Vidyodaya Journal of Management
2022, Vol. 8 (I) **143 - 168**

ISSN 2448-9344 (Print) ISSN 2448-9352 (Online)
ISBN 978-955-23-0019-3
Reprints and permissions:
vjm@sjp.ac.lk
DOI: https://doi.org/10.31357/vjm.v8il.5607

Customers' Technology Know-How and Error-Correction Capability in using Self-Service Technologies

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Abstract

Customers' levels of technology knowledge vary significantly, affecting their performance in Self-Service Technologies (SSTs) and their ability to respond to errors in SSTs caused by service or process failures. Despite the fact that this is a highly practical scenario, scholarly research on the subject is rare. Thus, the purpose of this research is to look into customer technology know-how in SSTs, their corrective actions in the event of SST service/process failures, and differences among customers in terms of service performance, technology know-how, and error corrective capabilities in SSTs. A qualitative approach was used to achieve the research objectives, with semi-structured interviews conducted with 25 SST users from various demographic backgrounds. A non-probabilistic purposeful sampling strategy was used to recruit individuals for the study, with the goal of hiring information-rich cases. Thematic analysis was used to analyze the data. The study identified four types of knowledge that SST users need to effectively complete service transactions: computer knowledge, SST device knowledge, Internet knowledge, and language ability. Furthermore, the study identified numerous mechanisms used by customers to correct errors in SSTs and classified them as 'error preventing' or 'error recovering' mechanisms. Additionally, the study discovered customer performance disparities among SSTs based on their level of technological expertise and error-correcting capabilities. The study divided SST users into three performance categories: 'Full performer,' 'Fair performer,' and 'Poor performer.' The study contributes new knowledge by elucidating the interaction between SST users' technological expertise and error correction capabilities, a

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phenomenon that is rare in the previous literature, and contributing to the marketing theory by developing a typology to group customers based on customers' level of technological expertise and error-correcting capabilities. In the practical ground, it informs SST service providers on how to maximize users' level of expertise while improving the service quality.

Keywords: *Self-service technologies, Technology know-how, Errors in SSTs, SST acceptance*

Introduction

The service sector went through revolutions in the recent past converting service encounters that service employees have traditionally operated in physical service premises into self-service technologies that are technological interfaces operated by customers on their own, mostly without the support of organizational service employees. Thus, SSTs can be viewed as a transformation in the service sector which converts the traditional physical service encounters into technological interfaces. These emerging customers are known as working customers who perform their own service without the support of the organization's service staff. This alteration in the service encounter caused a change in how service providers used to manage interpersonal care in their service premises by replacing it asking customers to do their service transactions on their own (Ding et al., 2007, p. 246). Among such services, Bitner et al. (1997, p. 197) recognize 'self-service' as an extreme where customers are allowed to create a full or a part of the service with low or no interference of the organizational service staff. However, this change provided a convenience to business organizations mainly by reducing labor cost, increasing service process efficiency, reducing workload for employees, and lowering crowd in the service premises. Customers also largely benefitted from superior convenience, efficiency in the service transactions, and further, they feel a sense of empowerment when they perform their service (Hoyer et al., 2010).

Though business organizations introduce self-service technologies, customer adoption is not guaranteed and depends on many reasons (Perera & Galdolage, 2021). Among them, their technology know-how has become a key determinant (Rinta-Kahila & Penttinen, 2021). Customers' level of knowledge and practice of using technologies may support or prevent them from using SSTs in service transactions (Liu & Hung, 2022). Further, customers' technology know-how

determines their technology readiness (Park & Zhang, 2022), which shows whether the customer is ready to accept technologies (Hsu et al., 2021). In contrast, customers' anxiety towards using SSTs also mainly connects with their level of technology know-how (Guan et al., 2021).

Kelly et al. (2017, p. 11) found different types of customers in SSTs, including unskilled workers and enforced workers who are not confident about their skills and not willing to work with SSTs. Thus, their role in SSTs is not 'voluntary' and is influenced by someone (enforced roles) (Feng et al., 2019). This type of enforced workers are overly controlled by the organizations (Wang et al., 2018) and forced to do some transactions via self-service technologies without having their willingness (Han et al., 2021). It can cause dissatisfaction, service failures, and customer switching intentions (Ugwuanyi et al., 2021). Therefore, improving customer know-how and making them confident in SST performance become prominent in enhancing voluntary acceptance of SSTs. Further, customers' technology know-how affects their ability to recognize the potential or actual problems related to their SST transactions (Galdolage, 2018). Their knowledge and previous experience in using such technologies will be helpful for them to respond to errors successfully. However, since customers vary in their technology know-how, we cannot expect them to adopt SSTs equally and react similarly to potential SST failures.

Though technology know-how is a highly practical aspect that hinders or enhances customers' acceptance and use of self-service technologies (Tyagi & Lodewijks, 2022), the scholarly attention given to understanding this phenomenon is very rare (Mohanty & Singh, 2021). Therefore, recognizing the major elements of technology know-how that need to use SSTs, how customers solve possible errors in SSTs, and recognizing disparities among customers based on their technology know-how and error correction capability become critical. Therefore, this study aims to achieve following objectives,

1: Explore elements of technology know-how which is vital to perform SST transactions

2: Explore customers' error corrective mechanisms for SST service/process failures

3: Understand differences among customers' based on their level of technology know-how and error corrective capabilities at SSTs.

This paper presents the theoretical background of the study first and subsequently discusses the methodology of the study. Next, it provides the

findings, followed by a discussion. In the end, the theoretical and practical contributions of the study are discussed, along with the limitations and future research directions.

Literature Review

The literature review section begins by outlining self-service technologies, including definitions, types, benefits, and drawbacks for both customers and organizations. Next, the literature on technology know-how in SSTs is followed by scholarly discussions on customer reactions to SST failures.

Self-Service Technologies

Self-service technologies are characterized as "technologies, provided by an organization, specifically to enable customers to engage in self-service behaviors" (Hilton & Hughes, 2013, p. 3; Hilton et al., 2013, p. 862). Meuter et al. (2000, p.50) gave a similar explanation of SSTs as "technological interfaces which enable customers to produce the service independent of direct service employee intervention." Electronic kiosks, the internet, telephones, and mobile devices provide platforms for self-service transactions (Castro et al., 2010). SSTs include a range of technological interfaces (Safaeimanesh et al., 2021), from well-known Automated Teller Machines (ATMs) to cutting-edge platforms like aircraft self-check-in (Kelly et al., 2017). Artificial Intelligence (AI) and Augmented Realities (AR) are now being applied to enhance the customer experience in using self-service technologies (Bigne, 2021).

Customers can use self-service technology to create and consume services or parts of services without directly interacting with the company's workers (Galdolage, 2021a). The roles of customers and enterprises are constantly changing due to technological advancements (Ugwuanyi et al., 2021), and currently, there is an emphasis on producing more value, which is a precondition for becoming competitive (Saarijärvi et al., 2013). Customers do service-related activities that would otherwise be performed by the firm's staff (Galdolage, 2021b), resulting in cost savings for service providers (Ding et al., 2007). Aside from that, SSTs offer advantages such as increased efficiency, increased customer satisfaction and loyalty, service standardization and differentiation through technology (Meuter & Bitner, 1998), increased speed of service delivery, opportunities for customization and precision (Berry, 1999), cost reduction and productivity, etc. (Dabholkar, 1996). Furthermore, incorporating SSTs into the service encounter helps organizations to change

staffing levels in response to changing demand situations (Curran et al., 2003). Encouraging customers to produce services in SSTs also allows service providers to focus on priorities by avoiding many clerical jobs, basic and routine tasks (Castro et al., 2010).

On the other hand, customers benefited from better control over service delivery, time and cost savings, reduced waiting time, locational advantages (Galdolage, 2020a), enjoyment, and increased personalization (Beatson et al., 2006; Meuter & Bitner, 1998). Customers like SSTs because of the low cost of self-service (Safaeimanesh et al., 2021), increased control over service outcomes such as time, or the simple enjoyment of the activity (Antwi et al., 2021), and convenience (Dabholkar, 1996; Hsieh, 2005). Customer benefits include efficiency, spontaneous enjoyment, flexibility (Bitner et al., 2000), high performance, and convenience (Galdolage, 2021c). SSTs provide a more consistent service environment (QianTing et al., 2021), allowing customers to better understand what they can expect (Curran et al., 2003). Customers experience feelings of accomplishment, increased self-efficacy, and enjoyment when they use SSTs instead of interpersonal interactions (Meuter et al., 2005). Some SSTs (e.g., kiosks at airports) provide the service in multiple languages, allowing customers to obtain it while understanding it in the language they are most comfortable with (Castro et al., 2010). SSTs are user-friendly and provide greater accessibility to people with disabilities (for example, online transactions) and contribute to national prosperity and individual quality of life (Castro et al., 2010).

Most businesses have accepted SSTs to complete more tasks with the least effort (Park et al., 2020), because clients collaborate with machines transforming their role from primarily passive to active (Hilton et al., 2013). SSTs are now used to perform more complex non-routine work, despite the fact that they were originally only allowed to perform routine and straightforward transactions. However, SSTs that are well-designed enable people with little experience to perform even very complex tasks quickly (Quinn et al., 1990). As a result, people's technological knowledge would play a significant role in how well they perform in SSTs (Rosenbaum & Wong, 2015).

Technology know-how

Even if the firm gains short-term value from self-service technologies, forcing all customers to accept them may cause problems (Ple & Cáceres, 2010). Therefore, business organizations should have a good understanding of customers' willingness to accept self-service technologies. Hilton et al. (2013) emphasize the importance of people's technological knowledge and abilities in determining which SSTs they use, while Meuter et al. (2005) note that customers' ability in doing trials is also important. Similarly, Liljander et al. (2006) and Meuter et al. (2003) claim that the user's state of mind, as well as their ability and willingness to do the required tasks, have an impact on consumer evaluations of SSTs.

Customers' perceptions of technology's ease of use play a role in technology acceptance (Chang & Chen, 2021) and use in general and SSTs in particular (Venkatesh & Bala, 2008). In the UTAUT model, Venkatesh et al. (2003) place 'ease of learning' and 'perceived ease of use' under 'effort expectancy'. According to Curran and Meuter (2005), the ease of using technologies and learning to use them is particularly crucial in adopting SSTs. Dean (2008) demonstrates that the older generation has reduced trust towards SST transactions due to a lack of abilities in performing at technological interfaces. Venkatesh et al. (2003) also demonstrate the impact of age on 'effort expectancy' (which includes 'ease of use' and 'ease of learning') on technology adoption. Liljander et al. (2006) investigate technical readiness in SST acceptance and discover that users and non-users of SSTs have varying levels of readiness, which may vary with their level of technology know-how. As Galdolage (2021d) points out, rich information and step-wise clear guidance given in many SST platforms support the customer learning process in performing self-service transactions via technological platforms.

Further, as Galdolage (2020b) noted, gathering knowledge in SSTs is mainly self-directed. Therefore, customers' willingness and ability to self-learning how to use SSTs would increase their choice of SSTs over traditional service encounters (Chang & Chen, 2021). In the literature, it has been found that users' technology anxiety connected with lack of technology know-how has a detrimental impact on their use and ratings of self-service technologies (Meuter et al., 2003). According to Wang et al. (2016), individuals' anxiety and lack of trust in technology, explain dissatisfaction and willingness to utilize SSTs.

Customer reactions to SST failures

There is evidence of increased consumer frustration when working with technology-based systems (Parasuraman, 2000). SST problems are commonly attributed to "technical failures," "personal faults," or a combination of them (Snellman & Vihtkari, 2003). Technology and process failures were found as the key elements that lead to consumer complaining behavior and dissatisfaction, which is higher in SSTs than interpersonal interfaces (Meuter et al., 2000). In SSTs, the lack of regular physical interactions with clients (Galdolage, 2020a) leads to a lack of knowledge of their needs (Kristensson et al., 2008). Lack of abilities in performing in SSTs is cited by Reider and Voss (2010) as a reason for avoidance (Zhang & Lu, 2021), which can result in higher costs and time spent, as well as reliance on others. According to Zhang et al. (2018), failures through negatively valenced engagement behaviors develop from rude employee actions, disinterest, confrontation with corporate representatives, technology failure, the lack of complaint channels, and customers' desire for revenge.

On the other hand, Mick and Fournier (1998) demonstrate how it's possible to have both positive and negative thoughts about new technologies at the same time. Nijssen et al. (2016) discovered that less-advantaged individuals (those with poor self-efficacy, education etc.) have a negative relationship with the company. Fan et al. (2016) also found that customer reactions to SST failures vary depending on the degree of anthropomorphism related to SST devices (adding motivations, human-like traits intentions, behaviors to non-human agents, and emotions), the person's sense of power, and the existence of other users. From the customer's perspective, Dong et al. (2008, p. 126) define service recovery in co-creation as “the degree to which the customer is involved in taking actions to respond to a service failure” and recognized three sorts of service recoveries on the premise of parties concerned as, customer recovery, joint recovery and firm recovery. As Heidenreich et al. (2015) point out, customers seem overly accountable for failures in highly co-created services, making them feel guilty, which they can alleviate by actively participating in recovery measures, and customers blame themselves in SST failures (Harris et al., 2006).

Customer complaints are crucial in service recovery (Saldanha et al., 2022). According to Snellman and Vihtkari (2003), people are more towards providing reactions in service failures, though Shin et al. (2017) emphasize the necessity of proactive customer engagement in service failure prevention. According to Hilton and Hughes (2013), service professionals are required to execute ‘self-

service recovery' jobs in SSTs since they demand different knowledge and abilities. Featherman and Hajli (2016), note that SSTs have been linked to dangers, while Hanks et al. (2016) discovered that people are hesitant to complete certain actions when they are approached via SSTs. Problems with deliveries, website designs, customer support issues, payment issues, and security issues were identified as service failures in online commerce (Holloway & Beatty, 2003). Self-service technologies have been identified as a possible hazard in terms of creating loyal customers, which could damage social relationships. As Fernandez-Sabiote and Roman (2016) note, some customers are happier with traditional channels than with online/company websites.

Methodology

Literature on customer interactions with self-service technologies is underexplored, and particularly, very little scholarly work is available on customers' technology know-how and its link with their ability to correct errors at SSTs. Aligning with the research objectives aimed at exploring customer technology know-how and their error-correcting ability at self-service technologies, exploratory research work was carried out with qualitative inquiries (Malhotra & Birks, 2007; Sekaran & Bougie, 2016). The study was conducted in the United Kingdom, specifically in the East Riding Yorkshire region. The selection of the developed context is backed by the fact that having more self-service technology options compared to the developing countries. The purposive sampling technique was used to recruit SST users as the participants for the study with the intention of hiring information-rich cases (Abrams, 2010; Palinkas et al., 2015; Patton, 2002). The sample size is rarely fixed for qualitative studies (Robinson, 2014), because qualitative researchers are typically unsure of the level of theoretical saturation at the beginning (Silverman, 2010). This study was limited to 25 respondents since information saturation was achieved at that level. Semi-structured interviews were conducted with some flexibility in probing to ensure the sufficiency and the quality of data collection (Rowley, 2012). All the interviews were conducted in a non-contrived setting (Sekaran & Bougie, 2016), providing more convenience to the participants.

As Creswell (2013) suggests, an interview guide was prepared with the intention of making the interview process focused, easy, and smooth. The interview guide consists of questions that focused on respondents' know-how in

using SSTs and their capabilities to correct errors in SSTs. Further, it focuses on obtaining customer insights/feelings on their experience in the ability to match their know-how in managing situations where they face SST failures. The interviewing process resembles an informal conversation, which took 30 minutes to 45 minutes per subject. All the interviews were audio-recorded and later transcribed into word documents with prior permission from the respondents. Data collection and analysis occurred simultaneously, such that the researcher transcribed and analyzed the finalized interviews while continuing the data collection process. Ideas that appeared during the analysis were documented in memos and stored chronologically. As suggested by Lacey and Luff (2009), data were analyzed using the thematic analysis technique, following six stages: data transcription, data organization, data familiarization, data coding, topic generation, rigor assurance, and as the final step, built valid arguments comparing the findings with available literature (Aronson, 1995).

Findings

Customers' Know-how in performing with SSTs

The study first attempted to understand the key areas of know-how which is needed to perform services via self-service technologies. Because know-how in using SSTs results in the level of success of service performance at SST context.

According to respondents, general knowledge of computers, basic knowledge of the internet, fundamental understanding of SST devices, and language capability are recognized as required to perform successfully in SSTs. Participants disclosed that a reasonable understanding of these key areas is needed to perform in many SSTs. Further, the study recognized that the younger generation is prepared and capable of using self-service technologies while considering SSTs as an acceptable social trend that changes the future direction. However, few respondents, especially elderly participants, revealed that technologies are uncomfortable since they haven't the needed skills and knowledge. Further, they were afraid of SST transactions and always suspicious towards SSTs. The following quotations stipulate evidence for the key areas of know-how which is needed to perform in SSTs.

Knowledge of computers: As respondents pointed out, many of the SSTs, even self-service kiosks, have screens that are similar to computer screens. Apart

from that, most of the technology-based self-service options are available on online platforms. Therefore, having basic knowledge of the computer would help customers to perform well in the SST context.

One respondent pointed out the significance of having basic computer literacy to perform in self-service machines.

> *All are on computer screens… if you have a fundamental understanding of computers, that is enough. The other thing is if you know computers, you can do many things on your own. You can pay your bills; you can order your food, you can reserve a hotel or air tickets, you can channel a doctor… for everything you should have at least a bit of understanding on the computer. (38 years, male)*

Some respondents' view was the inability to perform computers prevented them from trying SST options. Particularly, the older generation still prefers to visit traditional service encounters managed by service employees rather than using SSTs.

> *Sorry. Actually, I lack in computer work. It isn't very pleasant for me to work with machines. It's actually embarrassing for older people like me when happens to do everything with machines. Because we haven't been brought up with computers like you. (67 years, female)*

Knowledge of SSTs: As respondents show, many SST devices commonly available, particularly interactive kiosks, have the same or similar options. If a person is familiar with using one type of SST machine, he can apply the same knowledge to perform in similar types of SSTs. As respondents mentioned, SST performance mainly consists of a series of instructions to follow and insert information, credit/debit card, or money on request to the relevant places. Knowing the nature of self-service machines would help them to perform in similar settings.

> *Obviously, it's easy to use. If you say it's such a challenging task, I ask you to try it once. Then definitely you will realize that there is nothing in there. Just what you need is practice. Most of the machines are the same. You have to tell the machine correctly what you want and then follow instructions. If you want to buy something, choose it, put money or card, get the product and balance back. I haven't seen anything different than that. Maybe what you*

do is a bit different, let's say in airports. But again, a similar procedure. (38 years, male).

I don't like to work with machines. I forget many things there. There are lots of mistakes if I do it with machines. It's a burden for other people to help me. I prefer counters. Even if I forget to get my balance, they remind me. (62 years, female)

Knowledge of the Internet: Knowledge of the internet and online platforms also gives advantages to people who perform in SSTs, mainly online-based self-service technologies. Their ability in choosing correct online platforms, browsing relevant information, searching suitable options, providing requested information, updating and uploading information helps them to perform online-based self-service transactions properly.

As far as I know, today, the whole world is connected. If you are not, you will be out-of-the-way. Personally, I believe that now everybody enjoys the internet. They can connect with everything simply from their smartphones, Ipads, computers, laptops in a simple second. It's actually inspiring you and quite clever. (22 years, female)

Today everything is online. We (the current generation) are confident with how to use these new technologies. (38 years, male)

Knowledge of language: As respondents point out, SST users' language capability also can be a matter in using SSTs. If they are not fluent in the language that machines use to communicate (mainly English), they won't be able to follow instructions properly, which leads to potential problems. However, some of the respondents appreciate that some SSTs provide the service in many languages such that the customer can choose their familiar language.

English is not my mother tongue. Sometimes it's a bit hard for me to understand what it asks me to do. If I can take some time, I can leisurely understand it. However, we need to do it quickly. So, I feel like I won't be able to do it properly. (42 years, male)

The following figure (figure 01) summarizes the main elements of Technology know-how that needs to perform in SSTs.

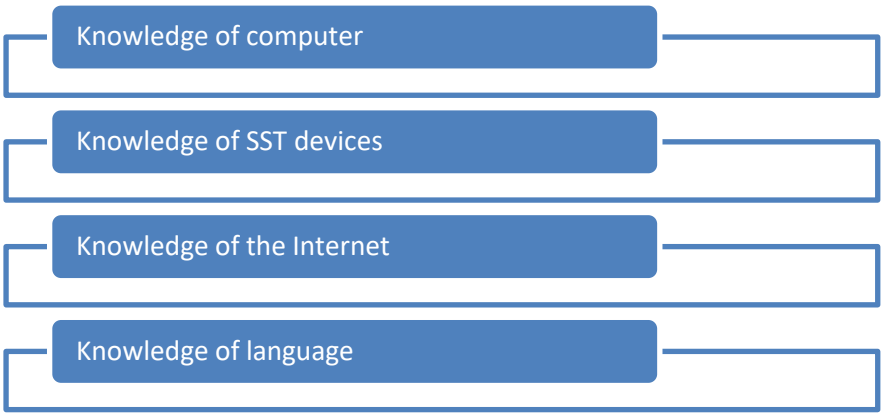

Figure 01: Elements of Technology know-how needed for SST transactions

Customer error-corrective mechanisms in SSTs

Next, the study focused on exploring mechanisms that customers use to correct errors that occur in SSTs.

As respondents declared, SST users employ a wide range of strategies to remedy problems in SSTs. All of these techniques were grouped together under two broad categories: 'preventing errors' and 'recovering errors.' Responding to warning signals and alarms in SSTs is recognized as a widely acknowledged error-prevention measure. Apart from that, they get multiple actions to recover the failures after errors occur. According to some of the respondents, their negligence and carelessness led to unanticipated failures. However, the vast majority of respondents were disappointed with service organizations' insufficient recovery skills as well as the amount of time it took them to implement corrective measures after a disaster.

Preventing errors: In order to avoid service-related accidents, many SSTs assist in the "preventing of errors" by seeking consumer approval of the transaction at various stages throughout the transaction. Clients are also frequently informed of potential difficulties and provided warnings so that they can identify and avoid errors as soon as they are made. According to the responders, many SSTs frequently display future faults and issue warnings so that users can detect and respond to such indicators early enough to stop errors from occurring. The following are some of the examples provided by the respondents.

This has happened to me numerous times. Typing the wrong PIN into an ATM machine. Fortunately, it revealed that I had entered the incorrect pin number. Then, in a flash, I make the necessary adjustments. As far as I'm aware, most ATMs give you three chances to use them. Your card will be trapped in the machine if you do not reply to their warning and continue in the same manner. (38 years, male).

Of course, I'm the one who's at fault. I ran through a long list of PIN digits in my head without double-checking them. My card became trapped in the machine at the end of the process. (36 years, male).

Recovering errors: Here, the potentials for 'recovering errors' at the same time the incident occurred or within a limited time frame are acknowledged. Respondents demonstrated that SSTs have the capacity to recover errors by simply canceling the process or if errors arise, fixing them through various mechanisms by contacting the service provider. Many customers shared their experiences on how they recovered from service failures confronted by them while few respondents were unhappy with organizations' recovery efforts by stating it as a big hazel. They pointed out the necessity of service employees to support customers, especially when they face problems with SSTs, rather than giving other auto-generated messages on how to go through recovery steps.

We do not want to instill an unwarranted fear of machines. Because even if failures occur, there are still numerous ways to recover from them. Numerous gadgets or electronic interfaces, such as webpages, include buttons for canceling, exiting, or deleting. You can cancel the transaction at any time without paying and continuing with it. Additionally, they have assistance lines or hotlines. I once made an unintentional transfer of funds to an incorrect account. I discovered it two months later when my banker informed me that I had not made the installment payment. When I checked my account history, I discovered that I had transferred to another account. Then I informed the bank, and they rectified the situation. However, it took some time. (45years, male).

I've had some awful experiences with certain companies. I despise it when we are unable to reach staff people for assistance. They took an unusually long time to resolve a straightforward issue. Their response was also limited

to emails, and I had to write numerous times before they addressed my issue. (55 years, male).

As the study discovered, SSTs assist customers in identifying and avoiding potential difficulties with their SST transactions (preventing mechanisms). Additionally, SST users can recover from SST-related errors using a variety of error recovery mechanisms. As illustrated in the following image (figure 2), SST users' error-prevention and recovery abilities will aid in the smooth execution of transactions.

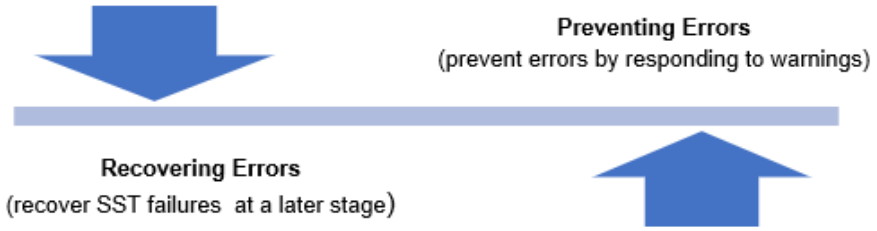

Figure 2: Error Corrective Mechanisms for smooth SST transactions

Customer classification based on technology know-how and error-correcting capability in SSTs

Additionally, the interviews focused on eliciting customers' experiences when attempting to match their know-how in SSTs in the face of SST failures. Respondents shared both positive and negative experiences with utilizing their IT expertise to resolve SST issues. By analyzing such customer experiences, the study attempted to classify them in to groups based on their technological proficiency and capacity to resolve issues at SSTs. As the study found, customers' technology know-how and error-correcting capability go hand-in-hand and show positive relationships. According to the customer responses that they shared on their experience and level of capabilities in performing at SSTs and their ability to correct SST failures, they were classified into 'Full performers,' 'Fair performers, ' and 'Poor performers.'

Full Performers: SST users with a high level of technology expertise are able to fix potential problems in their SST-related transactions through the use of adequate error prevention and correction procedures. This category of clients was named as 'Full Performers.' They are believed to have a high level of

technological skill and are competent in managing transactions in many SST contexts. They favor SSTs because technology simplifies their efforts and advances their lives. They asserted that SSTs were unmatched by others in terms of convenience and independence, which they would be willing to embrace even more advanced versions of SSTs in the future.

> *I use technology to do nearly everything. It's easy. It makes everything very convenient. I think I can perform many SSTs. The knowledge application part is quite similar. You need to have the skill to work on machines. Once you get it, it will be part of your life. Life will be very hard without SSTs. (45years, male)*

Fair Performers: SST users who are average in technology know-how and error preventing and recovering skills in SSTs were named as 'Fair performers.' They are capable of performing SSTs, while occasionally getting support from other parties on problems related to SST performance. They have a fair amount of understanding of using different SSTs and can work with SSTs with a little guidance.

> *I am not very good or very bad at working with machines. I can follow others and do accordingly. Sometimes I am a bit afraid to do my own, but if someone is there to see that I am on the right track, I can learn and do it. (36 years, Female)*

Poor Performers: According to the study, customers who lack technological knowledge and are incompetent in error correction at SSTs were labeled as "Poor performers." It is preferable for them to have traditional physical service encounters that are managed by service workers. They rely on SST unless they have no other choice available to them. They were identified as being apprehensive about using SSTS.

> *When faced with a choice, I always choose the human alternative. Machines are not to be trusted. I'm not familiar with how to operate them. I'm not interested in learning them either. If something goes wrong in there, who is going to be held responsible? I don't want to call them and run around town if something goes wrong what is important to me. I prefer to meet with staff. They are going to do the right thing. (62 years, Female)*

The following figure (Figure 3) summarises the classification of customers based on Technology know-how and error-correcting capability at SSTs

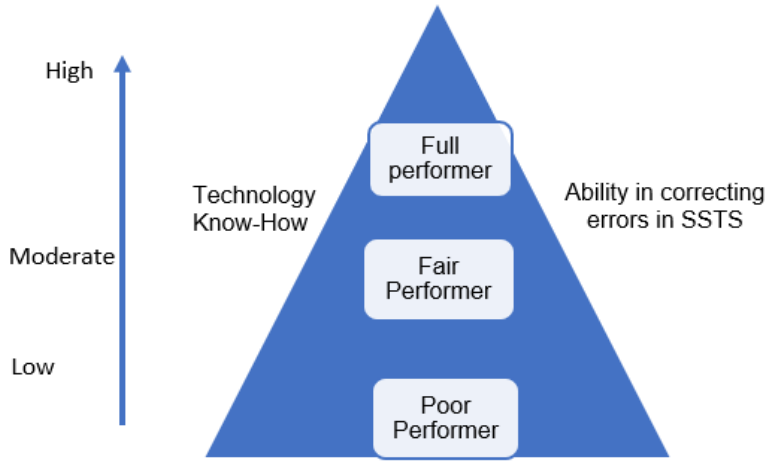

Figure 3: Classification of SST users based on technology know-how and error-correcting capabilities.

Discussion

This study found that general knowledge of SST devices, internet knowledge, computer knowledge, and language capability are all critical factors in deciding customers' ability to perform at SSTs successfully. Similar to the findings of this study, Hilton et al. (2013) discovered the importance of 'consumer knowledge and skills in the selection of SSTs, and thus they highlighted the role of taking this into account early in the design process. Meuter et al. (2005, p.63) emphasize the importance of consumers' capacities in SST trials, citing "individual difference" as one of the primary characteristics influencing the influence of consumer preparation. Furthermore, the findings of this study are consistent with those of Liljander et al. (2006) and Meuter et al. (2003), who have noted the significance of the individual's state of mind as well as their 'abilities and willingness' in consumer evaluations of self-service technology. Dabholkar (1996, p.39) defines 'ease of use' in self-service technologies as "ease of using the touch screen in terms of how easy or straightforward it would be to use this option," confirming our findings about the conceptual parallels between 'ease of use' and 'ease of learn' with 'technology-know-how.' Both acceptability of technology in general (Venkatesh & Bala, 2008) and SSTs, in particular (Lee & Oh, 2022), are thought to be influenced by customers'

technology know-how (Tavitiyaman et al., 2022) and perceived simplicity of use (Meuter et al., 2000; Weijters et al., 2007).

Further, this study identified ‘error correction’ as an essential aspect in SSTs, which is described as ‘preventing errors by following precautions and/or getting recovery activities after the occurrence.’ Here, ‘preventing' and ‘recovering' errors were identified as aspects in ‘correcting' failures in SST transactions. Warning messages, alarms, and cancellation procedures in SSTs have all been identified as critical error-prevention strategies. Recovery of errors through various procedures such as self-recovery or informing the service provider was also considered as crucial. Customers' non-responsiveness to early warnings, is recognized as leading to unanticipated failures. When compared these study findings with literature, Shin et al. (2017), emphasize the importance of proactive customer contacts in preventing service failures rather than focusing on recovering service failures through reactive efforts. In addition, Hilton and Hughes (2013) point out that service professionals are required to execute ‘self-service recovery' jobs in SSTs since they require specialized knowledge and abilities. ‘Failures with technology,' ‘personal faults,' and a mix of both are recognized as major causes of SST failures (Snellman & Vihtkari, 2003). Similarly, technology and process failures have been identified as important contributors to customer complaints (Meuter et al., 2000) and dissatisfaction (Hsu et al., 2021), which is higher in SSTs than interpersonal interfaces (Chen et al., 2021). According to Fan et al. (2016), customer responses to SST failures range based on the level of anthropomorphism related to SST machines (adding human-like traits, motivations, intentions, emotions, and behaviors to non-human agents), persons' sense of power, and the prevalence of other users. According to Dong et al. (2008, p. 126), actions made to mitigate or repair harm are referred to as service recovery defining it as "the degree to which the customer is involved in taking actions to respond to a service failure," and there are three types of classification in recoveries, depending on the involved party: firm recovery, joint recovery, and customer recovery. According to Heidenreich et al. (2015), customers in highly co-created services appear to be overly liable for failure, which makes them feel terrible, and they can assuage this guilt by actively engaging in recovery measures (Ozuem et al., 2021).

Conclusion

The study identified four main types of technology know-how: general knowledge of computers, knowledge of the internet, knowledge of SST devices

and language capability as important to successfully perform in self-service technologies. Further, the study found two main ways of correcting errors in SSTs: ‘preventing errors’ and ‘recovering errors’ which SST users can use to correct the failures in SSTs. Finally, it developed a typology that classified customers into three groups: ‘full performer’, ‘fair performer’ and ‘poor performer’, based on their technological know-how and error-correcting capacities in SSTs.

Theoretical and Practical Contributions

This study fills the theoretical gap by addressing an issue that has rarely been discussed in scholarly discussions. Doing so, it enriches the literature surrounding Self-Service Technology, specifically the areas in technology know-how and error correction in SSTs. As Corley and Gioia (2011) suggest, this study contributes to 'scientific utility' in a variety of ways by introducing new knowledge and generating new models/typologies for the SST environment. As given above (in the findings and conclusion), the study identified four main types of technology know-how and two main ways of correcting errors in SSTs. Finally, it adds to the theory-building by outlining a typology for consumers based on their technological expertise and error-correcting capabilities in SSTs.

On practical grounds, SST service providers can use this understanding to design and deliver superior customer experience through their SSTs. Specifically, this study found that customers' general understanding of SST devices, internet knowledge, computer knowledge, and language capability as important in performing with SSTs. Based on this, the study recommends that businesses assist customers in improving their technological knowledge by increasing awareness of simple ways to interact with the company's technological interfaces, promoting few-step processes with easy-to-remember strategies with visual demonstrations (e.g., click-choose-confirm-pay), and promoting the benefits of using self-service technologies. Furthermore, this study urges service organizations to consider their customers' technical knowledge, particularly while designing SSTs, so that ordinary consumers (not just technology professionals) may use them with minimal effort.

Finally, in self-service technology, 'error prevention' and 'error recovery' are regarded as critical 'error correcting' activities. As a result, the study concludes that businesses assist customers' error-prevention measures by making people aware of potential errors through warning messages, red lights, underlining

warnings in red, emphasizing important information/conditions in an eye-catching way, obtaining confirmation for critical information again and again, and inquiring the customer. Finally, even if the consumer goes through all of these steps, if he or she does not want to pay and continue the service transaction, there must be a simple way to "cancel" or "exit" the procedure with no strings attached. If the customer/organization is unable to avoid failures, the next step should be to provide adequate recovery techniques, such as simple apologies, prompt responses to calls/emails, reimbursements, product-to-product interchangeability, and so on, as soon as possible. Businesses should also validate the customer's preferred service recovery technique. This is due to the fact that many service organizations use a "product-to-product" defect recovery technique; however, this takes time, and the customer may prefer to purchase a similar product/service from a different service provider for immediate satisfaction.

Limitations and Future Research Directions

This study was a qualitative inquiry limited to exploring customers' technology know-how and error correction capabilities at SSTs. Therefore, future researchers can empirically test these findings by developing scales and statistically valid results. Since the study was limited to developed cotext, future researchers can consider developing countries or conduct a comparative analysis. Further, this study investigated general SSTs; thus, future researchers can focus on specific types of SSTs and explore customer experience in detail. Additionally, future researchers can concentrate on customer learning in SST, which enhances their know-how and experiences in performing with self-service technologies.

Acknowledgment

The authors would like to thank the anonymous reviewers for their helpful comments in completing this study.

Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

References

Abrams, L. S. (2010). Sampling 'Hard to Reach' Populations in Qualitative Research. *Qualitative Social Work*, *9*(4), 536-550. https://doi.org/doi.org/10.1177/1473325010367821

Antwi, C. O., Ren, J., Owusu-Ansah, W., Mensah, H. K., & Aboagye, M. O. (2021). Airport self-service technologies, passenger self-concept, and behavior: An attributional view. *Sustainability*, *13*(6), 3134.

Aronson, J. (1995). A Pragmatic View of Thematic Analysis. *The Qualitative Report*, *02*(01), 1-3.

Beatson, A., Coote, L. V., & Rudd, J. M. (2006). Determining consumer satisfaction and commitment through self-service technology and personal service usage. *Journal of Marketing Management*, *22*(7-8), 853-882.

Berry, L. L. (1999). *Discovering the Soul of Service: The Nine Drivers of Sustainable Business Success*.

Bigne, E. (2021). A model of adoption of AR-based self-service technologies: a two country comparison. *International Journal of Retail & Distribution Management*.

Bitner, M., Faranda, W. T., Hubbert, A. R., & Zeithaml, V. A. (1997). Customer contributions and roles in service delivery. *International Journal of Service Industry Management*, *8*(3), 193-205. https://doi.org/doi.org/10.1108/09564239710185398

Bitner, M. J., Brown, S. W., & Meuter, M. L. (2000). Technology infusion in service encounters. *Journal of the Academy of Marketing Science*, *28*(1), 138-149. https://doi.org/doi.org/10.1177/0092070300281013

Castro, D., Atkinson, R. D., & Ezell, S. J. (2010). *Embracing the self-service economy*.

Chang, Y.-W., & Chen, J. (2021). What motivates customers to shop in smart shops? The impacts of smart technology and technology readiness. *Journal of Retailing and Consumer Services*, *58*, 102325.

Chen, N., Mohanty, S., Jiao, J., & Fan, X. (2021). To err is human: Tolerate humans instead of machines in service failure. *Journal of Retailing and Consumer Services*, *59*, 102363.

Corley, K. G., & Gioia, D. A. (2011). Building Theory about Theory Building: What Constitutes a Theoretical Contribution? *Academy of Management Review*, *36*(1), 12-32. http://amr.aom.org/content/36/1/12.abstract

Creswell, J. W. (2013). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. SAGE Publications. https://books.google.co.uk/books?id=4uB76IC_pOQC

Curran, J. M., & Meuter, M. L. (2005). Self-service technology adoption: comparing three technologies. *Journal of Services Marketing*, *19*(2), 103-113. https://doi.org/doi.org/10.1108/08876040510591411

Curran, J. M., Meuter, M. L., & Surprenant, C. F. (2003). Intentions to use self-service technologies: a confluence of multiple attitudes. *Journal of Service Research*, *5*(3), 209-224. https://doi.org/doi.org/10.1177/1094670502238916

Dabholkar, P. A. (1996). Consumer evaluations of new technology-based self-service options: An investigation of alternative models of service quality. *International Journal of Research in Marketing*, *13*(1), 29-51. https://doi.org/doi.org/10.1016/0167-8116(95)00027-5

Dean, D. H. (2008). Shopper age and the use of self-service technologies. *Managing Service Quality: An International Journal*, *18*(3), 225-238. https://doi.org/doi.org/10.1108/09604520810871856

Ding, X., Verma, R., & Iqbal, Z. (2007). Self-service technology and online financial service choice. *International Journal of Service Industry Management*, *18*(3), 246-268. https://doi.org/doi.org/10.1108/09564230710751479

Dong, B., Evans, K. R., & Zou, S. (2008). The effects of customer participation in co-created service recovery [journal article]. *Journal of the Academy of Marketing Science*, *36*(1), 123-137. https://doi.org/doi.org/10.1007/s11747-007-0059-8

Fan, A., Wu, L. R., & Mattila, A. S. (2016). Does anthropomorphism influence customers' switching intentions in the self-service technology failure context? *Journal of Services Marketing*, *30*(7), 713-723. https://doi.org/doi.org/10.1108/jsm-07-2015-0225

Featherman, M. S., & Hajli, N. (2016). Self-Service Technologies and e-Services Risks in Social Commerce Era. *Journal of Business Ethics*, *139*(2), 251-269. https://doi.org/doi.org/10.1007/s10551-015-2614-4

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

Fernandez-Sabiote, E., & Roman, S. (2016). The multichannel customer's service experience: building satisfaction and trust. *Service Business*, *10*(2), 423-445. https://doi.org/doi.org/10.1007/s11628-015-0276-z

Galdolage, B. S. (2018). Value co-creation intention, practices and experience in self-service technologies. *Business School. University of Hull: Hull*, *405*.

Galdolage, B. S. (2020a). Customer Choice of Self-Service Kiosks in Service Transactions. *South Asian Journal of Marketing*, *1*(2), 98-137.

Galdolage, B. S. (2020b). Do It Yourself: Customer Self-Directed Learning in Self-Service Technologies. *Sri Lanka Journal of Management Studies*, *02*(2).

Galdolage, B. S. (2021a). Customer Value Co-creation Intention, Practices, Co-destruction and Experience in Self Service Technologies. *Journal of Scientific Research and Reports*, 12-26. https://doi.org/doi.org/10.9734/jsrr/2021/v27i430375

Galdolage, B. S. (2021b). Customers' Role in Co-Creating Value at Self-Service Technologies: From Role Theory Perspective. *Sri Lanka Journal of Marketing*, *7*(1).

Galdolage, B. S. (2021c). Interplay between Performance and Convenience in Customer Choice of Self-Service Technologies. *Current Journal of Applied Science and Technology*, 80-91. https://doi.org/doi.org/10.9734/cjast/2021/v40i1031361

Galdolage, B. S. (2021d). Prominence of Information Richness in Accepting Online Based Self-Service Technologies. *Archives of Current Research International*, 31-42. https://doi.org/doi.org/10.9734/acri/2021/v21i230231

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

Han, S. H., Lee, J., Edvardsson, B., & Verma, R. (2021). Mobile technology adoption among hotels: Managerial issues and opportunities. *Tourism Management Perspectives*, *38*, 100811.

Hanks, L., Line, N. D., & Mattila, A. S. (2016). The Impact of Self-Service Technology and the Presence of Others on Cause-Related Marketing Programs in Restaurants. *Journal of Hospitality Marketing & Management*, *25*(5), 547-562. https://doi.org/doi.org/10.1080/19368623.2015.1046536

Harris, K., Lois, A. M., & Kenneth, L. B. (2006). Online service failure, consumer attributions and expectations. *Journal of Services Marketing*, *20*(7), 453-458. https://doi.org/doi.org/10.1108/08876040610704883

Heidenreich, S., Wittkowski, K., Handrich, M., & Falk, T. (2015). The dark side of customer co-creation: exploring the consequences of failed co-created services. *Journal of the Academy of Marketing Science*, *43*(3), 279-296. https://doi.org/doi.org/10.1007/s11747-014-0387-4

Hilton, T., & Hughes, T. (2013). Co-production and self-service: The application of Service-Dominant Logic. *Journal of Marketing Management*, *29*(7-8), 861-881. https://doi.org/doi.org/10.1080/0267257X.2012.729071

Hilton, T., Hughes, T., Little, E., & Marandi, E. (2013). Adopting self-service technology to do more with less. *Journal of Services Marketing*, *27*(1), 3-12. https://doi.org/doi.org/10.1108/08876041311296338

Holloway, B. B., & Beatty, S. E. (2003). Service Failure in Online Retailing. *Journal of Service Research*, *6*(1), 92-105. https://doi.org/doi.org/10.1177/1094670503254288

Hoyer, W. D., Chandy, R., Dorotic, M., Krafft, M., & Singh, S. S. (2010). Consumer Cocreation in New Product Development. *Journal of Service Research*, *13*(3), 283-296. https://doi.org/10.1177/1094670510375604

Hsieh, C.-T. (2005). Implementing self-service technology to gain competitive advantages. *Communications of the IIMA*, *5*(1), 9.

Hsu, P.-F., Nguyen, T. K., & Huang, J.-Y. (2021). Value co-creation and co-destruction in self-service technology: A customer's perspective. *Electronic Commerce Research and Applications*, *46*, 101029.

Kelly, P., Lawlor, J., & Mulvey, M. (2017). Customer Roles in Self-Service Technology Encounters in a Tourism Context. *Journal of Travel & Tourism Marketing*, *34*(2), 222-238. https://doi.org/doi.org/10.1080/10548408.2016.1156612

Kristensson, P., Matthing, J., & Johansson, N. (2008). Key strategies for the successful involvement of customers in the co-creation of new technology-based services. *International Journal of Service Industry Management*, *19*(4), 474-491. https://doi.org/doi.org/10.1108/09564230810891914

Lacey, A., & Luff, D. (2009). *Qualitative Research Analysis*.

Lee, E. M., & Oh, S. (2022). Self-service kiosks: an investigation into human need for interaction and self-efficacy. *International Journal of Mobile Communications*, *20*(1), 33-52.

Liljander, V., Gillberg, F., Gummerus, J., & van Riel, A. (2006). Technology readiness and the evaluation and adoption of self-service technologies. *Journal of Retailing and Consumer Services*, *13*(3), 177-191. https://doi.org/doi.org/10.1016/j.jretconser.2005.08.004

Liu, C., & Hung, K. (2022). Improved or decreased? Customer experience with self-service technology versus human service in hotels in China. *Journal of Hospitality Marketing & Management*, *31*(2), 176-204.

Malhotra, N. K., & Birks, D. F. (2007). *Marketing Research: An Applied Approach*. Prentice Hall/Financial Times. https://books.google.co.uk/books?id=03y1QAAACAAJ

Meuter, M. L., & Bitner, M. J. (1998). Self-service technologies: extending service frameworks and identifying issues for research. American Marketing Association. Conference Proceedings,

Meuter, M. L., Bitner, M. J., Ostrom, A. L., & Brown, S. W. (2005). Choosing Among Alternative Service Delivery Modes: An Investigation of Customer Trial of Self-Service Technologies. *Journal of Marketing*, *69*(2), 61-83. https://doi.org/doi.org/10.1509/jmkg.69.2.61.60759

Meuter, M. L., Ostrom, A. L., Bitner, M. J., & Roundtree, R. (2003). The influence of technology anxiety on consumer use and experiences with self-service technologies. *Journal of Business Research*, *56*(11), 899-906. https://doi.org/doi.org/10.1016/s0148-2963(01)00276-4

Meuter, M. L., Ostrom, A. L., Roundtree, R. I., & Bitner, M. J. (2000). Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters. *Journal of Marketing*, *64*(3), 50-64. https://doi.org/doiorg/10.1509/jmkg.64.3.50.18024

Mick, D. G., & Fournier, S. (1998). Paradoxes of Technology: Consumer Cognizance, Emotions, and Coping Strategies. *Journal of Consumer Research*, *25*(2), 123-143. https://doi.org/doi.org/10.1086/209531

Mohanty, A., & Singh, R. R. (2021). Technological Fitness for usage of Self-Service Technologies in Commercial Banks-A Study of District Amritsar. *Parikalpana: KIIT Journal of Management*, *17*(2), 48-60.

Nijssen, E. J., Schepers, J. J. L., & Belanche, D. (2016). Why did they do it? How customers' self-service technology introduction attributions affect the customer-provider relationship. *Journal of Service Management*, *27*(3), 276-298. https://doi.org/doi.org/10.1108/josm-08-2015-0233

Ozuem, W., Ranfagni, S., Willis, M., Rovai, S., & Howell, K. (2021). Exploring customers' responses to online service failure and recovery strategies during Covid-19 pandemic: An actor–network theory perspective. *Psychology & Marketing*, *38*(9), 1440-1459.

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection

and analysis in mixed method implementation research. *Administration and policy in mental health*, *42*(5), 533-544. https://doi.org/doi.org/10.1007/s10488-013-0528-y

Parasuraman, A. (2000). Technology Readiness Index (Tri). *Journal of Service Research*, *2*(4), 307-320. https://doi.org/doi.org/10.1177/109467050024001

Park, H. J., & Zhang, Y. (2022). Technology readiness and technology paradox of unmanned convenience store users. *Journal of Retailing and Consumer Services*, *65*, 102523.

Park, J.-S., Ha, S., & Jeong, S. W. (2020). Consumer acceptance of self-service technologies in fashion retail stores. *Journal of Fashion Marketing and Management: An International Journal*.

Patton, M. Q. (2002). *Qualitative Research & Evaluation Methods*. SAGE Publications. https://books.google.co.uk/books?id=FjBw2oi8El4C

Perera, P., & Galdolage, B. S. (2021). Exploring motivating and hindering factors for consumer adoption to online purchase and payments in Sri Lanka. *International Journal of Social Science and Technology*, *06*(03).

Ple, L., & Cáceres, C. (2010). Not always co-creation: introducing interactional co-destruction of value in service-dominant logic. *Journal of Services Marketing*, *24*(6), 430-437. https://doi.org/doi.org/10.1108/08876041011072546

QianTing, L., Chung, H. C., & Chung, N. (2021). A study on the factors affect the technology satisfaction on AI based self-service technology service failure in hotel. In *Information and Communication Technologies in Tourism 2021* (pp. 123-127). Springer.

Quinn, J. B., Doorley, T. L., & Paquette, P. C. (1990). Beyond Products: Services-Based Strategy. *Harvard Business Review*, *68*(2), 64-68.

Reider, K., & Voss, G. (2010). The working customer - an emerging new type of consumer. *Psychology of Everyday Activity*, *3*(2), 2-10.

Rinta-Kahila, T., & Penttinen, E. (2021). Four Flavours of Customers: A dual-system perspective on self-service technology use. *Australasian Journal of Information Systems*, *25*.

Robinson, O. C. (2014). Sampling in Interview-Based Qualitative Research: A Theoretical and Practical Guide. *Qualitative Research in Psychology*, *11*(1), 25-41. https://doi.org/10.1080/14780887.2013.801543

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

Rowley, J. (2012). Conducting research interviews. *Management Research Review*, *35*(3/4), 260-271. https://doi.org/10.1108/01409171211210154

Saarijärvi, H., Kannan, P. K., & Kuusela, H. (2013). Value co-creation: theoretical approaches and practical implications. *European Business Review*, *25*(1), 6-19. https://doi.org/doi.org/10.1108/09555341311287718

Safaeimanesh, F., Kılıç, H., Alipour, H., & Safaeimanesh, S. (2021). Self-service technologies (SSTs)—the next frontier in service excellence: Implications for tourism industry. *Sustainability*, *13*(5), 2604.

Saldanha, T. J., Kathuria, A., Khuntia, J., & Konsynski, B. R. (2022). Ghosts in the machine: how marketing and human capital investments enhance customer growth when innovative services leverage self-service technologies. *Information Systems Research*.

Sekaran, U., & Bougie, R. (2016). *Research Methods For Business: A Skill Building Approach*. Wiley. https://books.google.co.uk/books?id=Ko6bCgAAQBAJ

Shin, H., Ellinger, A. E., Mothersbaugh, D. L., & Reynolds, K. E. (2017). Employing proactive interaction for service failure prevention to improve customer service experiences. *Journal of Service Theory and Practice*, *27*(1), 164-186. https://doi.org/doi.org/10.1108/jstp-07-2015-0161

Silverman, D. (2010). *Doing Qualitative Research*. SAGE Publications. https://books.google.co.uk/books?id=es_oEVZew6YC

Snellman, K., & Vihtkari, T. (2003). Customer complaining behaviour in technology-based service encounters. *International Journal of Service Industry Management*, *14*(2), 217-231. https://doi.org/doi.org/10.1108/09564230310474174

Tavitiyaman, P., Zhang, X., & Tsang, W. Y. (2022). How tourists perceive the usefulness of technology adoption in hotels: Interaction effect of past experience and education level. *Journal of China Tourism Research*, *18*(1), 64-87.

Tyagi, S., & Lodewijks, G. (2022). Optimisation of check-in process focused on passenger perception for using self-service technologies at airport in Australia. *Journal of Airline and Airport Management*, *12*(1), 1-14.

Ugwuanyi, C. C., Uduji, J. I., & Oraedu, C. (2021). Customer experience with self-service technologies in the banking sector: evidence from Nigeria. *International Journal of Business and Systems Research*, *15*(4), 405-425.

Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a Research Agenda on Interventions. *Decision Sciences*, *39*(2), 273-315. https://doi.org/doi.org/10.1111/j.1540-5915.2008.00192.x

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 425-478. https://doi.org/doi.org/10.2307/30036540

Wang, A. M., Barua, Z., & Uddin, M. A. (2016). *The Impact of Technology Trust and Technology Anxiety on Customer Satisfaction with Self-Service Technologies*. <Go to ISI>://WOS:000393354400043

Wang, X., Yuen, K. F., Wong, Y. D., & Teo, C. C. (2018). An innovation diffusion perspective of e-consumers' initial adoption of self-collection service via automated parcel station. *The International Journal of Logistics Management*.

Weijters, B., Rangarajan, D., Falk, T., & Schillewaert, N. (2007). Determinants and outcomes of customers' use of self-service technology in a retail setting. *Journal of Service Research*, *10*(1), 3-21. https://doi.org/doi.org/10.1177/1094670507302990

Zhang, T., Lu, C., Torres, E., & Chen, P.-J. (2018). Engaging customers in value co-creation or co-destruction online. *Journal of Services Marketing*, *32*(1), 57-69. https://doi.org/10.1108/JSM-01-2017-0027

Zhang, Y., & Lu, X. (2021). Soliciting Positive Consumer Behavior in Self-Service Technology Failures through Social Nudging: Field Experiment Research. *Available at SSRN*.