key success factors were identified. First, creating the perception of ease of use is the most important success factor, where a simple user interface should be prioritized over complex features. Secondly, security of information should not be compromised for increased convenience, although the optionality of the customer regarding degree of security may be a success factor. Third, customers should be able to configure their self-service experience, although the risk of individual customers not knowing what the optimal configurations are for them must be considered. Fourth, the use of the SST should always be combined with human support to create a sense of voluntariness and high service quality. Fifth, results and KPIs of SST usage should be communicated, as it creates an increased understanding of usage benefits for customers, and generates better incentive to develop the SST further for the provider. Lastly, the future of B2B self-service is expected to follow the development of B2C self-service. Followingly, increased usage of AI and IoT technologies will require human support to be more customer-oriented rather than product- and service-oriented.

Keywords: Self-Service, SST, ICT, B2B Platform, Technology Adoption, Service Quality

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List of Abbreviations

SST – *Self-Service Technologies*

CAGR – *Compound Annual Growth Rate*

B2C – *Business-to-Consumer*

B2B – *Business-to-Business*

ICT – *Information and Communications Technology*

TSO – *Tele2 Service Online*

TAM – *Technology Acceptance Model*

IS – *Information System*

ISSM – *Information System Success Model*

SME – *Small and Medium-sized Enterprises*

UI – *User Interface*

UX – *User Experience*

SSO – *Single Sign On*

IoT – *Internet of Things*

KPI – *Key Performance Indicators*

AI – *Artificial Intelligence*

1. Introduction

This section introduces the domain of self-service and discusses the problem leading up to the research question.

1.1 Background

The background consists of two main subsections: An introduction to Self-Service Technologies (SSTs), followed by an explanation of self-service technologies' role in the ICT-domain specifically.

1.1.1 Introducing Self-Service Technologies

The advent SSTs marked a paradigm shift in the relation between buyers and sellers. From the automatic vending machines introduced in the 19th century to more contemporary examples like e-commerce and self-checkout in grocery stores, SSTs constantly transform the way businesses serve their customers (Chan & Petrikat, 2022). SSTs can be defined as technologies and solutions that allow users to perform tasks and obtain information without direct human intervention. This provides customers with convenient and effortless means of accessing information and support based on their preferences (Giese, 2023). In the past decade, self-service solutions have dramatically increased in relevance, mainly due to digitalization but also boosted by the pandemic (Baget-Amat et al., 2020). According to Spherical Insights (2023), the global market for SSTs was valued at 35.2 billion USD in 2022, and the Compound Annual Growth Rate (CAGR) is expected to be at 11.8% in the upcoming years leading to a market value of 107.9 billion USD in 2032 (see figure 1.1.1).

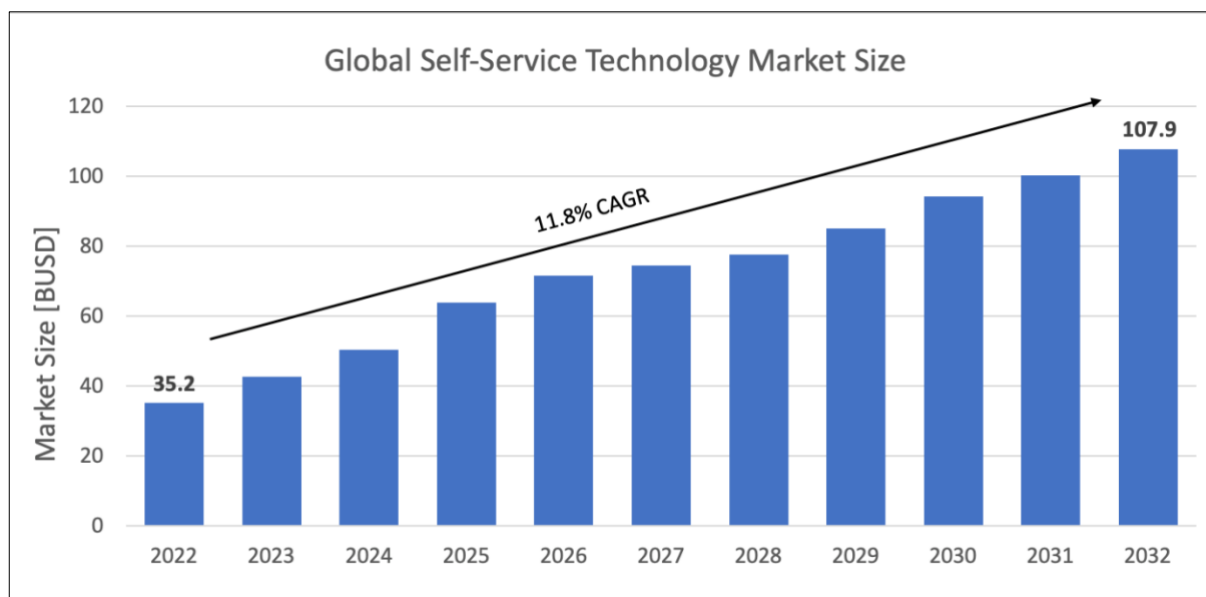


Figure 1.1.1. The predicted global market size of the market for Self-Service Technologies between 2022-2032 (Spherical Insights, 2023).

In general, SSTs are typically associated with B2C (Business-to-Consumer) transactions such as online shopping, mobile payments, self-checkout in hotels etc. In these scenarios, the SST

allows the transaction to be carried out without any human interaction, making it a self-service solution. Meanwhile, B2B (Business-to-Business) self-service have a shorter history and have during its existence mostly consisted of pure “procurement sites” where businesses could access a product catalog from their suppliers, but with no additional functionalities or features (Giese, 2023). However, Giese further explains, changing customer preferences in the B2B landscape with a higher demand for digital solutions has led to a trend towards more comprehensive digital self-service offerings (Giese, 2023). Today, B2B buyers expect a service experience similar to their private shopping journey when buying goods and services. The new generation of buyers places a significant emphasis on digital experiences, and it should be stressed that a B2B buyer is also a B2C buyer in their personal life (Giese, 2023). In response to this shift in demand, B2B sellers now commonly offer digital self-service solutions where the customer can get access to a wide range of features, including support, order information, product catalogue etc. (Bengtsson & Hägerlöf, 2023).

1.1.2 B2B Self-Service in the ICT Industry

Businesses from a digital-native background, including Amazon, Uber, and Apple, have always had high expectations from customers on a seamless and convenient digital experience (Makarchuk, 2023). However, Makarchuk further explains, B2B customers today expect actors in other industries to provide such a level of experience too, and the ICT (Information and Communication Technology) industry is no exception.

ICT companies provide a wide range of products and services to their B2B customers. These offerings are designed to enhance and support the digital infrastructure, communication, and technological needs of their customers. Traditional examples of products and services offered to B2B customers are data and voice connectivity (e.g. mobile subscriptions and network connection for customers’ employees), while the new and more digitally focused offerings include e.g. IT & cloud services (Deloitte, 2016). The importance of telecommunication services for businesses have increased thanks to the introduction of 5G-based services. Features like network slicing and private networks are now being deployed extensively due to 5G, and these features are designed specifically for the needs of large enterprises rather than individual consumers (Comarch, n.d.).

In order to illustrate how B2B self-service tools are deployed in practice, a deeper look will be taken into the ICT provider Tele2. They provide mobile communication services, fixed broadband, and other telecommunication solutions in multiple European countries. For their B2B activities Tele2 only operate in the Swedish market, which contributes for 25% of Tele2’s total revenue (Tele2, 2024). They mainly interact with these customers through their B2B self-service tool, called TSO (Tele2 Service Online). In this tool, more than 2000 customer organizations and 12000 unique users are actively handling service tasks. To get an overview of what these tasks could be, a selection of the modules in TSO is shown in figure 1.2.1. On Tele2’s end, they also use the same portal internally to get a structured overview of all their customers, modify their central product catalog etc. (Tele2, 2023).

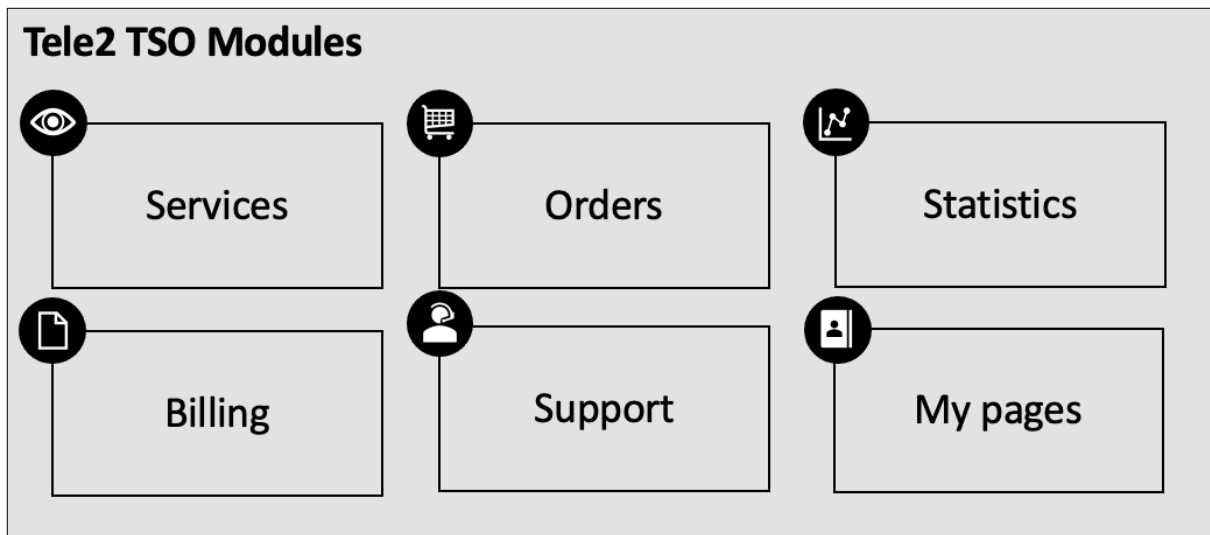


Figure 1.2.1. A selection of the modules in Tele2's self-service tool TSO (Tele2, 2023).

Although digital self-service tools can be sourced in from software companies acting third party providers, Tele2 has developed TSO internally. Their stated goal is to provide “[...] the market leading digitalized B2B self-service customer experience in the Swedish B2B Telco market”. Tele2 already consider themselves as one of the leaders within this market, but they are also aware that they need to keep up with the constantly changing environment to sustain that position (Tele2, 2023).

1.2 Problem and Research question

This section involves a problem analysis, which purpose is to introduce and motivate the research question. This is followed by a statement of purpose and delimitations for the study.

1.2.1 Problem Analysis

The growing emphasis on serving customers through SSTs across industries underscores the heightened significance of these technologies in creating and maintaining a competitive advantage. In the last years, scholars even claim that in most industries managers should consider SSTs a strategic objective for their business (Chan & Petrikat, 2022). This has already been widely recognized in B2C-oriented industries, while the importance of it in B2B relations is of a more contemporary realization. In 2020, more than 70% of B2B decision-makers preferred digital self-service over human interaction (Baget-Amat et al., 2020).

Although the increasing importance of B2B SSTs is happening across all types of industries, the ICT industry presents a particularly interesting case. Salgueiro and Mamede (2021) explain that in the aftermath of the pandemic, telecom firms experienced pressure on their revenue streams in the years that followed. Further, they highlight that the use of SSTs in the ICT landscape is seen as the solution to this problem, as it allows for not only cost reduction, but also increased customer loyalty and innovation, leading to higher revenues. At the same time, they argue that there is an underutilization of SSTs within this field. For example, when using

the business websites of some of the most renowned ICT firms, B2B requests are still often referring the buyer to a sales representative or a contact center.

Internal communication with representatives at the Swedish ICT company Tele2 have shown that they align with the narrative of the ICT industry lagging behind other industries in terms of B2B self-service. Conversely, the banking is mentioned as an example of an industry being at the frontier. Although Tele2 see themselves as one of the leaders in digital self-service within their market, they also recognize the necessity of a deeper understanding of the value that SSTs can create to sustain that competitive advantage.

With SSTs being identified as a strategic lever for competitive advantage (Chan & Petrikat, 2022), while simultaneously not getting the attention it deserves by ICT players (Salgueiro & Mamede, 2021), it would be of high relevance to identify the key success factors when ICT firms provide B2B self-service tools towards their customers. Hence, the research question of this thesis is:

- *RQ: What are the key success factors for ICT firms when offering a B2B digital self-service tool?*

The field of B2B SSTs contains a wide range of previous research. Some of the common research topics in the past have focused on, for instance, the adoption and perception of self-service as opposed to human interaction (Salgueiro & Mamede, 2021), SSTs' implication for existing and potential new business models (Bengtsson & Hägerlöf, 2023), and the benefits and challenges arising from the implementation of an SST (Chan & Petrikat, 2022). The focus of this study brings a new approach to this field, where the key success factors for SSTs are researched specifically for the ICT industry.

1.2.2 Purpose

The purpose of this study is to identify key success factors for B2B self-service tools in the ICT industry.

1.2.3 Delimitations

This study is subject to certain delimitations as the timeline and resources devoted to this study have to be considered. First, the focus will be on investigating the B2B landscape of self-service and applying this in the context of the ICT industry. Hence, any data gathered on self-service (no matter whether it is from a B2B or B2C perspective, and the industry of the source), will be discussed, analyzed, and nuanced from a B2B and ICT-specific standpoint. Secondly, the study will focus on the success factors for providing a high-quality self-service experience towards customers, rather than the cost savings implications of self-service for the firms providing it. Lastly, the focus will mainly be to *identify* success factors, rather than ranking their relative importance.

2. Literature Overview

The purpose of the literature is to act as a theoretical framework for the study. Hence, the synthesis of existing literature is vital to establish a solid foundation for understanding the context, theories, and key concepts related to the topic. The section begins with theories revolving acceptance and success of technologies. Subsequently, literature concerning SSTs will be presented both generally and specifically for the study domain. Lastly, a conceptual framework will be presented, which synthesizes the literature into a condensed structure. This conceptual framework will be used as a basis for data collection and analysis.

2.1 Technology Acceptance Model

This theory facilitates understanding of technology adoption. TAM1 and its successor TAM2 is explained in this section, followed by a section concluding the relevance of this for the study.

2.1.1 TAM1

The Technology Acceptance Model (TAM) is an information system theory that models factors that make users accept and use a technology. The model was first introduced by Davis (1986). The model is an extension of the Theory of Reasoned Action by Ajzen and Fishbein (1980). With *perceived usefulness*, and *perceived ease of use* as the main determinants, the aim of TAM is to explore and predict what influences acceptance of technologies. Davis (1986) defines perceived usefulness as “the degree to which a person believes that using a particular system would enhance his or her job performance”, while perceived ease of use is defined as “the degree to which a person believes that using a particular system would be free from effort and difficulty”.

Davis illustrates the connection between different determinants of technology acceptance, seen in figure 2.1.1.1. In summary, TAM implies that usage of a technology or system is always preceded by an intention to use said technology. The intention to use a technology arises from any combination of perceiving the technology’s usefulness and having positive attitudes towards using the technology. For positive attitudes to form, the technology must be either perceived as easy to use or perceived as useful.

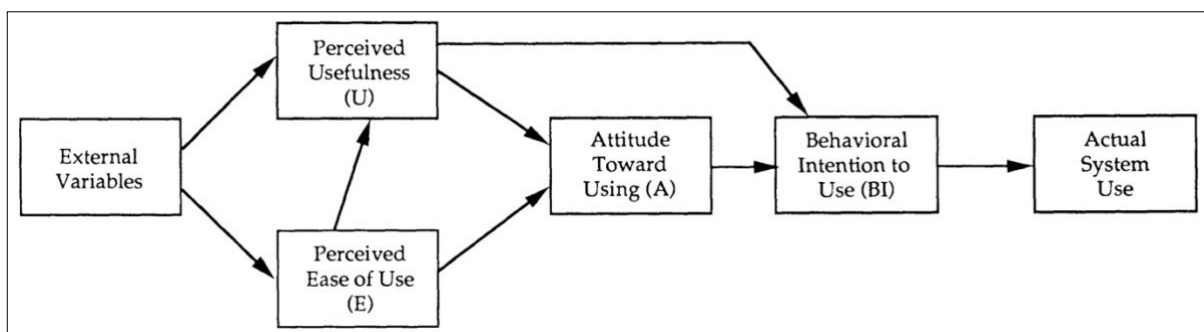


Figure 2.1.1.1. Illustration of TAM and its connection between determinants leading to usage of a system (Davis et al., 1989).

Despite being a useful framework for explaining why users accept or reject a new technology, TAM received criticism for leaving out important influencing factors of technology adoption (Adams et al., 1992; Lucas & Spitler, 1999; Venkatesh et al., 2003; Zhang, 2005). Davis, the author of the TAM theory, acknowledged these limitations and revised the model in response. This gave rise to an updated version, TAM2 (Snicker, 2013)

2.1.2 TAM2

Whereas the initial TAM highlights how perceived usefulness along with perceived ease of use affect intentions to use a technology, and subsequently usage of a technology, TAM2 primarily expands on the *intention to use* and *perceived usefulness* factors by decomposing them and incorporating additional theoretical constructs (Venkatesh & Davis, 2000). The additional factors can be grouped into *social influence processes* and *cognitive instrumental processes*. These additional factors can aid innovators in comprehending what drives acceptance, and what is controllable and what is not, when deciding on efforts to establish acceptance of their technology (Snicker, 2013). A deep dive into these two groups, and its respective additional factors used in TAM2, will be undertaken in the following two subsections. An overview of the revised TAM2 framework can be seen in figure 2.1.2.1.

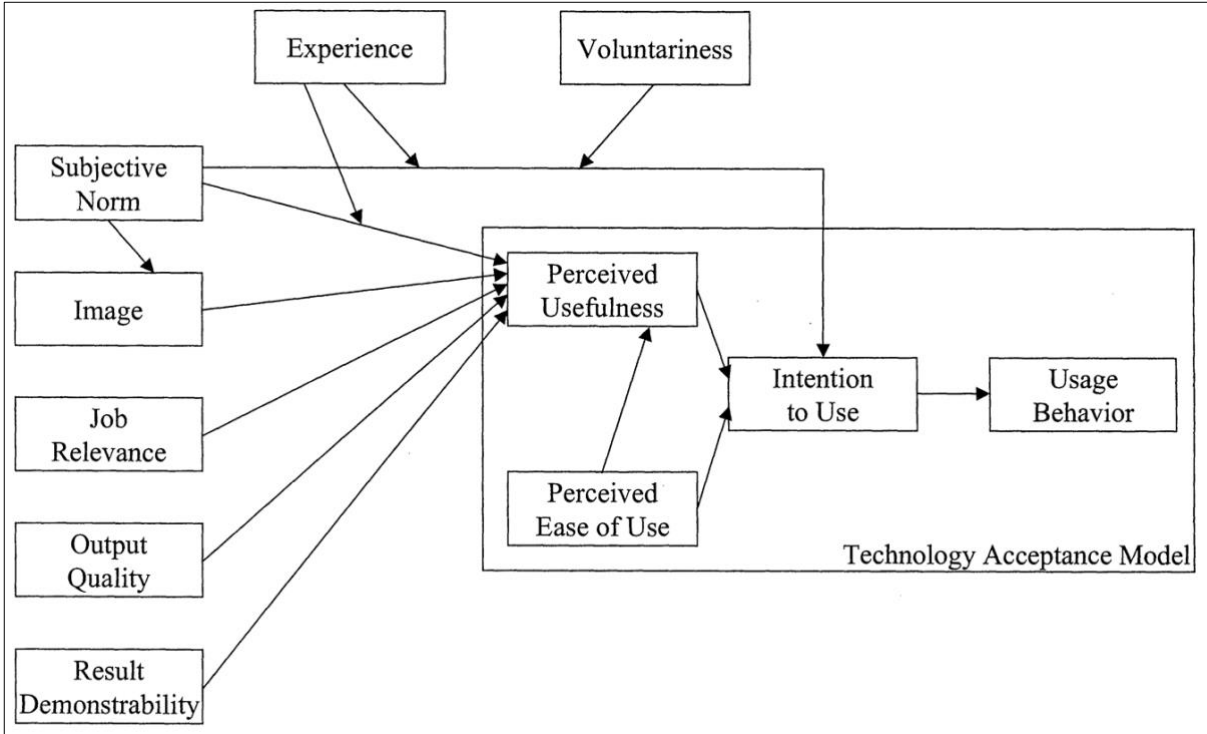


Figure 2.1.2.1. Illustration of TAM2 that highlights its attention to influence processes and cognitive instrumental processes. Note the elaboration on “Perceived Usefulness” and “Intention to Use” relative to TAM1 (Venkatesh & Davis, 2000).

2.1.2.1 Social Influence Processes

The first group, social influence processes, treats the impact of four interrelated social forces that an individual will experience when facing the opportunity to adopt or reject a system (Venkatesh & Davis, 2000):

- *Subjective norm*
- *Voluntariness*
- *Image*
- *Experience*

The first social force, *subjective norm*, is defined by Fishbein and Ajzen (1975) as a “person’s perception that most people who are important to him think he should or should not perform the behavior in question”. This implies that subjective norm has effect on intention to use a technology, as people may choose to perform a behavior even if they are not themselves positively inclined toward the behavior or its consequences.

The second dimension of the social influence processes is *voluntariness* which refers to the perception of individuals regarding whether their adoption of a technology is mandatory or optional (Venkatesh & Davis, 2000). It is an important factor in understanding parts of the multi-faceted intentions of use that users may have. In general terms, when the degree of voluntariness is high, and users perceive the adoption decision as optional, their intention to use the system becomes more tightly linked to their own beliefs on perceived usefulness and ease of use. So, if users in voluntary settings perceive the system as useful and easy to use, their intention of using it will be stronger. Conversely, in a mandatory setting where voluntariness is low, perceived usefulness and ease of use may not be the sole driver towards intention to use. Instead, in these situations, social factors like subjective norm and compliance have significant implications. Even if users do not personally find a system useful or easy to use, they may still feel compelled to adopt the system due to organizational mandates or social influence. Therefore, in mandatory settings, intention to use may be influenced not only by individual perceptions like opinions on usefulness, but also by social pressures and the obvious expectation that organizational directives are complied with (Venkatesh & Davis, 2000).

The third dimension of social influence processes in TAM2 is *image* which Moore and Benbasat (1991) define as “the degree to which use of an innovation is perceived to enhance one’s [...] status in one’s social system.” Venkatesh and Davis (2000) argue that the mechanism behind this process is identification, which according to Pfeffer (1982) means that by performing actions that are in line with group norms, an individual can attain membership and social support. Venkatesh and Davis (2000) conclude that in response to Pfeffer’s view, an individual may consequently perceive that using a system will lead to improvements in his or her performance indirectly due to image enhancement, ultimately altering the individual’s perceived usefulness of the system.

The fourth and final dimension is *experience* which relates to the other social influence processes. Hartwick and Barki (1994) found that social influence processes decrease in

importance as response to high experience among users. Hartwick and Barki's interpretation of this finding is that prior to a system being implemented, users' actual knowledge and beliefs of the system are scant. Hence, users have little other choice than relying on the opinions of others when forming their own perceptions. After the implementation, when more is known about the system and users have actual experience of strengths and weaknesses, the effect of social norm on perceived usefulness weakens. In contrast, the effect of image on perceived usefulness does not diminish over time since eventual status gains from system use will remain as long as group norms favor usage of said system (Venkatesh & Davis, 2000).

2.1.2.2 Cognitive Instrumental Processes

Apart of the social influence processes affecting perceived usefulness and intention of use, Venkatesh and Davis (2000) theorize three cognitive instrumental determinants of perceived usefulness:

- *Job relevance*
- *Output quality*
- *Result demonstrability*

The concept of *job relevance* pertains to a user's perception of how applicable a system is to their job responsibilities. Job relevance is a cognitive assessment that separate from social influence processes directly influences perceived usefulness and consequently the likelihood of user acceptance (Venkatesh & Davis, 2000).

Output quality refers to how well a system performs tasks, regardless of job relevance. Venkatesh and Davis (2000) theorize that output quality can explain variance in perceived usefulness, in addition to job relevance.

Moore and Benbasat (1991) define *result demonstrability* as the "tangibility of the results of using the innovation". Venkatesh and Davis (2000) argue that result demonstrability will directly influence perceived usefulness. The argument they propose is that a clear relation between usage and positive results will lead to the formation of more positive perceptions of usefulness among individuals. To conclude, for a system to be accepted by users it cannot solely rely on producing effective job-relevant results desired by the user, the system must also make clear what results it produces.

2.1.3 TAM Concluding Words

Empirical studies have shown that TAM2 is more consistent at explaining variance in usage of a technology, compared to its predecessor TAM1 (Venkatesh, 2000). Further, Ke et al. (2021) have validated the relationships in the TAM2 model for application in an SST context specifically, which emphasizes the applicability of TAM2 to this study. With this in consideration, the Technology Acceptance Models, and TAM2 in particular, can work as a foundation for research when analyzing the key success factors and trends in the SST business landscape.

2.2 ISSM

An Information System (IS) is defined as a set of interrelated components that collect, manipulate, store, and distribute information. It helps organization achieve goals by increasing profits, support decision-making, increase control and improve customer service (Zemmouchi-Ghomari, 2021). Naturally, a digital SST falls under the concept of an IS (Lian, 2018).

The Information System Success Model (ISSM) is a theoretical framework within the field of information systems (IS). It aims to offer a comprehensive understanding of the success of an IS by explaining, describing, and identifying connections among a set of key dimensions that interdependently affect success of an IS (McLean & Delone, 1992). After its initial development in 1992, it has been revised over the years after criticism from various scholars (Seddon, 1997). An updated model was presented in 2003, and the revised set of key dimensions affecting the success of an IS can be seen in figure 2.2.1.

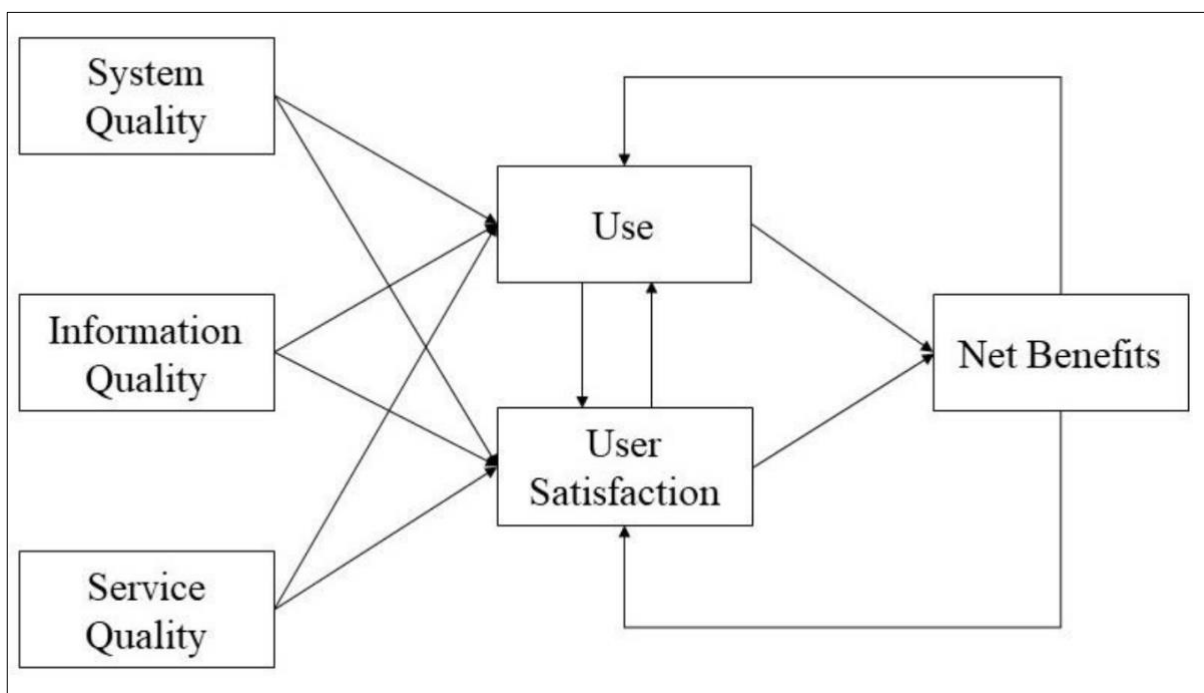


Figure 2.2.1. Key interdependent dimensions for the updated ISSM model (McLean & Delone, 2003).

Accordingly, the model can be summarized as following: An assessment of a system involves the consideration of three types of qualities: information, system, and service. They are used as external variables in the model. These variables subsequently impact use (or the intention to use), as well as user satisfaction. The utilization of the system then leads to specific benefits. The net impact benefits, whether positive or negative, plays a crucial role in influencing user satisfaction and the continued use of the IS (Urbach et al., 2009).

The individual success variables are defined as (McLean & Delone, 2016):

- *System quality*: The characteristics of the IS itself. For instance, system flexibility, system reliability, ease of use, ease of learning, as well as system features of flexibility, sophistication, intuitiveness, and fast response times.

- *Information quality*: The characteristics of the system outputs, i.e. the reports and web page. For instance, relevance, accuracy, completeness, usability, timeliness, and understandability.
- *Service in quality*: Characteristics of the support that users receive from the IS provider. For instance, accuracy, responsiveness, technical competence, reliability, and empathy of the IT personnel staff.
- *Use*: To which extent and manner that customers utilize the IS. For instance, frequency and amount of use, appropriateness of use, nature of use, extent of use and purpose of use.
- *User Satisfaction*: Users' degree of satisfaction with the IS (subjective measure).
- *Net Benefits*: The degree to which the IS are improving or impairing the success of individuals, organizations and industries. For instance, improved decision-making, improved productivity, increased sales, cost reductions, improved profits, time-savings etc.

With SSTs falling under the concept of an IS, McLean and Delone's ISSM theory serves as a robust and well-researched basis for the further analysis of success of SSTs (Lian, 2018). Nonetheless, it is important to note that the original model is intended to be applicable across a diverse range of research contexts (Walther et al., 2013). This implies that the model is not customized to specific contexts. While McLean and Delone advocate for a standardized measure of IS success across various research domains, they acknowledge the contextual dependence of success and highlights that domain-specific applications of the ISSM model is highly recommended (McLean & Delone, 2016). Going forward, the variables in the ISSM model will serve as inspiration, guidance, and research foundation for the discussions in the upcoming interviews.

2.3 Self-Service Technologies (SSTs)

A wide range of research have been conducted in the field of SSTs. This section aims to serve as an overview of existing SST literature, creating a solid foundation going forward with this study. It starts off with presenting generic advantages and hurdles associated with SSTs, followed by specific ICT and B2B-related theory. Lastly, some key trends in the field of SSTs are presented.

2.3.1 SST Advantages and Hurdles

As mentioned earlier, SSTs provide services to consumers with minimal or no human interaction. Technological advancements have introduced sophisticated SST systems that deliver superior customer service compared to traditional physical service options, giving SST providers with a competitive edge. This is particularly important in today's environment, where competition has become commonplace rather than the exception (Chan & Petrikat, 2022).

A competitive advantage for a product or service can be achieved by differentiation, meaning that the product or service provides unique value for its customers beyond simply a lowered price (Grant, 2018). SSTs can be used as a means for competitive advantage, by ensuring a high

SST service quality (Chan & Petrikat, 2022). This in turn affects customers' satisfaction, loyalty, and behavioral intentions, thus giving a competitive edge. Hassan et al. (2020) illustrates this in a conceptual framework, showing the relationship between each of the seven SST components presented and its impact on customer happiness, loyalty, and behavioral intentions (see figure 2.3.1.1). In simpler terms, when an SST fulfills the seven components outlined on the figure's left-hand side, the likelihood of making happier and more loyal customers increases, which can be utilized as a competitive advantage against its competitors (Chan & Petrikat, 2022).

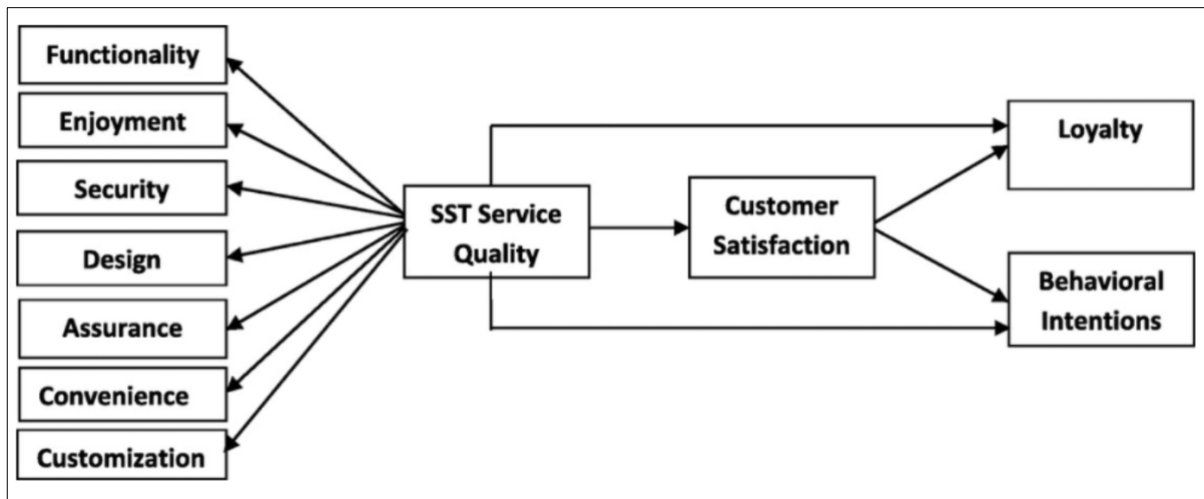


Figure 2.3.1.1. Framework showing how each of the seven SST components affects customer satisfaction, loyalty, and behavioral intentions (Hassan et al., 2020)

These seven characteristics used in the framework was taken from the SSTQUAL scale, developed by Lin and Hsieh (2011). They were found to be the key factors influencing SST quality, hence used by Hassan et al. (2020) in the illustration above. They can be explained followingly:

- *Functionality* revolves around an SST's ease of use, responsiveness, and reliability.
- *Enjoyment* represents the sense of enjoyment felt during both the delivery and the outcome of an SST interaction.
- *Security* represents the perceived protection against intrusion, fraud, and the loss of personal information.
- *Assurance* represents the confidence and trust in the SST brought by the reputation, competence, and image of the SST provider.
- *Design* represents the overall structure and layout of the SST system.
- *Convenience* reflects the accessibility of the SST service towards its users.
- *Customization* illustrates the extent to which an SST can be tailored to align with individual customer preferences and transaction histories.

These seven characteristics are the determinants of *SST service quality*. Followingly, this quality directly impacts *loyalty* and *behavioral intention* through the change in *customer satisfaction*. Case studies has proven that SST service quality predicts 75% of customers' loyalty and 59% of users' behavioral intention (Hassan et al., 2020). The reason behind this was

that users felt much more independent carrying out the service tasks and the process in the self-service tool themselves. As a result, the seven characteristics of SST service quality was concluded to be decisive for satisfaction, loyalty, and behavioral intention, thus ultimately vital for establishing a competitive advantage.

Although SSTs can help firms achieve a competitive advantage, implementing and delivering a self-service solution is not always a seamless process. A significant hurdle in the past have been the user adoption of the SSTs that businesses provide (Chan & Petrikat, 2022). Many individuals resist change due to the uncertainty it brings, and they may avoid utilizing SSTs if they encounter significant usage barriers, such as a complex user interface. SSTs also naturally diminish the human interaction in customer relations, which is something that is valuable for many business customers (Pawlowski & Pastuszak, 2016), thus also becoming a hurdle for user adoption of SSTs. A combination of physical and digital interaction is needed in these cases, creating a gradual transition towards SSTs while not neglecting customer needs in the short run (Scherer et al., 2015). Further, Chan and Petrikat (2022) explain that when gauging the adoption and acceptance of the SST, not only the customers should be considered but also the employees of the business providing the SST. Many of them may not agree that SSTs are preferable to in-person interactions and would rather engage directly with customers and build personal connections.

Another big hurdle is the challenges that comes with increasing system maturity after an SST has been implemented (Chan & Petrikat, 2022). The system must have the adaptability to accommodate changes in a rapidly evolving landscape. Hence, in order to serve customer needs accurately over time, a self-service tool needs regular updates and changes. Chan and Petrikat (2022) further explains that this involves continuously protecting clients' personal information, as cyberattackers come up with new methods, and legislation around data privacy are constantly changing. It is crucial to acknowledge the importance of customers' personal information, so that firms can start addressing these challenges and incorporate robust encryption measures to minimize intrusions into the firm's information database.

2.3.2 B2B Digital Self-Service in the ICT Industry

In accordance with the scope of this thesis, it is highly relevant to review literature around not only SSTs in general, but also its specific role in the B2B ICT landscape. For ICT firms, offering a B2B self-service tool should be considered a must-have, as it brings tangible benefits with it (Makarchuk, 2023). First, it allows for differentiation from competitors, as the customer experience can be designed to target specific customer needs. Secondly, it enhances the customer experience by increasing the convenience and personalization. Third, it increases the understanding of customer behavior through collecting data about how customers use the tool, leading to increased revenue through targeted promotions and recommendations.

In order to utilize these benefits, ICT firms must understand which features and functionalities that are of particular importance for business customers when deploying digital self-service towards ICT customers. First, providing an omnichannel experience is key factor for user

convenience (Makarchuk, 2023). In simple terms, this means that no matter what kind of service the customer needs, it can all be solved from the same service portal (Junsawang et al., 2021). A key enabler for this is a single sign-on (SSO) functionality, which lets the customer use the same account and login for all service engagements, thus enhancing the omnichannel experience. Other important features for B2B self-service tools for ICT customers are workforce management system, e-shop, billing, and ERP (Makarchuk, 2023). He further explains that external features (e.g. payment services for purchases made) can also be integrated through APIs (Application Programming Interface), which is a common element in contemporary self-service tools. These APIs are also used to integrate the self-service tool with customers' workflow, so that using the SST becomes a seamless experience with minimal manual work. An overview of the functional architecture and its key features for a typical B2B self-service tool in the ICT industry is given in figure 2.3.2.1.

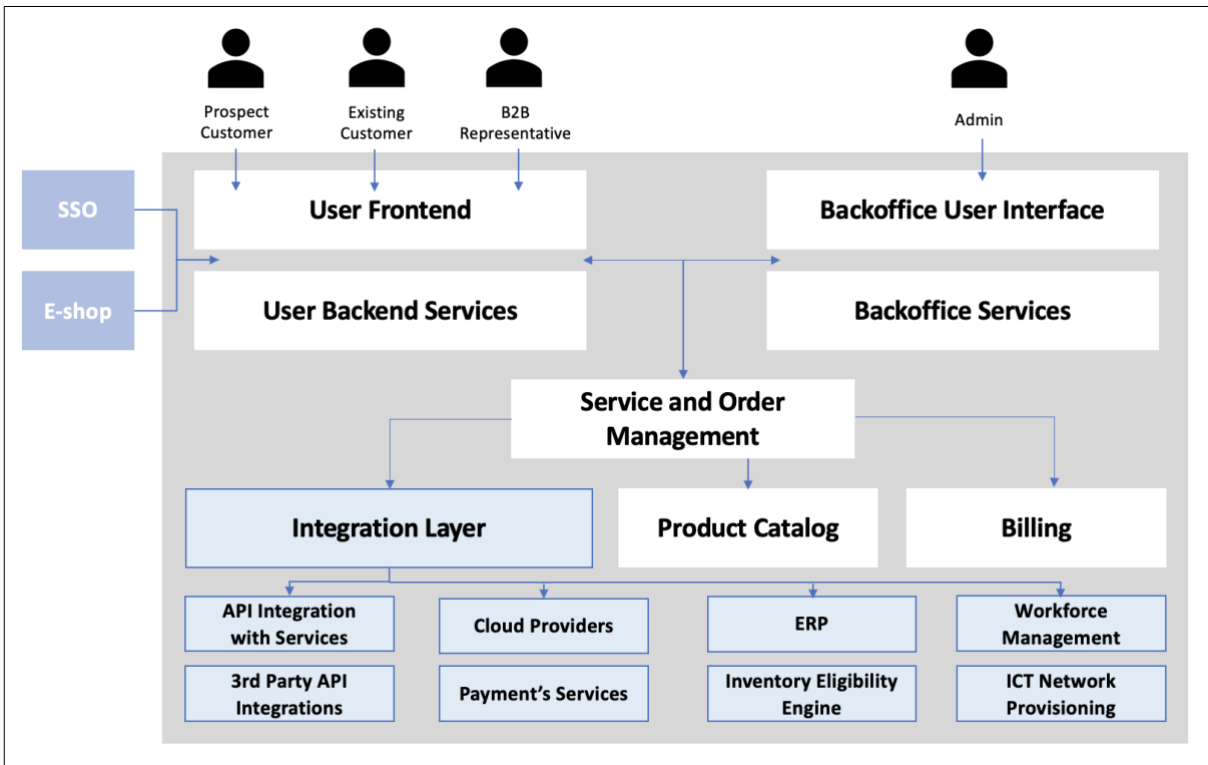


Figure 2.3.2.1. Overview of the functional architecture of a typical B2B self-service tool in the ICT Industry (Makarchuk, 2023). The integration layer can consist of both external integrations (e.g. PayPal as a payment service) and internal integrations (e.g. integration of customer workforce management into the self-service tool).

2.3.3 Literature on Trends in SSTs

As previously mentioned, the demand for self-service is still on the rise with an expected yearly market growth rate of 11.8% in the upcoming years. This is driven by the increasing customer needs for the characteristics that digital self-service brings, such as more control over the service process, higher degree of personalization, shorter or no wait time, etc. (Chan and Petrikat, 2022).

In addition to changes in customer demands, there are other interesting trends in the field of self-service that must be highlighted to create an understanding of where self-service is heading.

One of them is the increased incorporation of new emerging technologies into SSTs, one of them being Artificial Intelligence (AI) and Machine Learning (ML) (Bengtsson & Hägerlöf, 2023). Chen et al. (2021) explains that the increased use of these technologies in SSTs can enhance the degree of personalization, which leads to more accurate and efficient ways of serving customers. One example of this can be the use of ML-powered predictive analytics to extract customer behavior insights from usage data of SSTs (Patterson, 2023). Bengtsson and Hägerlöf (2023) further explain that Natural Language Processing (NLP) and speech recognition are also on the rise within self-service, as it enables an elevated experience through key word helping and more user-friendly ways to communicate with the tool. The integration of IoT-technologies into SSTs can provide the real-time information on consumer behavior that is needed for the models to generate these insights (Bengtsson and Hägerlöf, 2023).

Digital B2B tools are also becoming increasingly deployed as mobile applications (Asamoah et al., 2023). This enables both buyers and sellers to have an even faster access to real-time data as the self-service tool can be accessed out in the field. This extended possibility for data entry and account maintenance for sellers ultimately enhance the system use and data quality, leading to a better customer experience. The increasing number of alternatives of digital interfaces for service makes the case for digital self-service, however, it also raises concerns. The reduced amount of human interaction resulting from this threatens the elements of a business relationship that relies on face-to-face communication. Consequently, scholars have highlighted the importance an increased understanding of navigating the complex balance between the increased demand for digital self-service, and the need for human interaction in business relationships (Chan & Petrikat, 2022).

2.4 Conceptual Framework

This section provides the reader with a conceptual framework for this research, built up by a combination of the frameworks explained previously. Looking at the frameworks in figures 2.1.2.1, 2.2.1, and 2.3.1.1, they are all built up by external variables on the left-hand side, which generates a success metric on the right-hand side. In summary, these success metrics are *Intention to Use, Usage Behavior, Use, User Satisfaction, Net Benefits, Loyalty, and Behavioral Intention*. The authors of this study interpret these as indicators of success for a technology, as they all capture desirable outcomes of a technology. Hence, the external variables (on the left-hand side in the figures) are seen as determinants of success for a technology, and in the context of this study, determinants of SST success.

The conceptual framework aims to highlight these external variables as the focus areas for investigating key success factors within digital self-service. However, the overlap among these frameworks also generates an overlap among the external variables. For instance, *Job Relevance* represented as an external variable in the TAM model (figure 2.1.2.1) can be represented by the *Customization* variable in the framework presented by Hassan et al. (figure 2.3.1.1), as they both aim to highlight an SST's relevance and alignment with individual users' specific preferences. Hence, overlapping variables will be combined into one variable. In this example, the variable will go under the label *Customization* in the conceptual framework.

In table 2.4.1, all external variables are listed with a description, the variable's originating theoretical framework, and a motivation for removal if the variable overlaps with a similar, but more suitable, variable from another framework.

External variable	Description	Motivation for removal	Originating framework
Voluntariness	Whether the use of the SST is optional or mandatory.	-	<i>TAM2</i>
Subjective Norm	How behavioral norms affect the usage of SSTs.	-	<i>TAM2</i>
Job Relevance	How applicable/relevant the SST is for a user's specific job responsibilities	Closely related to <i>Customization</i> , as the purpose of it is to increase Job Relevance.	<i>TAM2</i>
Output Quality	How well the SST performs tasks, regardless of Job Relevance.	<i>Functionality</i> and <i>Design</i> captures the quality of the SST output well.	<i>TAM2</i>
Result Demonstrability	The extent to which the system shows what results/benefits it generates.	-	<i>TAM2</i>
Perceived Ease of Use	The extent the use of a particular system would be free from effort and difficulty.	-	<i>TAM2</i>
System Quality	System flexibility, system reliability, ease of use, ease of learning, as well as system features of flexibility, sophistication, intuitiveness, and fast response times.	The variables <i>Functionality</i> , <i>Service Quality</i> , and <i>Customization</i> already covers the area.	<i>ISSM</i>
Information Quality	The quality of the SST outputs (e.g. the reports and web page). Includes relevance, accuracy, completeness, usability, timeliness, and understandability.	The variables <i>Customization</i> , <i>Functionality</i> and <i>Design</i> already covers the area.	<i>ISSM</i>

Service Quality	Characteristics of the support that users receive from the SST provider. Includes accuracy, responsiveness, technical competence, reliability, and empathy of the IT personnel staff.	-	<i>ISSM</i>
<i>Functionality</i>	The SST's ease of use, responsiveness, and reliability.	-	<i>Hassan et al., conceptual framework</i>
<i>Enjoyment</i>	The sense of enjoyment felt during both the delivery and the outcome of an SST interaction.	-	<i>Hassan et al., conceptual framework</i>
<i>Security</i>	The user's perceived protection against intrusion, fraud, and the loss of personal information.	-	<i>Hassan et al., conceptual framework</i>
Design	Reflects the tangible aspects of an SST, including aesthetic and ergonomic values for customers and enhancing quality perceptions.	-	<i>Hassan et al., conceptual framework</i>
<i>Assurance</i>	The confidence and trust in the SST brought by the reputation, competence, and image of the SST provider.	-	<i>Hassan et al., conceptual framework</i>
Convenience	Accessibility of the SST service towards its users.	-	<i>Hassan et al., conceptual framework</i>
Customization	The extent to which an SST can be tailored to align with individual customer preferences and transaction histories.	-	<i>Hassan et al., conceptual framework</i>

Table 2.4.1. Overview of external variables being determinants of SST success. Some variables are removed due to overlap with another variable, with a motivation in its respective cell. Note that the variables Image and Experience from TAM2 are not included, due to them being dependent on the Subjective Norm variable, and hence not seen as an external variable. Voluntariness, however, is included as the authors view it as more of an independent variable.

As seen in the table, *Job Relevance*, *Output Quality*, *System Quality*, and *Information Quality* was removed. The 12 remaining external variables forms the conceptual framework for this

study. In essence, these variables are portrayed by the authors as the general determinants of SST success, meaning that these are the areas and themes to investigate in order to fulfill the purpose of this study. In figure 2.4.1, the conceptual framework is shown which visualizes the determinants of SST success. Note that this framework is based on theory non-specific for B2B and ICT, which makes it a general conceptual framework for SST success. How this framework was used throughout the study is explained in the next chapter.

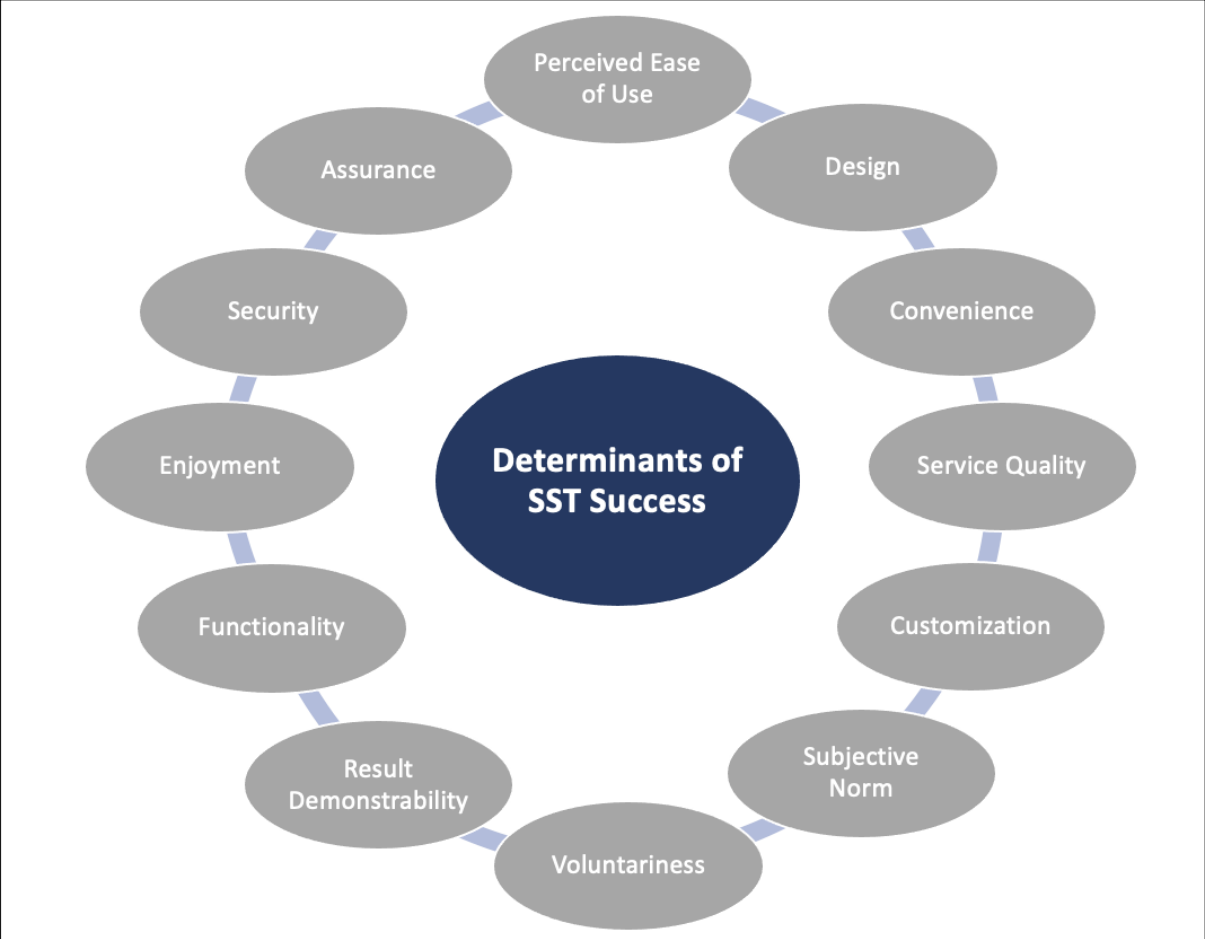


Figure 2.4.1. The 12 determinants of SST success resulting from the literature overview.

3. Method

To help achieve the objective of this study, the methodology followed a clear structure. This section involves an overview of the research strategy, followed by a deeper dive into how the qualitative approach of interviews was used throughout the study.

3.1 Research Strategy

The method selected to address the research topic of this study is qualitative research. According to Denzin (1989), the qualitative research approach produces detailed descriptions of participants' feelings, opinions, experiences, and interprets the significance of their actions. Creswell (2013) concurs and adds that qualitative research nourishes deep understanding of complex phenomena, particularly those that are subjective, contextual, or poorly understood. Due to the broadness and speculative nature of this study's research question, one can safely say that the topic is complex, contextual, and subjective. To encompass those dimensions, nuances, feelings, opinions, and experiences must be collected. Hence, qualitative research was chosen as the research method.

After the literature overview process, the chosen research strategy was conducted in four main steps. First, the qualitative data was collected. This was done through interviews with select groups of respondents, where the structures and themes of the interview questions was inspired from the literature overview section of this study. After collection of the data, it was transcribed and cleaned from redundant and unnecessary discussions. After this, the data analysis process took place. Here, the refined material was analyzed with respect to the knowledge derived from the literature overview. Lastly, the conducted analysis enabled the interpretation and presentation of the findings generated by this study. A graphical overview of the research strategy and process can be seen in figure 3.1.1.

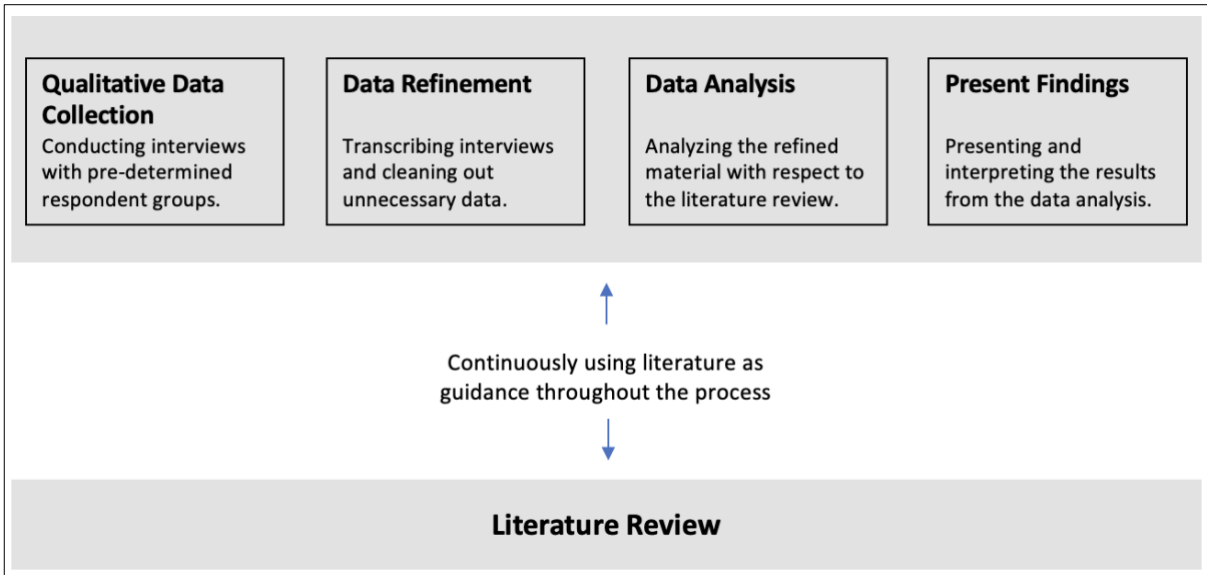


Figure 3.1.1. Study overview of the research strategy and process.

3.2 Qualitative Methodological Approach

3.2.1 Literature Overview

The research began with a literature overview, presented in section 2. This was conducted with inspiration from the procedure of Webster and Watson (2002). This means that identification of select keywords, alternative spellings and synonyms took place, and these were used to search for existing research. These keywords have mainly been provided by representatives at Tele2. The aim of the literature overview was to provide inspiration, insights, and guidance for the research process.

3.2.2 Interview Structure

Interviewing is likely the most widely used method in qualitative research. Its inherent flexibility and adaptability make it an appealing research method in many contexts. The principal interview types for qualitative research are the unstructured interview and the semi-structured interview (Bell et al., 2022). These interview types put emphasis on greater generality in the formulation of questions in contrast to the structured interview and the standardized interview that are commonly associated to quantitative research - which highlights reliability and validity. Qualitative interviewing as data collection consequently provides an objective comparison of phenomenon and allows for exploration of relevant topics from the respondents (Rabionet, 2011).

For this research, semi-structured interviews were used as the method which allow the researcher to address a wide range of topics while allowing the interviewee to freely elaborate answers or omit information (Creswell & Plano Clark, 2011). Also, the flexibility of semi-structured interviews allows the interviewer to probe and further explore interesting topics (Adams, 2015; Grey, 2009). The interviews were based on an interview guide, which is a set of themes, topics, and specific questions that the interviewer must explore (DiCicco-Bloom, 2006). The interview guide helped in exploring respondents more systematically and achieving optimum use of interview time by keeping the interview focused on the core subject. The themes in the interview guide were mainly based on the determinants of SST success identified in the literature overview, see table 2.4.1. However, more open-ended questions were also asked to discover potential topics that fall outside of these determinants, which makes the study less restricted by the pre-determined topics (Bell et al., 2022). The questions in the guide are also adjusted depending on the respondent category. The interview guide can be found in Attachment A.

The length of the interviews should cover a length of 30 minutes to one hour according to DiCicco-Bloom (2006), and this study has followed this guideline. To fully benefit from semi-structured interviews, it is important that the interviewers are smart, sensitive, poised, and nimble, as well as knowledgeable about the topic and problem statement (Adams, 2015).

3.2.3 Interview Sampling

The sampling for interviews contained elements of both fixed purposive sampling and theoretical sampling as presented by Bell et al. (2022). The fixed purposive sampling strategy was used in the sense that the sample categories was more or less established on beforehand. Theoretical sampling was also used in the sense that the authors took advantage of insights from previous interviews and considered those when searching for upcoming interviewees.

The sample size in qualitative research that is considered viable for deriving convincing conclusions varies from situation to situation (Bell et al., 2022). Other scholars agree on this, and Warren (2002) remarks that for a qualitative study to be published, the minimum number of interviews required tends to be between 20 and 30. Bell et al. (2022) continues highlighting the obscurity on this matter by mentioning Mason (2010), who investigated sample size in British and Irish doctoral theses and found that across 560 theses, sample size varied from one to 95 with a mean of 31 and a median of 28. With these references as support, the sample size for this study aimed to be at least 20 respondents, or a few more if required to reach theoretical saturation. After conducting 20 interviews, the authors believed that theoretical saturation was achieved.

The sample was distributed over three different respondent categories:

1) Users

This respondent group provided the study with insights from the users'/customers' perspective. The sample mainly consisted of Small and Medium-sized Enterprises (SMEs, <250 employees) rather than large enterprises. One reason is that considering the hierarchies and bureaucracy in large enterprises, arranging an interview with a respondent from a small B2B buyer was predicted to be easier. Another reason is that through internal communication with Tele2, they explained that while large B2B buyers have more personnel, they do not necessarily have more users than the SMEs, implying that administrators are the ones that mainly encounter self-service tools in large-sized companies and that the users of self-service tools in SMEs might very well be any employee. That being the case, focusing on SMEs was believed to generate more diverse insights than focusing on large-sized companies. Tele2 have given the authors access to their database of SME customers, and these have been targeted as the respondents for this sample category.

2) Sellers providing self-service

The firms offering the digital self-service for its products and services towards customers, namely B2B sellers, was also an important respondent group for this study. These actors shared their own thoughts and experiences about success factors when serving customers through SSTs. With help from the contact person of this thesis at Tele2, access was provided to respondents at Tele2 with different roles in relation to their self-service platform TSO. Further, sellers providing self-service for their products and services from other industries was interviewed as well, to attain perspectives on SSTs outside of the ICT industry. The purpose of

this is to identify success factors for SSTs in industries like banking, enterprise software etc., and interpret its implications for the ICT SST landscape.

3) Third-party providers

Third-party providers of digital self-service platforms provide an additional perspective to the two aforementioned respondent groups. These actors supply B2B sellers with the software and other resources needed to offer self-service towards customers. Some sellers want to outsource the development of a digital self-service solution, and the third-party providers are there to serve this demand. The very core focus of these actors' businesses is delivering digital self-service solutions, and therefore they have deep knowledge on the subject and could provide generalizable insights on both the users' and suppliers' side.

The 20 respondents interviewed can be seen in table 3.2.3.1 below. As seen in the table, the length of the interviews tended to be shorter in the later stages of the study. This reflects the theoretical saturation which led to shorter discussions around certain topics.

Resp. no.	Respondent Category	Industry	Role	Duration	Date	Format
R1.1	Third-party provider	Self-service	Country Sales Manager	>1h	5/3	Virtual
R1.2	Third-party provider	Self-service	Director Self-service (Retail)	>1h	27/3	Virtual
R1.3	Third-party provider	Self-service	Solution Consultant	~1h	12/4	Virtual
R2.1	Seller providing self-service	ICT (Tele2)	Manager SME Support	~50min	12/3	Virtual
R2.2	Seller providing self-service	ICT (Tele2)	Product Manager Self-service	~50min	13/3	Virtual
R2.3	Seller providing self-service	Enterprise Software	Product Scientist	~40min	28/3	Virtual
R2.4	Seller providing self-service	Banking	Global Product Manager	~40min	8/4	Virtual
R2.5	Seller providing self-service	ICT (Tele2)	Technical Product Manager Self-Service	~1h	26/4	Virtual
R2.6	Seller providing self-service	Banking	Product Manager	>1h	1/5	Virtual
R3.1	User	IT Services	Business Controller	~40min	15/4	Virtual
R3.2	User	Automotive	General Manager	~30min	15/4	Virtual
R3.3	User	Construction	COO	~30min	16/4	Virtual
R3.4	User	Consultancy Alliance	Facility Manager	~40min	17/4	Virtual
R3.5	User	Maritime	Administrator	~30min	17/4	Virtual

R3.6	User	IT Services	Office Manager	~40min	18/4	Virtual
R3.7	User	Fashion	HR	~30min	22/4	Virtual
R3.8	User	HVAC	Project Manager	~30min	23/4	Virtual
R3.9	User	Healthcare	IT Operations Technician	~30min	24/4	Virtual
R3.10	User	Industrial Equipment	IT Manager	~30min	6/5	Virtual
R3.11	User	Civil Rights NGO	Acting Head of IT	~40min	13/5	Virtual

Table 3.2.3.1. All respondents, sorted by respondent category and dates.

3.2.4 Analysis

The analysis in this study emanated from an abductive approach to theory. That is, moving back and forth iteratively between literature and empirical evidence, using this to develop theory and challenge preconceived understandings (Bell et al. 2022).

Bell et al. (2022) state that one of the main difficulties with qualitative research is its reliance on unstructured language in the form of notes, interview transcripts, or other documents, which quickly generates a large and complex dataset. Naturally, it is more burdensome to analyze a large and unstructured dataset than a small and structured one, and to make matters worse, there are few well-established and widely accepted rules for the analysis of qualitative data.

The course of action this study resorted to is thematic analysis which is one of the most used approaches to qualitative data analysis. The methodology, proposed by Ryan and Bernard (2003), and Braun and Clarke (2006), supported and provided guidance in finding a path through the maze of data that the interviews generated. The aim of using it was to identify patterns and comparing findings with available theories and models. The process ultimately provided insights and helped in deriving conclusions that are fruitful to answering the research question. Considering the explorative nature of this study, the thematic analysis was appropriate and viable due to its flexibility. However, there are some criticisms towards thematic analysis, mainly regarding it being too flexible. Willing (2008) present a counterargument to that claim, namely: “Strictly speaking, there are no ‘right’ or ‘wrong’ methods. Rather, methods of data collection and analysis can be more or less appropriate to the research question.” (Willing, 2008).

Bell et al. (2022) state that theory-related material can be used as a springboard for selecting the themes. In this study, the determinants in the conceptual framework formed the foundation of the themes where gathered data was sorted into these determinants when presenting the empirical results. As the themes in this study are a result of consolidating several different theories, they were expected to be exhaustive enough for coding and sorting all data gathered in the interviews. If findings turned out to fall outside the scope of the themes, new themes would be generated representing determinants of SST success. However, this was not necessary

as these 12 determinants showed to be exhaustive. Ultimately, the findings sorted into these themes was discussed in connection to the literature overview in the analysis-section.

3.3 Critical Review of Validity and Replicability

The external validity of this study, represented by its degree of generalizability, is affected by the choice of a qualitative methodology. Qualitative research often leads to smaller sample size and a lack of a sufficient scope in the findings, which results in a lower generalizability (Bell et al., 2022). The external validity is further challenged by the specific focus on the ICT industry, rather than a generic SST scope across many industries. However, rather than seeking broad generalization, the goal is to offer specific insights into the SST field within ICT. Aligning with Flyvbjerg's (2006) viewpoint, the findings of this study will contribute concrete, context-dependent knowledge—something that qualitative social science can reliably generate when investigating a specific industry. Further, despite this industry-specific focus, this study considers the perspectives of stakeholders beyond the ICT industry when conducting interviews, enabling the research to address industry-specific complexities (Bell et al., 2022) while also exploring general phenomena (Stake, 1995).

In terms of internal validity, this study is strengthened by the interview sample from multiple organizations with different positions in the value chain of an SST (users, providers, and third-party providers), with different roles within the organizations, and from a range of different industries. However, as the total sample of 20 respondents is relatively low due (caused by the time constraints of this study), the authors made sure the interviews reached true saturation and that the data collected became redundant, before being satisfied with the number of interviews conducted. This is aligning with Bell et al.'s (2022) recommendation regarding internal validity. A possible challenge regarding this study's internal validity could be that the themes, i.e. the 12 determinants of SST success, was pre-determined from theory alone. One could argue that this creates a risk of neglecting findings that fall outside of these 12 determinants. However, as stated previously, if new themes would have been needed to code and sort the data from the interviews accurately, this would have been done. However, it turned out that the existing themes were sufficient.

To ensure replicability, the research method and the process behind it have been carefully documented in the method section. This documentation provides a clear and transparent view of the approach, facilitating the potential replication of this study by other researchers.

4. Empirical Results

As described in the method section, this chapter presents the qualitative findings generated during the interviews with our three respondent groups: users, sellers, and third-party providers. The findings have been sorted into the themes based on the conceptual framework (see figure 2.4.1), representing the determinants of SST success based on the literature overview. As stated earlier, the 12 themes were shown to be exhaustive enough to sort and code all findings.

4.1 Perceived Ease of Use

The *perceived ease of use* theme represents the extent that the use of the SST is free from effort and difficulty. A user-friendly UI and UX is highly important to achieve this. Throughout the interviews, it was clear that ease of use was a topic of great significance:

“A user-friendly interface is by far the most important characteristic I’m looking for in a digital self-service tool.” – R3.3

“A frictionless UX is vital for promoting self-service usage. For instance, making it comprehensible and easier to understand is needed to make customers believe it’s worth the initial struggle to start using it.” – R2.1

The desire for ease of use among users of Tele2’s self-service seems related to the nature of how their customers use it – simple repetitive tasks mean a high emphasis on user-friendliness:

“95% of what we do in TSO are simple repetitive tasks, and followingly all we seek in the UI for this tool is to be as simple and intuitive as possible, rather than cutting-edge.” – R3.1

The frustration among users with a low perceived ease of use was clear. It was also clear that this frustration directly affects the adoption of an SST.

“I do not think TSO is neat nor user friendly, and that makes you stay away from it” – R3.7

So, how does an SST provider make sure that their platform is easy to use? Respondents tended to stick to the narrative that “less is more”, with a limited and only relevant set of options needed when navigating around:

“It’s important that the self-service tool is designed in a way so that there are few options for the user. As soon as it becomes too complicated, the digital interface will be too time consuming and cumbersome.” – R2.4

“[Keeping options limited] would make it a lot more pedagogical. TSO is very messy to navigate, and I feel like there’s an information overload as I use it.” – R3.6

“What I’m missing [in TSO] is “easy access”, meaning that the first thing I want to see is my users, not options for filing an error report, because error reports are only relevant when there is a problem.” – R3.7

A product scientist within self-service concluded that the solution to this is facilitating quick actions:

“If the task that the user wants to perform requires too many clicks, the task will be abandoned. One of our solutions to this is the new AI chatbot, where a description of a task is described whereupon the bot solves it. [...] this is performed without any clicks other than opening the chatbot.” – R2.3

The same respondent elaborated on this and explained that easy navigation and quick actions is not just important today, but is a part of an overall trend where this becomes more important for every year. Interestingly, it was argued that this will ultimately make users worse at navigating which further reinforces the importance of easy navigation:

“A trend now is that we’re seeing B2B customers requiring more in terms of UX/UI, as there’s an overall trend in the world towards easier navigation. Technological literacy have historically always gone up, but this will reverse as a result of effortless navigation becoming the norm. Businesses will be forced to adapt.” – R2.3

4.2 Design

As stated in the literature overview, the *design* determinant reflects the overall structure and layout of the SST, including aesthetic and ergonomic values for customers which enhances quality perceptions. From interviewing experts in the field, it is clear that the overall structure and layout of B2B self-service tools is usually inspired upon the development of B2C tools:

“The B2C side is leading the self-service development, and this makes it common for B2B developers to leapfrog on the advancements made on the private side.” – R2.4

Initially, the experience of B2B commerce was quite similar to the experience of B2C commerce. As [...] customers became accustomed to self-service and the autonomy it provides in their private lives, they naturally came to expect the same experience in their professional life.” – R1.1

Many B2B providers of self-service are lagging behind in terms of designing a proper self-service experience:

“Only 25% of these B2B portals today are really fulfilling what we see as an actual self-service platform. Most are instead designed as pure transaction portals and doesn’t have the intelligent integration of customers and partners needed for mass self-service.” – R1.1

A parameter of the design is the aesthetic values it can provide. This is often associated with how neat, modern and pleasing the UI design is. For some respondents, this was not a priority:

“Interfaces and stuff like that really don't matter, not in these cases anyway.” – R3.8

However, many users of TSO expressed a dissatisfaction regarding its look, which indicates that design aesthetics are being valued among users:

“An aesthetically pleasing design and user interface is of course a must-have, and in my experience with Tele2’s TSO this is really not the case.” – R3.3

“It feels like Windows-98 but just a little bit more modern. I understand how to navigate it but it would be nice with a more pleasing design.” – R3.5

”Just how the portal is designed, that’s my biggest concern. I just think the layout is boring. The buttons are weird, the menu choices are weird, it's not easy I'd say. Looks a bit like they threw this together and then it's left as is.” – R3.7

An aspect of the overall structure of an SST is whether it is built as an omni-channel platform. Self-service experts have pointed out this as an important part of the customer experience:

“Business users want one unique interface, where everything they need should be accessible in the same place. For instance, they want to be able to see invoices, tickets, logistics, and other statistics without having to leave the portal.” – R1.1

The users agreed with this sentiment:

“As for now, I have to do hardware orders in one portal, and handle the subscriptions in another. It would be a lot more handy if all of this could be done in one and the same portal.” – R3.4

“Right now everything around Tele2’s self-service seems to be done in different portals. If I could order the physical phones and purchase data at the same place, it would all work more smoothly.” – R3.6

However, the idea of an omni-channel experience should not necessarily focus on actually building one single customer portal from the back-end, but rather on fronting it as one portal in the UI. A product manager of a self-service tool conducted a study regarding omni-channel experiences in self-service, and explained the following:

“The important part is not to have one customer portal built, but rather to give the experience to the customer of interacting with one customer portal. When navigating the tool, the user should never have to leave the UI no matter what task they want done. This can be achieved without technically having one portal.”

– R2.2

Self-service providers pointed out that using single sign-on (SSO) is a prerequisite for creating the perception of an omni-channel experience:

“SSO gives users the opportunity to use the same login for everything. Without this, users can’t get the sense of ‘one customer portal’.” – R2.5

Customers commonly use TSO on a corporate level, where several subsidiaries handle their ICT provider from one and the same administrating function. A user highlighted that it could be useful to have one and the same login for all their subsidiaries, to further build the sense of one customer portal:

“I also need to switch between companies, and that requires you to log off and log in again, which has been a struggle. I mean, why can’t everything within the group be put together to allow for easy switching between companies in the portal?” – R3.7

4.3 Convenience

The *convenience* theme reflects the accessibility of the SST service towards its users. For users, it is clear that SSTs are preferable over other alternatives due to the convenience of solving their problems on their own, at any time:

“Instead of sending emails or calling in, TSO enables me to do the changes myself. This convenience of being able to do quick actions at any time is really valuable.” – R3.2

“Our preference is to do it ourselves [by using TSO] because it's faster and easier and allows us to resolve requests faster.” – R3.11

When asking customers about what makes an SST “accessible”, the responses tended to pivot towards that as long as the SST removes the need to call human support at any time, it brings accessibility and hence convenience.

“We usually don’t have long queue times for our human support, but time is money for everybody. Hence, being able to quickly log on to a self-service tool is a win for customers.” – R2.1

“Before TSO was implemented, it was really inconvenient to set aside the time for a call everytime a small change was needed to be done.” – R3.1

One aspect that users pointed out as inconvenient is the presence of two-factor authentication:

“The only inconvenient thing about TSO is that I have to verify my identity, which just feels like a waste of time as I have to wait for the password.” – R3.4

“Two-factor authentication is something I don’t really like. I think this creates a barrier that makes users rather just call the support instead.” – R3.6

An enabler for increased accessibility could be to provide self-service as a phone application. Overall, users were positive towards introducing the self-service platform as an app:

“A phone app for self-service? Why not! We use our phones for everything else.” – R3.5

“A phone app, yes absolutely! [...] it would of course make it easier not to pick up the computer and instead be able to do it on the mobile, and then of course I would have preferred an app rather than logging into the browser with the mobile.” – R3.9

Another user pointed out that the actual benefit of a phone app would not be the accessibility but rather a way to make the self-service more simplistic:

“I often feel like phone applications are more user friendly than on computers. Because I think, in the computer interface, you want to fit in as much as possible, while in a telephone application you focus on the basics and simplicity.” – R3.7

However, not all respondents are convinced that a phone app is needed:

“It doesn't feel like something you'd mess with on a daily basis. So, no, a mobile app doesn't feel necessary, not for me at least.” – R3.8

“Only time I would use TSO in a phone app would be if I'm on vacation and need to fix something very urgent. As long as the complexity and range of functions would be very low, it would be something I'd consider using.” – R3.4

“In our case, since most of our changes are done centrally, it's hard for me to imagine us needing a phone app.” – R3.11

At the same time, cost considerations cannot be neglected when deciding on whether or not to introduce a phone app. As a representative at Tele2 said it:

“From experience, it's quite expensive to deal with apps, so it becomes a business case in that case.” – R2.5

4.4 Service Quality

This theme represents the characteristics of the support that users receive from the SST provider. The focus here is on the human support provided as an alternative to the self-service.

Overall, respondents believed that easy access to human support is instrumental for successful self-service. A human support agent is especially useful in cases where users are struggling with the self-service:

“If the self-service isn't working as it should regarding the customer experience, users should always have the possibility to reach out.” – R1.3

“If the self-service tool is clear and simple to use, it would be sufficient for us. Society is heading in that direction so it won't feel unfamiliar. But when you're using a computer and it doesn't work out, you go crazy. With that said, having human interaction is still very important.” – R3.5

“[About having access to human support] Not only is it important, it's required. I cannot imagine working with a company like Tele2 if we couldn't reach out to human support when we need it. We don't use it often, but when we do, we really need it” – R3.11

The situations where human support is needed as a complement is dependent on the task that the users are trying to carry out:

“[About usage of TSO] To put it simply, I use it for the simple tasks. I usually leave the more complex cases to Tele2.” – R3.7

Respondents also expressed that the B2B landscape relies more heavily on human interaction as opposed to B2C:

“My personal experience is that it seems like a lot of people don't rely on human interaction in their activities as a consumer, but in B2B human interaction must be used to some extent.” – R3.6

However, having easy access to human support is not valuable per se. Instead, it comes down to what solves the customers' problems most easily:

“There’s no surplus value of adding human interaction for the sake of it. We want it to be as simple as possible, regardless of the format [self-service or human interaction].” – R3.1

At the end of the day, customers value having the optionality of both self-service and human support. The combination of it helps fulfill the customer needs more comprehensively:

“I think the combination of both TSO and human support is good, without both I would probably not be as satisfied.” – R3.4

“Self-Service can solve roughly 80% of the inquiries, but the last 20% most often requires human interaction. Hence, self-service will never be the only way to communicate in B2B. Human interaction will always be an important complement.” – R2.4

“We say that 100% of all interactions will be handled by a bot and in the long run we believe that 80% of all interactions will be solved by a bot.” – R1.3

When offering human support, respondents highlighted that having one unique person as the support agent (rather than a new agent every time) is important for the experience.

“It's important that the customer feels safe. That's why we offer [...] a personal contact person they can turn to no matter what problem they have.” – R2.5

For Tele2, many users have experienced the opposite. Their attitude further emphasizes the importance of one contact person.

“Every time someone picks up, it’s a new person. So, when we contact support outside of TSO, we’d appreciate if it was a lot more convenient.” – R3.3

This seems to give rise to a synchronization problem between the support agents. Both Tele2 and their users agreed on the sentiment that their different support agents and divisions are disconnected from each other:

“One manages the internet, one manages phones, one manages exchange solutions, and they don't talk to each other. So neither the delivery of internet worked, nor the phones. So it was nothing that impressed me.” – R3.8

“We have two legs. One self-service leg where build what they believe is good for the customers, and then we have customer service that receives emails and there's a bit of disconnect in between, and they should be connected, you know.” – R2.5

A human support function can not only solve customers' requests for them, but also help with initial trainings to help users get accustomed to the SST. There were mixed opinions about the need for trainings among users:

“We received an initial training from representatives at Tele2. This paved the way for a good start.” – R3.5

“We never received any training about TSO. Can't feel that we had a need of it, but other users might.” – R3.9

It's probably not rocket science to learn how to order it. So no, I don't feel like I need that.” – R3.8

The need for initial training for users depends on the specific user and the format of the training:

“It's also about getting a good education from the start. Not a pdf-file and some Youtube clips. If it [personal training] had been there from the beginning, it would probably have been easier [getting accustomed to TSO]” – R3.7

Helping users solve their own problems in the tool is another way for providers to help customers, while also facilitating increased SST usage at the same time:

“If a customer calls us, we try to guide them through the TSO tool so that they can solve it themselves with our guidance. They often react something like ‘Oh, it's really that easy. Next time I don't have to call’. So, the hard part for us is to make the user come over the initial barrier of understanding the tool.” – R2.1

However, when doing so, it is important to not be perceived as “taking the easy way out” as a provider by letting the customer solve the problem:

“It's also about that feeling, that when you pay for a service, why should you do It yourself?” – R3.7

To conclude this section, it should be mentioned that emerging technologies can be used to enhance the service quality from human support. Specifically, it can be used to give insights about how customer agents are performing, which can help them optimize their service:

“We use AI with a quality perspective to scrutinize the documentation to see if we've acted correctly or incorrectly, and if we've used the right words or not.

Speech to text can aid us in doing this and followingly improve our human support.” – R2.1

4.5 Customization

This theme captures the extent to which an SST can be tailored to align with individual customer preferences. This can be done in different ways, where a fully integrated and tailored self-service for each unique customer is one way of doing it:

“[As third-party self-service providers], we focus on few but complex customers, hence there are no silver bullet. Instead, every functionality must be tailored to the specific customer.” – R1.1

Other respondents believed that SSTs should build upon standardized modules, where final layers of personalization on top of that are added. For instance, this can be done by gathering usage data and optimize product recommendations for that specific user:

“In our case, we shouldn’t make an integrated solution for every single customer. We want to personalize instead. By that, we mean that our tool should be based on standardized modules whereupon we automate the personalization on top of these modules.” – R2.2

Another aspect of the customization is the ability of the customer to configure their own preferences on the platform. This gives the customer a greater sense of control:

“I believe that there’s no such thing as a standard interface that fits all customers, but rather letting them pick themselves what functionalities they want to be displayed, and what employee that should have access to respective functionality.” – R2.1

“Maybe [Tele2 should] include the ability to configure what functions I want to show up. As a very small customer we just need the basics, but now it feels like Tele2 squeezed everything in there.” – R3.1

However, when offering the ability to configure the tool, it is important to keep the number of options to a balance. Some users expressed worries about not knowing what configurations are best for them:

“I think that the ability for the user to customize the tool could be interesting, but at the same time it’s hard as a customer to know what functionalities will be useful for me and what can be ignored.” – R3.6

A crucial part of the configuration options seems to be role-based permissions. This means that different users at the same customer are assigned different degrees of permissions and accesses within the tool:

“Role-based permission is extremely important. These permissions need to be configurable for the users, because only they know best how to assign permissions. These permissions also help customizing the customer experience, as the roles are clear.” – R2.3

“It’s important that when a user log in, they only see what is relevant for that specific user and role.” – R2.2

A self-service expert gave some input on the future of customization in self-service portals. He emphasized that the next level in the development of self-service is having what his organization defines as “smart portals”, which is the next level of customer-tailored solutions:

“A smart portal integrates the platform with IoT and smart devices. Let’s say you are a manufacturer using a self-service platform for the provider of the machines. These smart portals can then integrate for example predictive maintenance of the machines and making orders/transactions of spare parts automatically when there is a need for it. What this means is that the self-service is performed machine-to-machine.” – R1.1

Even further in the future, the respondent’s self-service organization predicts the emergence of what they call “Autonomous Portals”. Here, smart devices and IoT is combined with predictive analytics to enhance customers’ decision-making:

“An autonomous portal is what we predict as the ultimate future development in terms of personalizing a self-service tool. Here, AI helps predict patterns for improved decision-making regarding actions to be made in the self-service tool. This induces a better transfer of knowledge and a higher degree of innovation. It’s basically leveraging smart devices in combination with AI and come up with actions and decisions that are beneficial.” – R1.1

4.6 Subjective Norm

This theme addresses how behavioral norms affect the usage of SSTs. During the interviews respondents was asked how they think social norms, both in their private and their professional life, have affected their receptiveness towards SSTs. When asked, respondents often overlooked norms as a significant factor, and instead pivoted towards more tangible motivations for using self-service:

“[About norms affecting usage of such portals] It rather comes down to how good the tool is. If I can solve all my problems in the tool, I will use it.” – R2.6

“It’s more about just getting it done rather than influence from social norms” - R3.10

However, in contrast to tangible reasons for self-service usage, some respondents expressed that the culture in an organization can affect the adoption of an SST:

“[About norms and usage of SST] I would definitely say that it depends on management and general attitudes.” – R3.7

“[The norm is that] Most of us use self-service across different services.” – R3.4

“I don’t believe we would be this digitally oriented if our customers wouldn’t have pushed us in this direction. Compared to peers, I believe we are on the frontier of being digital and as a result our organization have been very adoptive towards TSO.” – R3.2

It also seems to depend on the specific role of the user. Some roles, such as IT personnel, are more IT-oriented while others are not, which affect the adoption of that customer:

“If I think about us who work in IT, we like to use as much self-service as possible to make things easier, it goes faster. But also if I think about our alarm center department [...] it is more often done by phone.” – R3.9

“The role of the individual user affects the tendency to use SSTs. 100%.” – R3.11

4.7 Voluntariness

Voluntariness stands whether use of the SST is optional or not, and how this affects the success of the SST. In the case for ICT, a mandatory SST mean that users cannot call to a human support to resolve their requests, but instead must find the solution in the self-service tool.

The overall pattern among respondents were that the use of self-service should always be voluntary. They argued that a self-service tool must be impeccable and free from any faultiness for it to justify being mandatory:

“A self-service tool can’t be mandatory if it’s not 100% functional and user friendly. If it’s not used voluntarily, it’s probably because it’s not good enough.” – R3.3

“It is difficult to demand that customers exclusively use TSO and I also don’t think you can completely remove the human part within many functions.” – R2.1

As many users have negative perceptions about TSO, the alternative of human support increases in importance. Pushing users into a self-service tool in these cases can create frustrations:

“As this tends to be the case [a badly functioning SST], the use must be voluntary and also not forced through costs on human interaction.” – R3.3

“TSO felt like a demand from Tele2, a bit like ‘This is how we work, and this is what we offer you.’” – R3.6

At the same time, some providers of self-service believed that pushing users into using the self-service option is crucial:

“[If not incentivizing users] You don't get the movement and pressure on self-service that industries like banking have been very successful in accomplishing.” – R2.5

A self-service product manager believed that customers should be forced into using the self-service, as the overall global trend of digitalization will force customers into digital solutions no matter which vendor they choose:

“Those who leave us because they are forced into a digitized solution will come back because they realize that in a few years everything will be digital. Especially for the older generation.” – R2.4

Another perspective is that a mandatory approach could hamper incentives for developing and optimizing the self-service. The argument was that adoption rate cannot be used to measure the performance of the SST when it is mandatory, which removes the incentives for the provider to offer the best possible experience.

“When usage is optional, adoption rate is an important metric as it demonstrates a metric for SST success. [...] historically, B2B has been neglected in terms of the user experience, because they have been forced to use the self-service if it exists. B2C on the other hand is always optional as they can always choose whether or not to be a customer in the first place.” – R2.3

4.8 Result Demonstrability

This theme captures the extent to which the system shows what results or benefits it generates. Although it mainly focuses on the benefits generated for the user, respondents generated interesting insights on demonstrating results of the SSTs on the provider-side as well.

Users of TSO perceive a lack of communication regarding the benefits derived from using TSO as opposed to calling human support:

“No, what I’ve been told is ‘Do it yourself and it will go faster’. I think Tele2 could become better at promoting this portal.” – R3.7

“No tangible benefits [have been communicated by Tele2], but rather that if we use TSO we can save time.” – R3.2

The TSO Product Manager at Tele2 admitted that they can become better at demonstrating these results. Not only in the sense of communicating more, but also changing how they are communicating it:

“We want to be able to provide more insights to customers through self-service, not only data. It would be fun to report to users how many minutes in the phone queue that they’ve avoided by using our self-service.” – R2.2

“Ideally, this should be converted into dollars saved.” – R2.3

As mentioned, being better at demonstrating the results of an SST can also benefit the provider:

“Measuring the right KPIs internally at Tele2 is super important. This can help us generate insights and move customers towards self-service or reduce [...] If we see that we have a lot of tickets of a specific type, then maybe it’s time to push it up towards a portal.” – R2.5

A product manager in the banking industry expressed that it also makes it easier to get organizational buy-in on self-service solutions when benefits are measured and communicated:

“It is very important to be able to measure the use of the self-service we offer, not only for the customers but also for our sake. Measuring usage will make it easier for us to deploy resources for further development of the self-service tool.” – R2.4

4.9 Functionality

The *functionality* theme can at first glance be perceived as a bit overlapping with other themes, as it refers to the extent that an SST brings ease of use, responsiveness, and reliability. However, for this section, we narrow the scope down into looking at the array of different functionalities and features an SST can bring, and how it could affect the success of self-service.

Many respondents interestingly highlighted that a self-service tool with a broad functionality can have negative consequences:

“I wouldn't say that I'm missing anything [in TSO], rather that I have too much stuff. I would like to peel some off because I don't need all the functions and buttons.” – R3.7

“TSO isn't intuitive at all, I barely know what the purpose of all the options are when navigating around.” – R3.3

“It's important that the self-service tool is designed in a way so that there are few options for the user. As soon as it becomes too complicated, the digital interface will be too time consuming and cumbersome.” – R2.4

At the same time, respondents were quick to mention what features they are looking for and that could be added to TSO:

“Auto-population of forms in self-service when doing requests helps save a lot of time.” – R2.3

“It would be good to have newsletters where you get updates and reminders that you can do this and that.” – R3.5.

“A little more detailed statistics and data on my specific employees and what phone number they are using would be very useful.” – R3.4

“Maybe a potential area of improvement would be to make it easier to order services, because I can't do that in the portal.” – R3.9

As mentioned in section 4.1, adding chatbots can bring value to an SST through facilitating quick actions. A self-service expert confirmed that chatbots can help with a wide array of issues, including quick actions:

“Bots can be used in chats, but also used to more accurately refer to articles and perform actions/task for the user.” – R1.3

However, implementing chatbots should not necessarily be seen as an urgent matter. Today, many users experience difficulties with chatbots as the technology falls short on being a substitute to human support:

“I have a bad feeling about the idea of chatbots. I feel like they never work, and I would rather not have to use it as part of a self-service tool.” – R3.3

“Maybe in 10 years the chatbot is good enough, but today it just can’t replace a physical person.” – R3.6

Although users demand a wide array of features to help solve their problems, providers should be careful with what they are implementing. Ultimately, it seems to be about finding the right balance:

“If it’s too simple and has too few functions, then it won’t be used either because it won’t be able to fulfill the needs.” – R2.1

A product manager in self-service agreed with this sentiment, and highlighted that regularly changing and updating the self-service tool brings organizational challenges:

“Every time a new change is to be made, it is very cumbersome from an organizational standpoint. I had to learn the hard way that any change, even an introduction of a delete button [...] can actually trigger a huge change in your organization.” – R2.6

4.10 Enjoyment

The sense of *enjoyment* felt during the interaction with an SST has been identified as a determinant of SST success resulting from the literature overview. During the interviews, it was clear that a “sense of enjoyment” was secondary to other determinants:

“The enjoyment I feel through TSO is that it just solves my problem faster than calling in.” – R3.4

“It’s simplicity above all that makes it fun.” – R3.7

“No, I wouldn’t say that that it affects me a lot, how fun or boring it is, it’s rather how simple it is, it shouldn’t be complicated. I probably don’t care that much about how enjoyable it is.” – R3.9

“Every time I asked this question about if users are delighted, I scored meaningless results. If I ask the question if users find it useful, I get better data.” – R2.6

“There are user interfaces that are made very nice and with harmonizing colors and round bubbles and things that stand out and scream for attention. But in a company portal like TSO, I appreciate that it is quite clean rather than joyful.” – R3.10

Rather, talking to humans can bring a sense of joy:

“100% self-service is not the best way to secure enjoyment, but the complement with human interaction is an important part to keep.” – R2.4

“It’s always fun to talk to people.” – R3.2

The lack of importance for a sense of joy when using self-service can be somewhat a B2B-specific phenomenon. The B2C-landscape differs to this regard according to respondents:

“If you’re buying phones and so on in your private life, then you might consider choosing the cool providers on the market. For us, that’s not the focus. It shouldn’t be bells and whistles, but rather rock-sold quality.” – R2.5

“Keep in mind that people don’t log in to B2B self-service portals like you do when you go to Instagram five times a day.” – R2.6

“I use other operators privately, they have more designed interfaces in their corresponding portals than I think Tele2 has, but I don’t think it’s something that really gives any advantage. Of course, it probably attracts a private person more than a boring black and white interface does.” – R3.10

“I definitely appreciate that [elements of joy and humor]. But that said, I also accept that Tele2 has limited development resources. [...] We’re going to use it either way. I don’t think that in this case it’s going to affect adoption in any way. Not in the B2B side, perhaps on the B2C side.” – R3.11

4.11 Security

Security in the context of this study refers to the user’s perceived protection against intrusion, fraud, and the loss of personal information. Some respondents, especially larger organizations, believed that security should not be compromised with:

“Security is becoming increasingly more obvious in society and there is no way around this. It’s extra important in a B2B context, as more people can be affected from one attack. The different roles or permissions in an organization add an extra level of complexity that makes the question extra relevant.” – R2.4

“If there is something we look at a lot, it is security. We would definitely opt out of a supplier if we don’t think their solution is secure enough.” – R3.9

Making users login with a two-factor authentication is a common security layer for self-service platforms. Respondents had differing views on the use of this:

“It's impossible for me to imagine Tele2 and not requiring two-factor authentication.” – R3.11

“I would say it is a requirement [two-factor authentication].” – R3.9

“Two-factor authentication is something I don't really like. I think this creates a barrier that makes users rather just call the support instead.” – R3.6

“The only inconvenient thing about TSO is that I have to verify my identity, which just feels like a waste of time as I have to wait for the password.” – R3.4

Customers' perception of the balance between security and convenience seems to depend on historical events. Respondents that have, and have not, been victim of a cyber-attack in the past gave different responses:

“I've never experienced us being subjected to any attack ourselves. That's why I just thought two-step verification was annoying. But I guess I feel that way until the day we experience it [cyberattack].” – R3.8

“Now we work a lot with it [security], we ourselves were exposed to a cyber-attack just over a year ago. So it's something we work a lot on.” – R3.9

The silver bullet to this tradeoff seems to be giving the users optionality. Both in terms of using the feature at all, but also in how it is deployed:

“I discovered last week that email or SMS is now required as verification when logging in, which can be a pain if you're using it often but I'm not, so I don't think it's too cumbersome.” – R3.1

“It is important to choose which roles require extra security, so that it does not become excessive. Higher authorizations must have greater confidentiality.” – R2.4

“So my personal bias experience is that the adoption [following implementation of two-factor authentication] had no issue, it had a bit of communication hiccups. If you provide enough documentation, then they will adopt it and then make sure that after flows are bullet proof because they are always going to get somebody who cannot log back in and you have to cover that. And if you cover that smartly, they don't feel it. If you create a barrier of the aftermath business process, they are going to feel it and that's where the unhappiness comes from.” – R2.6

Using SSO can not only catalyze the omni-channel experience as discussed in section 4.2, but also relieve the burden of the provider to keep login credentials and personal information of

users safe. As SSO means that users could use their own organizations' login credentials for logging into external self-service tools, the security is strengthened:

“That's the dream scenario, the customer being responsible for the security.” – R2.5

4.12 Assurance

This theme reflects the confidence and trust in the SST brought by the reputation, competence, and image of the SST provider. When asking respondents about the connection between the trust in an SST and the image of the provider, it was clear that SST usage was more a result of tangible parameters rather than assurance:

“For us, the brand recognition isn't that important because they work in B2B. Hence, the assurance of the user isn't something they think about too much. Results demonstrability [...] is important, not general brand recognition.” – R2.3

“I don't think I perceive the TSO any differently because I like Tele2. From what I'm doing, I still think that the portal is messy.” – R3.1

“[Whether or not the perception of Tele2 affects the experience of TSO] I don't know, I don't think so.” – R3.8

Some respondents believed that it is the other way around – the self-service tool can boost the brand, rather than having the brand affect the confidence in the self-service:

“Bad self-service is devastating for the brand. Good self-service can probably boost the brand.” – R2.5

However, a few respondents recognized an effect of assurance:

“I feel like the lack of quality in TSO represents the Tele2 brand.” – R3.3

“I think the brand matters, at least when we're talking about big brands, then I probably feel more trust.” – R3.5

5. Analysis

In this part, empirical results are analyzed in relation to the theory to answer the research question. The first two subsections will dive into the determinants of SST success identified in the conceptual framework, to discuss key success factors within each theme. These have been divided into rejected and approved determinants depending on the findings, where rejected determinants represent themes that this study finds to *not* be a determinant of SST success within the scope of B2B and ICT. Conversely, approved determinants were found to be determinants of SST success in the specific context. An overview of this categorization can be seen in figure 5.1.

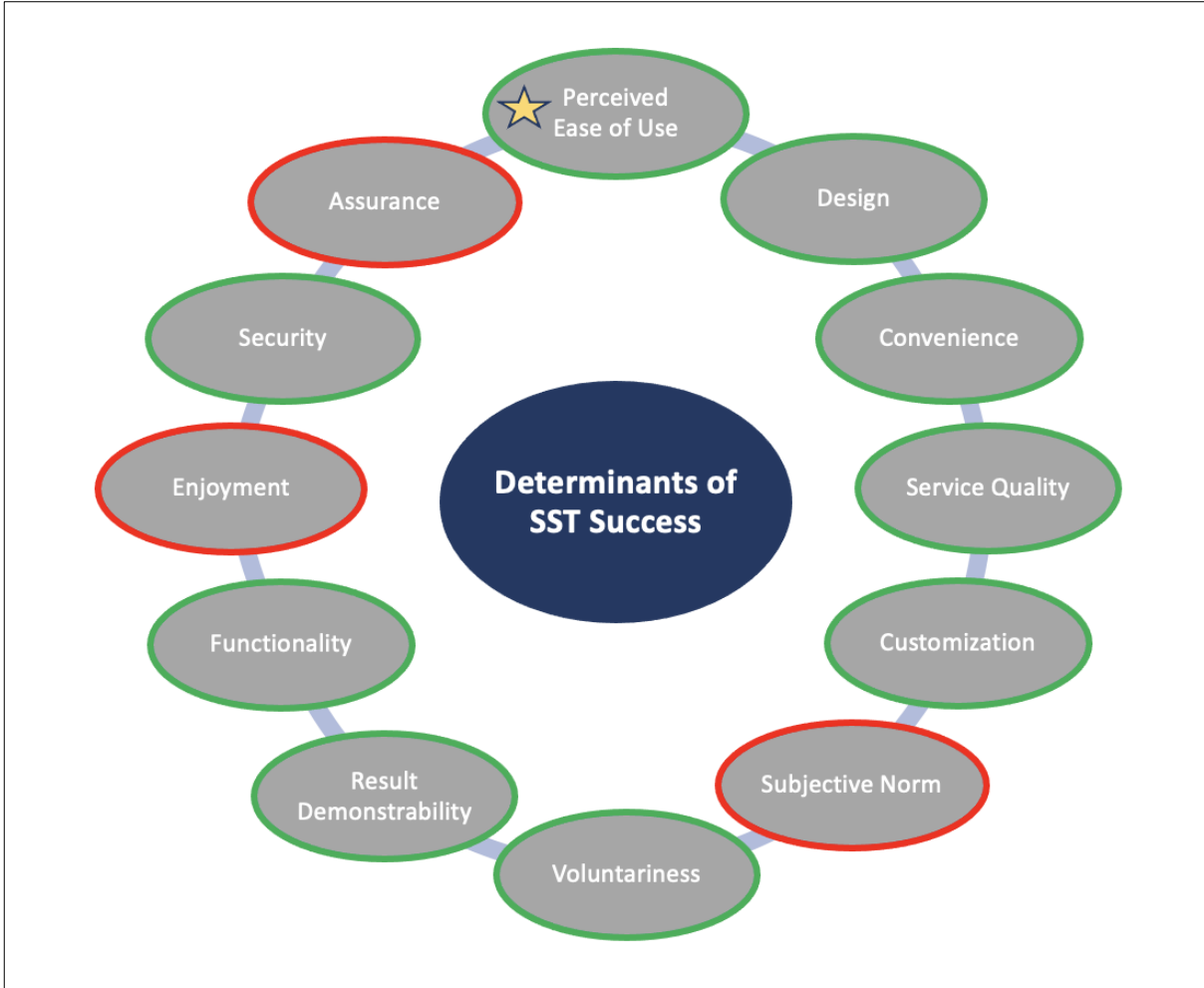


Figure 5.1. Overview of the conceptual framework with regards to the findings within the scope of B2B and ICT. Approved determinants in green, and rejected determinants in red. The star assigned to Perceived Ease of Use illustrates that this determinant was found to be most important.

5.1 Rejected Determinants

Subjective norm, enjoyment, and assurance was identified as determinants of SST success in the conceptual framework, but as a result of the analysis, these have been rejected.

5.1.1 Subjective Norm

Fishbein & Ajzen (1975) say that subjective norm has effect on intention to use a technology, as people may choose to perform a behavior even if they are not themselves positively inclined toward the behavior or its consequences. This has not been reflected in respondents' answers, that other persons' perceptions: norms, affect the usage rate of self-service. It is possible that, for our sample, there are too few users in every organization for such mechanisms to form, and users might also have so much autonomy doing their work that other persons' opinions lack importance.

While it has not been established that norms play a crucial role, it is evident that experiences and beliefs differ across roles, with tech-savvy roles being more welcoming towards adoption of self-service than others. In essence, although some respondents express a higher responsiveness to digital solutions, subjective norm does not seem as important as other determinants. More importantly, the ability for ICT SST providers to affect norms in the user organizations is limited.

5.1.2 Enjoyment

Hassan et al., (2020) express that enjoyment is a key characteristic of SST service quality. Although the sentiment of boredom is not desirable, enjoyment is not necessarily what users prioritize. Instead, they request a simple tool that solves their problem, which points more towards a focus on useability and functionality rather than having a tool that brings "joy" or "delight". In B2B, "joy" is even less important as it is a more enforced environment than B2C. Naturally there will be overlaps between inherently valuable functionalities and enjoyment, human support for instance, which can bring joy in addition to its primary objective. Maintaining enjoyment for the sake of enjoyment is hence of low priority and is not considered a key success factor.

5.1.3 Assurance

The empirical results have shown that the brand sometimes can affect the confidence that users have in a self-service tool, however, it does not seem to affect whether they give the tool an honest chance or not. At the same time, improving the brand as a means to promote SST success is not a very viable option as it is a rather indirect approach with debatable impact.

Consequently, *assurance* as a key determinant identified by Hassan et. al (2020), is not a key success factor. For an ICT company, it is probably more interesting to use SST to improve the brand than the other way around. Chan & Petrikat (2022) explain that this can be done by ensuring high SST service quality, which among other things affect users' loyalty towards the brand, consequently improving the brand.

5.2 Approved Determinants

The other nine determinants from the conceptual framework were approved, which states that these areas are key determinants of SST success. This subsection involves an integrated

discussion on how these determinants capture key success factors in B2B self-service for ICT firms.

5.2.1 Ease of Use and Design

These determinants are analyzed together as discussions and analyses naturally overlaps and integrates the two topics. The study finds that the most important aspect of a B2B self-service platform is that it is easy to use. Even when respondents were asked about topics outside the scope of *perceived ease of use*, they tended to pivot towards this characteristic anyway as a key success factor. For instance, instead of focusing too much on extensive trainings and guides towards new users, respondents expressed that a solid and reliable self-service tool is more important as that diminishes the needs for such activities, while also improving the experience. This emphasis on the user experience is not surprising, as the literature has clearly lifted the significance of ease of use (Giese 2013; David, 1986; Venkatesh & David, 2000; Hassan et al., 2020; Makarchuk, 2023). Customers of ICT firms seeks to perform simple, repetitive tasks on the self-service platform. Hence, it should be designed with a simplistic UI, rather a broad range of navigation alternatives and functionalities. If there is “too much going on”, it will be hard to get users over the initial barrier of starting to use the SST. Also, an aesthetic design is a parameter to consider when developing a UI, but its importance among users is secondary to a simplistic navigation. The demand for easier navigation is a phenomenon that stretches beyond the ICT B2B sphere, and as a result, technological literacy among users might decrease on a societal level as very user-friendly interfaces become the norm. It is important for ICT firms to adapt towards this trend in order to provide self-service that serves the needs of their customers, as stated by Chan & Petrikat (2022).

Although emerging technologies can increase the complexity for the user, it can also be used as an enabler to achieve simple and quick actions. An interesting example can be to use AI chatbots where the user can prompt it to perform certain tasks, instead of letting the user navigate throughout the tool themselves. As one of the main purposes of an SST is to reduce the time to resolve service inquires (Chan & Petrikat, 2022), using these technologies can be a key success factor when providing an SST.

Aligning with Makarchuk (2023), respondents have made it clear that providing users with an omni-channel experience facilitates the perception of a user-friendly and smoothly working self-service tool. Users of TSO express frustration regarding the need to switch interface when certain tasks are to be done. By enabling all functions from the same portal (invoices, tickets, logistics, statistics, webshop etc.), the navigation for the user can be simplified. A catalyst for this is to use SSO, which allows the user to have their own organizational login for all undertakings in the ICT-provider’s self-service tool. Further, the empirical results go beyond the theory in one aspect regarding omni-channel – respondents point out that what is really important is not to actually build an omni-channel platform on the back-end, but rather to create the perception of “one customer portal” for the user. Using SSO is instrumental to achieve this perception.

5.2.2 Convenience

Related to a self-service platform's *ease of use*-characteristic is ensuring convenience through a high accessibility for the user. The respondents clearly assign value to being able to solve customer inquiries fast, and having quick access to the SST is crucial to achieve that. By offering self-service in a mobile application format, theory states that users get increased accessibility through access to self-service when not stationed at their office computer (Asamoah et al., 2023). The respondents have been positive towards introducing ICT self-service in the phone – although some respondents find increased accessibility resulting from this valuable, users' positive attitude towards it mostly arises from the principle that a mobile application UI would be forced to be simplistic, and hence possibly more user-friendly than its computer UI counterpart. Providers also report that developing a mobile application requires a lot of resources, so the users' enthusiasm of a phone application might have to be even more strong to motivate this. Also, users express that increased security through two-factor authentication means increased barriers when logging in, which reduces the perception of a quick access.

5.2.3 Security

As highlighted in the theory, security considerations in terms of intrusion, fraud and loss of personal information must be taken seriously in an SST (Hassan et al., 2020; Chan & Petrikat, 2022). Respondents confirm the high relevance of data security, and they have noticed an increased societal awareness around this topic. Further, it is emphasized that this is of extra priority in the B2B landscape, where consequences tend to be larger. Actually, customers of TSO even state that they would opt out if the SST falls short on security measures. At the same time, as mentioned earlier, other users report a frustration towards the increased login barriers posed by using two-factor authentication when logging in. This variation in attitudes among respondents have depended on the role of the user, where e.g. IT personnel are more positive towards two-factor authentication. Respondents' previous experiences or non-experiences of cyberattacks also affects their attitude towards security. A key success factor here seems to be optionality, where users can pick themselves what layers of security that should be applied when interacting with the self-service. Lastly, respondents have suggested that using SSO, not only from an omni-channel perspective, but from a security aspect can be useful as it makes the customer responsible for the security to a higher extent.

5.2.4 Customization

As identified in the literature overview, the extent to which an SST can be tailored to align with individual customer preferences affects the success of the self-service tool (Hassan et al., 2020; Makarchuk, 2023; Chan & Petrikat, 2022). Respondents explain that customization helps balancing having enough information and functionalities to serve user needs, while also keeping it limited and relevant to reduce the user complexity. At Tele2, representatives discuss two different approaches to customization. The first one is offering fully integrated and customer-unique solutions, which seems to be useful for customers of scale. However, for most customers a more suitable mode for customization is to build the SST on standardized modules, where

final layers of personalization on top of this is added. This creates the ability for providers to automate the personalization initiatives, as user data generated by the platform can be used to optimize and tailor recommendations and other unique elements of the SST. This approach requires far less resources than tailored customer-unique solutions.

Although Chan and Petrikat (2022) argues that SST users demands a bigger control over the self-service process, respondents emphasize to a much higher extent the need for the customer to configure their own experience. Users stressed that they should be able to pick the functionalities and settings that they prefer. Role-based permission and access is crucial here. By distinguishing between the different SST user roles in the customer organization, the experience can not only be personalized to meet respective needs, but also more secure as the customer can modify the degree of access to sensitive information between these roles. A potential problem when offering configuration possibilities is that customers might not have the pre-knowledge to decide what configurations and functionalities that are optimal to them. A possible solution to this could be to offer different standardized configuration alternatives, e.g. letting the customers choose between ‘basic’ and ‘advanced’ standard settings when setting up the SST.

5.2.5 Functionality

The functionality determinant generated a wide variety of insights. The general consensus was similar to the findings regarding *ease of use* — the priority should be to keep the number of functionalities and features limited. Customers value simplicity over cutting-edge technology, and that insight should not be overlooked if an ICT firm wants to be successful in the B2B self-service field. To find the right balance, the ability to make configurations (as mentioned above) can be used to fulfill customer needs while also not overwhelming the user with irrelevant features. Self-service experts also explain that even the smallest changes in an SST can create big implications and challenges on an organizational level, which further points towards the narrative of not updating the SST with new changes and functions too often. It should be pointed out that this contradicts the focus in the theory, where the emphasis is on consistent and regular updates of functionalities (Chan & Petrikat, 2022) rather than being modest with them.

Still, in many interviews, respondents advocated for bringing in some features they are missing in TSO. For instance, auto-population of forms in the portal based on gathered information on the user can facilitate the “quick actions” that customers demand from SSTs. Further, in line with Bengtsson and Hägerlöf (2023), AI-based technologies also come to mind among respondents as an enabler to solve customer problems. Specifically, providers of self-service mention chatbots as a way to allow users to perform quick actions, and as a way to help guiding users towards relevant information and directions. However, many users express doubt regarding the quality of chatbots, as many have had bad experiences with them historically. As the AI-based chatbot technology becomes more mature over time ICT firms should consider incorporating it, but at this point in time carefulness should be had about if today’s chatbot technologies actually makes the tasks easier for users. Lastly, some users also express the need

for more detailed statistics on employees and how they use the services provided by the ICT firms.

The general consensus among respondents is that users want functionalities that enable operational self-service, that is, functions that let the user perform tasks and initiate/shut down activities rather than just provide the user with information. This aligns with SST theory arguing that customers seek to get more control over the self-service processes (Chan & Petrikat, 2022).

5.2.6 Service Quality

Aligning with Scherer (2015), the interviewees were clear that human support as a complement to the SST is a must-have. However, as with many other determinants, respondents express that this would be of less importance if the platform was 100% functional and user-friendly, and hence should be a secondary focus to *ease of use*. Although Scherer (2015) advocates for a gradual SST adoption of users towards a digital-only solution, respondents believe that human support functions in an SST should never be discluded, neither now nor in the future. The tendency of business customers to value human relationships in their services highly (Pawlowski & Pastuszek, 2016) further makes the case for ICT firms to offer quality human support towards their SST users. In the interviews, customers expressed that they would opt out if Tele2 stopped offering this. Sticking to the 80/20-rule and solving the 20% most complex problems for users with human support can be a good rule of thumb to keep the right balance.

Furthermore, arranging trainings to make users accustomed to the SST was a focus area for many respondents that theory has not highlighted as much. Respondents expressed a positive attitude towards it, highlighting not only that it can increase adoption, but also reduce the traffic into human support as users need less help after the trainings. Users also highlight that introductory “how-to” guides with an excessive number of pages creates frustration, while providers emphasize that training is costly to arrange. A balanced approach here could be to provide minimalistic ‘how-to’ guides and then let customers sign-up to more comprehensive training as an option. Further, when customers contact human support, service agents could help users solve the problem themselves in the self-service tool while having contact. This way, users can get more accustomed to the platform than they would if agents solve all their problems for them. However, providers should be careful to not create the perception that users have to do everything by themselves, to keep the sense of a great service experience.

5.2.7 Voluntariness

The voluntariness term in the context of this study can relate to not having any human support at all, but also to the use of barriers towards contacting human support. It was clear among users that a paywall to reach an agent is not welcomed. If the tool is not used voluntarily, it is probably because of lacking quality — as stated by Giese (2023), B2B customers today expect high quality experiences similar to B2C self-service. At the same time, respondents report that providing mandatory self-service can hamper development, as no adoption metrics can be used to gauge the appeal for the tool in these cases. In fact, respondents believe that this is one of the reasons why B2B self-service are lagging behind B2C. Interestingly, some providers of self-

service disagree with this and explains that forcing users to only use self-service have been successful in other industries, and that customers will not have an option in a few years' time anyway.

5.2.8 Results Demonstrability

Respondents have been found to believe that results of using TSO can be better communicated from Tele2's end. Whereas communication of results due to using TSO as opposed to calling customer support can be beneficial, users seemingly do not perceive the system as any less useful once adopted, as is suggested by Venkatesh and Davis (2000). Considering their argument, that a clear relation between usage and positive results will lead to the formation of more positive perceptions of usefulness, a conclusion from the interviews is that the current relation between usage of TSO and positive results leastwise is sufficiently clear. Respondents point out that the secret sauce here is to not only communicate data, but insights. What customers care about ultimately is saved time and resources, so data should preferably serve this wish.

From the providers' perspective, results demonstrability can be used internally to measure satisfaction and adoption, which will aid in understanding what customers like and do not like about the tool. Hence, improved internal results demonstrability can be used to optimize the tool and serve as support in organizational buy-in to allocate more resources towards the tool.

5.3 Future Outlook

Overall, theory advocates for constantly keeping up with changes in the self-service landscape to stay competitive (Bengtsson & Hägerlöf, 2023; Makarchuk, 2023; Tele2, 2023). To this regard, extracting insights from respondents about how to navigate the future of self-service is a key success factor when providing self-service.

Although Bengtsson and Hägerlöf (2023) explains that B2B platforms across industries are moving away from just being pure transaction portals, self-service experts contradict this and explain that most of them still operate as transaction portals. This overall narrative of B2C fields leading the development and that B2B is leapfrogging must be acknowledged by providers, and more importantly, they need to understand what differs B2C needs from B2B needs when developing self-service portals inspired by B2C SSTs. If not, the needs for B2B users might not be met accurately.

The future of self-service is also predicted to involve AI-based technologies to a higher extent. Together with theory from Chen et al. (2021), respondents confirm this and mention chatbots and AI analytics in human support as two key use cases. Self-service experts reflect on this from a broader perspective, where they explain that the future of self-service will involve the integration of smart devices and IoT, together with AI-driven analytics. This will enable for a higher degree of personalization among respondents with machine-to-machine communication in the self-service interface, and enhanced decision-making as a result for

customers to optimize their businesses. ICT firms must be ready for this development, and an important action for them will be to readjust their human support have more knowledge about individual customers rather than knowledge about the products and services they provide.

6. Conclusions

The purpose of this study was to identify key success factors for a digital B2B self-service tool in the ICT industry. By identification of key determinants of SST success resulting from the literature overview, the basis for themes to investigate could be set. Based on this, a nuanced analysis was made to interconnect theory and interview data to identify key success factors. Three determinants were rejected as areas of key success when delivering a B2B SST in the ICT industry. These are *subjective norm*, *enjoyment*, and *assurance*.

The study suggest that the most prevalent key success factor is providing a platform that creates the perception of ease of use. Instead of providing users with a broad range of navigation alternatives and functionalities, ICT firms may focus on simple navigation with easily understood features. AI technologies can enable this through facilitating quick actions, e.g. by making users prompt chatbots to do actions for the user. Further, creating the perception of an omni-channel experience (and using SSO as a catalyst for it) is identified as a key success factor to achieve the perception of ease of use.

Users also want quick access to the SST to enhance the perceived ease of use. ICT providers should consider offering SST through a phone application to achieve this, although further investigation is needed to confirm the overall business case of offering a phone application.

The study suggests that security considerations should be prioritized when ICT firms deploy SSTs, as a platform with insufficient measures to deal with fraud, intrusion and loss of personal information may be a dealbreaker for users. However, some users see it more as a hurdle for quick access as e.g. two-factor authentication creates an extra login layer that hampers quick access. A key success factor could be to offer optionality regarding the degree of security towards users.

Regarding customization, it is suggested that large enterprises should be prioritized with custom built solutions that are customer-unique, to the extent that resources allow for it. However, a more scalable solution for SME customers may be to build the SST on standardized modules, whereupon layers of personalization can be added to create a tailored experience. The study suggests that a key success factor for this type of platform is to let customers configure their own experience, so that only relevant information for the specific customer and user is shown. This not only enhances ease of use, but also security as it allows customers to configure role-based permissions within the tool. It should be noted that customers express worry about not knowing what configurations are optimal for their use. A possible solution to this could be to offer different standardized configuration alternatives, e.g. letting the customers choose between ‘basic’ and ‘advanced’ standard settings when setting up the SST.

Although the study recommends the number of features and functionalities to be kept at a minimum to facilitate ease of use, users desire some additional features to be added into existing ICT self-service tools, e.g. auto-population of forms, AI chatbots, and detailed

statistics on employee usage of the ICT services. The focus of these added features should be to give the customer higher control over the self-service process.

The findings further conclude that human support should be an accessible complement to the self-service, now and in the future. Users show great frustration in situations where it is not accessible, or only accessible at an additional cost. It should be used for the more complicated problems where the provider has a hard time standardizing within the SST. This also makes the use of SST more voluntary, as they have the option to solve the problem outside of the SST. A voluntary SST enables metrics for adoption to be used, which in turn can create incentives for developing and optimizing the platform.

Customers believe that benefits of using SSTs should be more clearly communicated – ideally, this should be specified in terms of time and money saved. Further, by demonstrating measured results (that is, KPIs), this can be leveraged internally by the SST department at the provider to optimize the tool and potentially deploy more resources to it.

The future development in the self-service landscape poses challenges. As B2B self-service seem to leapfrog on developments made in the B2C landscape, ICT firms should make sure to distinguish the needs of their B2B customers from overall B2C needs when developing their SST. Also, the increased application of AI and IoT technologies in SSTs will likely require support staff to be more focused on individual customers rather than the services and products they provide.

6.1 Further Research

Due to the limitations of this particular study, we encourage further research to be conducted to dive deeper into interesting areas inspired by the results of the study. For instance, further research could focus not only on the success factors of developing a good SST in the eye of the customers, but also on the success factors that enhance the operations of providers. That is, SSTs' ability to e.g. increase efficiency, reduce service costs, and streamline internal processes. As these types of considerations inevitably emerged as important topics during interviews with providers, it is clear that a deeper understanding of this is needed to more comprehensively understand how SST success can be achieved.

Further, the user sample in this study was aimed towards SMEs using Tele2's SST TSO. It would be interesting to research the case for larger enterprises, as our results indicate that the preferred customer experience vary depending on the size and type of organization in question.

Lastly, a more rigorous exploration of the relative importance of the identified key success factors and determinants of SST success could be done to help ICT providers prioritize among them. Although this study highlighted their relative importance to some extent, a much deeper analysis could favorably be done to rank every one of them. This would make the findings more actionable for practitioners.

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Attachment A

The interview guide is divided into “General” and “Determinant Specific” questions. Although most questions revolve around the topics in the determinants of SST success, general questions were also asked to identify potential important success factors not captured within the topics of the determinants.

Within each topic, questions are also divided into categories depending on the respondent. Respondent group 3, i.e. users, has one set of questions. Respondent groups 1 and 2, i.e. providers and third-party providers of self-service, have another set of questions. Due to the semi-structured nature, interviews have not followed this guide strictly but rather served as inspiration for discussion.

General Questions

- *In general terms, how do users want to interact with self-service?*
- *What are the main motivations for a user to adopt a self-service tool like TSO?*
- *What are the current trends within B2B self-service, and what are the drivers of those trends?*
- *In 5 years, what do you think will be crucial to users of self-service? E.g. what will be the “hygiene factors” for adoption?*
- *Are there any industries in particular that you believe are at the forefront of self-service, and if so, what enables them to be in that position?*

Determinant Specific Questions

Perceived ease of use:

Users

- *What can you say about user friendliness in TSO?*
- *Do you think the user interface could be better designed in a different way?*

Providers of self-service

- *How do you ensure ease of use in self-service tools?*

Convenience

Users

- *How convenient is it using a self-service platform like TSO?*
- *Is TSO easily accessible? Why (not)?*
- *Can you describe any specific features or aspects of the platform that enhance or detract from its convenience?*

Providers of self-service

- *How important is convenience in a self-service tool?*
- *What features or aspects enhance convenience for users?*

Design

Users

- *What are your thoughts on the design of TSO?*
- *Are there any design elements that you find particularly helpful or frustrating?*
- *Is it important for you to be able to do all tasks in the same portal?*

Providers of self-service

- *What exemplifies good design of self-service tools?*
- *What are some common trade-offs related to design?*
- *Have you ever faced challenges in balancing users' demands for features with the need to maintain simplicity and usability?*
- *Is providing an omni-channel experience a key consideration regarding the design?*

Service Quality

Users

- *Do you feel like you have the possibility to contact human support whenever needed?*
- *Are human support efficient in their way of helping you?*
- *Have you utilized any training resources relating to the TSO platform? If so, how would you rate their effectiveness?*
- *What improvements, if any, would you suggest regarding the human support and eventually training offered?*

Providers of self-service

- *What strategies do you employ to ensure a high level of service quality for users who may require assistance?*
- *Would it be possible/beneficial to only rely on self-service, i.e. letting users not be able to contact human support at any time?*

Customization

Users

- *What are your thoughts about customization and personalization in self-service platforms?*
- *Do you feel a need for customization or personalization in the TSO?*

Providers of self-service

- *How do you approach incorporating customization and personalization features into self-service platforms?*

- *Can you provide examples of how customization and personalization can be implemented?*

Subjective Norm

Users

- *What are the norms at your workplace or within your social circle of using self-service technologies, relative to more traditional methods?*
- *Do you feel any social norms influence your decision to use or not use self-service platforms?*

Providers of self-service

- *What considerations, if any, do you consider regarding social norms or expectations relating to adoption and usage of self-service platforms?*
- *Have you encountered any instances where social factors influenced the design or development decisions for a self-service platform?*

Voluntariness

Users

- *How do you feel about the voluntariness of using TSO?*
- *Are there any factors that would make you more or less inclined to use it voluntarily?*
- *What would your opinion be if you were pushed or forced towards using TSO rather than traditional methods?*

Providers of self-service

- *What are your thoughts about voluntariness regarding self-service adoption?*
- *What steps do you take to encourage user engagement and adoption without resorting to external pressures or obligations?*

Result Demonstrability

Users

- *Do Tele2 communicate any benefits that follow from using TSO?*
- *How important is it for you to see tangible results from using self-service technologies?*
- *Can you provide an example of how the benefits of using TSO self-service platform have been demonstrated to you?*

Providers of self-service

- *How do you explicitly communicate or demonstrate to users the benefits of using self-service platforms?*
- *Can you share examples of features or functionalities that are specifically aimed at showcasing the benefits of using the platform?*

Functionality

Users

- *Which functionalities of TSO do you find most valuable in accomplishing your tasks and goals?*
- *Are there any additional functionalities you would like to see implemented? Or do you feel like you can do everything you want in TSO?*
- *Which features or functions of TSO do you find most relevant to your needs?*
- *Are there any features you believe are missing or unnecessary?*

Providers of self-service

- *What criteria do you use to determine which functionalities are essential to include in self-service platforms?*
- *How do you prioritize the development of new functionalities or improvements? E.g. user feedback, industry trends.*

Enjoyment

Users

- *How important is feeling a “sense of joy” when using a self-service platform?*

Providers of self-service

- *From your company’s perspective, do you believe it to be of any importance that the users feel a sense of enjoyment when using self-service?*
- *In your experience, is enjoyment something that the users care about?*

Security

Users

- *What do you think of the security measures implemented in TSO?*
- *What steps, if any, do you think could be taken to further enhance the security of the platform?*
- *Do you believe that two-factor authentication is necessary?*

Providers of self-service

- *What measures do you implement to ensure the security and privacy of user data within self-service platforms?*
- *What do you think users expect in terms of security and privacy of data?*

Assurance

Users

- *Do you feel like your perception of the Tele2 brand affects your experience or perception of TSO?*
- *Providers of self-service:*

- *What are your thoughts about perception of a brand having an impact on the perception of an SST?*

Providers of self-service

- *What are your thoughts about perception of a brand having an impact on the perception of an SST?*

DEPARTMENT OF TECHNOLOGY MANAGEMENT AND ECONOMICS
DIVISION OF ENTREPRENEURSHIP AND STRATEGY
CHALMERS UNIVERSITY OF TECHNOLOGY

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