

**FACTORS INFLUENCING CONSUMERS'
INTENTION TO USE SELF-SERVICE
TECHNOLOGY IN SAUDI ARABIA
RETAIL INDUSTRY**

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RETAIL INDUSTRY**

by

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LIST OF ABBREVIATIONS

ATM	Automated Teller Machines
DIT	Diffusion of Innovation Theory
GCC	Gulf Cooperation Council Countries
ICT	Information and Communication Technology
SEM	Structural Equation Modeling
SSK	Self-Service Kiosk
SST	Self-Service Technology
TAM	Technology Acceptance Model
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action

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**FAKTOR MEMPENGARUHI NIAT PENGGUNA UNTUK
MENGUNAKAN TEKNOLOGI LAYAN DIRI DALAM INDUSTRI
PERUNCITAN DI ARAB SAUDI**

ABSTRAK

Kajian ini menggunakan Model Penerimaan Teknologi (TAM) dan *Diffusion of Innovation Theory* (DIT) sebagai latar belakang teori. Penyelidikan ini memperluaskan teori TAM dan DIT kepada teknologi layan diri dan menyelidik faktor-faktor yang mempengaruhi niat pengguna untuk menggunakan teknologi layan diri dalam industri runcit Arab Saudi. Kajian penyelidikan ini dilaksanakan untuk mengkaji pelbagai faktor. Faktor-faktor yang dikaji adalah pengaruh sosial, keperluan untuk interaksi, kebimbangan teknologi, nilai hedonic, kegunaan yang dilihat, kemudahan penggunaan yang dilihat, keserasian, kepercayaan dilihat, dan risiko yang dilihat yang semuanya bakal mempengaruhi pembolehubah terhadap sikap terhadap penggunaan teknologi layan diri dan niat pengguna untuk menggunakan teknologi layan diri. Di samping itu, kajian ini juga mengkaji pengaruh perantaraan sikap pengguna terhadap penggunaan teknologi layan diri di sektor runcit tertumpu pada restoran makanan segera dan teater pawagam di Arab Saudi. Sejumlah 462 pelanggan Saudi memberi maklum balas kepada kaji selidik dalam kajian ini. Hasil dapatan menunjukkan bahawa pengaruh keserasian, kemudahan yang dilihat penggunaan, kegunaan yang dilihat, nilai hedonic, dan pengaruh sosial adalah penting, positif, dan secara langsung mempengaruhi sikap terhadap teknologi layan diri. Pengaruh langsung setiap keperluan untuk interaksi, risiko yang dilihat, dan kebimbangan teknologi mempengaruhi sikap pengguna terhadap penggunaan teknologi layan diri,

masing-masing adalah negatif dan signifikan. Pengaruh langsung kepercayaan sikap terhadap penggunaan teknologi layan diri didapati tidak signifikan secara statistik. Kajian ini telah membuktikan bahawa sikap terhadap penggunaan teknologi layan diri mempengaruhi niat pengguna untuk menggunakan teknologi layan diri. Hasil kajian mendedahkan bahawa sikap pengguna terhadap penggunaan teknologi layan diri mempengaruhi hubungan antara pembolehubah keperluan pengaruh sosial untuk interaksi, kebimbangan teknologi, kemudahan penggunaan yang dilihat, kegunaan yang dilihat, keserasian, dan risiko yang dilihat dengan pembolehubah niat pengguna untuk menggunakan teknologi layan diri. Kajian ini mempunyai beberapa sumbangan teori dan praktikal. Yang paling penting adalah integrasi model TAM dan DIT, menerapkannya dalam industri runcit Arab Saudi dan mengesahkan penggunaannya secara umum. Kajian ini juga memperluas pemahaman literatur mengenai tingkah laku pengguna, terutamanya bahawa kebanyakan penyelidikan sebelumnya telah dilakukan di negara maju, dan kajian ini adalah salah satu yang pertama melakukan penyelidikan tersebut di negara membangun seperti Arab Saudi.

FACTORS INFLUENCING CONSUMERS' INTENTION TO USE SELF-SERVICE TECHNOLOGY IN SAUDI ARABIA RETAIL INDUSTRY

ABSTRACT

This study used the Technology Acceptance Model (TAM) and the Diffusion of Innovation Theory (DIT) as a theoretical background. It extends TAM and DIT theories to self-service technology and investigates the factors influencing consumers' intention to use self-service technology in the Saudi Arabian retail industry. This research study is built up to investigate various factors. These factors are social influence, need for interaction, technology anxiety, hedonic value, perceived usefulness, perceived ease of use, compatibility, perceived trust, and perceived risk that are all prospective influencing variables on attitudes towards self-service technology usage and consumer's intention to use self-service technology. In addition, this study also investigated the mediating effect of consumers' attitudes toward using self-service technology in the retail sector, focusing on fast-food restaurants and cinema theatres in Saudi Arabia. A total of 462 Saudi customers responded to the survey in this study. It has been found that the influences of compatibility, perceived ease of use, perceived usefulness, hedonic value, and social influence are significant, positive, and directly affect attitudes towards self-service technology. A direct influence of each need for interaction, perceived risk, and technology anxiety was found on consumers' attitudes towards the usage of self-service technology, each of which was negative and significant. The direct influence of perceived trust on attitudes towards the usage of self-service technology was found not statistically significant. This study has proved that attitude towards using self-service technology significantly

influences the consumer intention to use self-service technology. The result of the study revealed that the attitudes of consumers towards using self-service technology mediate the relationship between the variables of social influence need for interaction, technology anxiety, perceived ease of use, perceived usefulness, compatibility, and perceived risk with the variable of consumers' intention to use self-service technology. This study has several theoretical and practical contributions. The most significant of which is the integration of the TAM and DIT models, applying them in the Saudi Arabia retail industry and confirming their general applicability. This study also expanded the literature's understanding of consumer behaviour, especially that most previous research has been done in developed countries, and this study is one of the first to do such kind of research in a developing country like Saudi Arabia.

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter summarises the current study, which looks at the variables that influence customers' intentions to use self-service technology (SST) in the retail industry in Saudi Arabia. The background of the study, an overview of the Saudi retail industry, the statement of the problem, the research objectives, the research questions, the scope and significance of the study, the definition of the variables, and the organized research approach will be discussed in detail in this chapter.

1.2 Research Background

In previous decades, most innovations and associated ideas mainly focused on creating products rather than on services. Because of its economic importance, product development received much attention. However, adoption theories have been effectively applied to service contexts in recent years (Park & Kim, 2014). With the growing importance of services, the focus has shifted away from product development to service development.

Nowadays, the service industry has emerged as one of the most important contributors to the global economy. In particular, the present convergence of information and communication technologies creates new opportunities in the services industry, such as personnel and people redeployment, organizational reconfiguration, information exchange, and technological investment. Technology investments should result in creative solutions that adapt to changing market conditions and efficiently leverage the value of information in service interactions to produce more excellent

business value (Pantano & Viassone, 2012). These generating services activities are expanding across organizations, utilizing technology to satisfy the growing demand for increased market efficiency, agility, and flexibility. Businesses extensively employ self-service technology in response to service-oriented thinking activities as the SST is most widely used by Businesses.

Self-service technology refers to technical interfaces that allow customers to use a service without requiring direct interaction with a service provider representative (Dabholkar, 1994). The human to technology service delivery interface is known as a type of interface (Dabholkar, 1994). Banks and other financial intermediaries utilized automated teller machines (ATMs) to disburse money and offer other services, such as balance checks and account transfers, in the early days of self-service technology. However, there have been significant changes in the availability and usage of self-service technologies. The corporate environment has been reorganized as a result of technological advancements. The banking and financial industries are now the primary sectors that have embraced and deployed self-service technology on consumer markets, resulting in significant shifts in service delivery in banking and financial industries (Fernandes & Pedroso, 2017).

As a result, new technologies are being deployed in various industries, such as self-service technology, which is increasingly being used in service delivery procedures. SST has become one of the most commonly utilized and recognized technology interfaces in various sectors (Kaushik, Agrawal, & Rahman, 2015). As a result of their participation in the market, many businesses continue to invest in SST to enhance their service quality and lower their total costs. 'High touch and low-tech'

approaches have been replaced by a 'high-tech and low-touch strategy resulting from technological improvements in service delivery procedures (Hung & Wang, 2020).

The spread of SST has resulted in a general improvement in the conventional service delivery method. Most service industry customers increasingly value self-service technology because of its benefit and convenience. Furthermore, owning new technologies provides its consumers with more flexibility (Iqbal, Hassan, & Habibah, 2018). The introduction of new SST, such as airport self-check-in kiosks, electronic tourist guides, tourism information kiosks, self-service systems in eating facilities, and automated hotel self-check-in, is due to an increase in the number of people using technology devices and systems (Alotaibi & Al-matari, 2015).

In addition, during the last decade, there has been a surge in interest in using information and communication technology (ICT) in various areas and numbers of fields. While early contributions were primarily concerned with the growth and development of the banking industry, more recent research has focused on best practices for creating sophisticated technology to enhance traditional physical points of sale in a variety of industries (Considine & Cormican, 2017). The market adoption and spread of self-service technology are founded on the assumption that effective self-service technology benefits both service providers and customers since SST improves service delivery productivity and lowers operational costs while improving customer experience and decreasing wait times (Iqbal et al., 2018).

As a result, it should come as no surprise that many interactive tools, such as interactive floors kiosks and in-store displays, smart mirrors, virtual salespeople, and shopping assistant systems that are based on shopping carts and hand-held devices have recently been introduced in traditional retail stores (Pantano & Viassone, 2012).

These forms of technologies may improve conventional retail by making it more appealing and visually acceptable to customers and improving their shopping experience (Considine & Cormican, 2016).

In terms of strategy, implementing advanced technology such as self-service technology in organizations is projected to boost customer loyalty by improving service quality while also lowering costs (Iqbal et al., 2018). Self-service technology allows shops to standardize their customer interactions, resulting in a consistent service environment free of personnel personality and mood. Customers can be more active and involved in delivering services, and merchants may respond to demand changes without having to make costly and time-consuming employee's modifications and adjustments (Cascio & Montealegre, 2016).

Despite the many touted benefits of self-service technologies, only a few companies have publicly acknowledged that the self-service technology has met or exceeded their intended aims or objectives. Even though corporations have invested billions of dollars in these technologies, returns on technological infusions are not always adequate and are often considerable and not without danger or risk (Choudhury, 2018). Companies have also said that despite vast sums of money invested in new technology, the expected return on investment did not meet their expectations. Executives claimed that there is no link between their responsibilities and what technology does. When introducing new technology, it might be tough to assess consumers independently (Vakulenko et al., 2019). Furthermore, experts have discovered that not all clients or customers are comfortable with new technologies and accept them (Kim, 2014; Taufi & Hanafiah, 2019).

Companies believe that self-service technology may improve the quality and productivity of their service offering. Customers, on the other hand, are wary. When selecting whether or not to embrace and utilize these technologies, various consumers believe that factors such as discomfort or irritation with new technology and optimism about technology have a role (Hong & Slevitch, 2018). Consumers may want to shun and avoid emerging technologies because they do not perceive any advantage from their use, expect negative, unfavourable results or outcomes in some situations, or be concerned about the use of comparable technology such as technology that has a similar task (Turner & Szymkowiak, 2019).

Customers also obtain services using self-service technology such as automated machines and computer interfaces. Stand-alone kiosks and mobile service applications are examples of interactive interfaces (Meuter et al., 2005). Purchases made through various forms of SST have grown significantly in several sectors because of the speed, convenience, and cost reductions they promise. On the other hand, SST may occasionally fail to function due to a technical fault, human mistake, or service failure. This problem or malfunction is referred to as self-service technology failure, a form of technology or service failure described as a delivery failure that might occur when the consumer interacts with technology (Dabholkar et al., 2012). A faulty ATM or a malfunctioning kiosk machine, for example, are typical examples of self-service technology failure. For example, roughly half of online consumers' issues are due to website technological failure (Forbes, 2008), while interactive self-help technology, such as automated customer phone support, only works about a third of the time. As a result, errors might lead to missed sales opportunities, customer discontent, technological neglect or desertion as well as customer dissatisfaction. As

a result of the failure of the SST, customers may alter and change their behavioural intentions to use it (Zhu, Nakata, Sivakumar, & Grewal, 2013).

On the one hand, modern technologies enable tailored information and services that customers may access based on their demands (Baabdullah, Rana, Alalwan, & Dwivedi, 2019). Managers and businesses, on the other hand, receive data about customer behaviour, preferences, and market trends. This increased interest in advanced tool design and retailing reflects a growing understanding of expanding customer power and choice, as well as the potential for co-creation of novel goods and services (Nili, Tate, & Johnstone, 2018).

Technological advancements have ushered in a slew of new applications that can improve an organization's capacity to serve consumers with more consistent, high-quality service and more ease in fulfilling their ever-increasing needs (Magotra & Sharma, 2019). One of these innovations is self-service technology, which provides clients or customers with a novel manner of receiving services. It is viewed as a replacement for interactions with the human services provider. Self-service technology, such as apps, systems, and kiosks, are technical interfaces that enable consumers to create a service without the intervention of direct service workers. The introduction of self-service technologies has altered and changed the nature of service and how value is produced in the previous decade. Many services are increasingly supplied to clients or customers via self-service technologies nowadays (Turner & Szymkowiak, 2019).

Self-service technology has grown more significant in many corporate contexts during the previous decades, owing to its concentration in the retail industry. In the future, technology-based interactions are likely to be a critical component of

long-term service delivery success (Zhou et al., 2020). Additionally, self-service technology is likely to grow more significantly as service providers worldwide, continue to look for methods to cut costs while improving market competitiveness (Schiavi & Behr, 2018).

Telephone-based technologies and interactive voice response systems, direct online connections and internet-based interfaces, interactive stand-alone kiosks, applications, vending machines, ATMs, E-carriers for check-in or boarding pass at airports, E-blood pressure monitoring tools, automated car rental software, touch-free e-care, self-washers, automated telephone facilities, and self-service kiosks are all examples of self-service technology that are commonly used across various industries (Amir, Mohd, Saad, Seman, & Besar, 2020; Pearce, 2016). The newest self-service technology in the retail industry is self-ordering systems for products and services found in many fast-food restaurants and cinema theatres.

In the retail industry, the incorporation of self-service technology provides retailers with a unique opportunity. By supplementing traditional contact service employees with SST, retailers may increase their customer support skills. SST also enables retailers to employ less human labour or be more adaptable in their usage of human labour, allowing them to operate their businesses more efficiently (Blut, Wang, & Schoefer, 2016). Self-service kiosk transactions rose by 7% yearly in 2014, totalling roughly \$ 1 trillion, as shops progressively used SST to capitalize on these benefits. In addition, by 2020, the worldwide SST market is anticipated to reach \$31.75 billion (Kim, Yang, & Kim, 2018). Recent research of 1511 customers from ten nations revealed and proved what consumers want and prefer in retail shopping experiences.

In this poll, 61 percent of worldwide shoppers said they could shop in a completely automated store, and 52% said they preferred self-checkout lanes (Lee & Lyu, 2016).

Self-service technology is being utilized by consumers worldwide in several formats, such as self-scanning check-outs, self-service check-ins, online banking, and internet purchasing choices. Others would choose to disregard self-service technology, and some customers are still hesitant to utilize them (Lee & Lyu, 2016). Although consumers in developed nations are becoming accepting of self-service technologies, the position and role in developing countries are considerably different.

The literature on self-service technologies has previously attempted to understand customer behaviour. In ground-breaking research (Pearce, 2016), to discover and identify the numerous causes of customer satisfaction, the Critical Incident Technique (CIT) was used. Other important factors of happiness with certain SST have also been highlighted in the research, including general perceptual variables such as perceived usefulness, optimism, innovation, process convenience, and service outcomes (Patil, 2014), as well as trust in SST, sense of control, speed of transaction and exploration, perceived waiting time, and other deterrence (Wang, Harris, & Patterson, 2013). Among these, there are just a few instances of self-service technology literature employed in retail by concentrating on utilizing SST and focusing on the intention to use SST.

Furthermore, while these studies give preliminary information, they do not fully address how SST influences customer acceptability and usage based on well-developed theoretical foundations (Pantano & Viassone, 2012). Furthermore, little consideration and attention are given to how SST may affect customers' current or future intentions to use SST (Blut et al., 2016).

The global use of self-service technology has accompanied the expansion of the retail industry in recent years (Considine & Cormican, 2017). SST enables merchants and service providers to save costs while improving customer happiness, satisfaction, and loyalty, expanding into new consumer categories, and building customer connections and relationships (Iqbal et al., 2018). While ATMs have been around for decades, new technology tools such as parcel lockers, health kiosks, self-checkers, self-check-out, and self-ordering are being implemented in response to rising customer demand for better service and experience. Furthermore, the increasing variety of services and commodities available, the emergence of the Omni channel, and the availability of new technology tools alter consumer dynamics and provide a new potential environment for all enterprises (Park, 2018). Retailers and service providers are looking for innovative methods to tackle challenges as the market environment changes (Wei et al., 2016).

Previous studies have attributed customers' use of SST to individual differences and/or characteristics of innovation. Individual customer characteristics such as social influence show a significant effect on the intention to use SST (Rahim & Bakar, 2015; Venkatesh, Thong, & Xu, 2012; Venkatesh, Morris, Davis, & Davis, 2003). In terms of the need for human interactions with SST during the service delivery, past literature shows both direct and indirect influences of the need for human interaction on intention towards SST adoption (Considine & Cormican, 2016; Lee, 2017; Lee & Lyu, 2019). Some clients believe they can do the service better than service employees; hence they favour SSTs over human interactions, and they thus value the utility of SST (Demoulin & Djelassi, 2016).

In terms of technology anxiety, the SST research showed that anxiety can cause individuals to avoid using technology and have a larger aversion to utilizing an SST (Bailey & Pentina, 2017; Demoulin & Djelassi, 2016; Iqbal et al., 2018). Therefore, customers who are anxious about using technology may not perceive SST as easy to use. Likewise, individuals who have a lot of technology anxiety are more likely to dislike the procedure of utilizing SSTs. On the other hand, the SST's hedonic value is a strong determinant of consumer adoption and behaviour of SST. The functional and hedonic values of SSTs have been related to client sentiments about using self-service technologies in the SST literature (Chen & Chen, 2017; Kazakeviciute & Banyte, 2012; Venkatesh et al., 2012).

Innovation characteristics attracted some attention from SST use studies as well. Innovation characteristics such as perceived usefulness and ease of use determine attitude and use of technology, and other factors influence technology acceptance only through these two determinants (Venkatesh & Davis, 2000). Past research in different contexts has substantially confirmed the relationship between technology usage intention and perceived ease of use and usefulness of SSTs (Abed, 2020; Amir et al., 2020; Berg, & Pillon, 2015; Demoulin & Djelassi, 2016; Sedighimanesh, Sedighmanesh, & Ashghaei, 2017). Similarly, customer-perceived ease-of-use SST was found to enhance customer attitudes about utilizing self-service technology (Arpaci, 2016; Doshi, 2018; Hamid et al., 2016). A recent study by Taufik and Hanafiah (2019) show that perceived usefulness and ease of use are both positively associated with attitude toward SST use. Therefore, the quality of experience that is perceived by the consumers towards using the SSTs is very crucial in affecting their attitude.

Furthermore, one aspect that has been consistently associated with attitude and customers' willingness or intention to utilize SST is perceived risk (Alalwan et al., 2017; Kerviler, Demoulin, & Zidda, 2016; Lewis, Palmer, & Moll, 2010). In agreement with the past study, perceived trust increases the likelihood of predicting customer behaviour intention towards the use SSTs, thus leading to the actual use of SST (Venkatesh et al., 2016). Furthermore, the compatibility of technology with values and lifestyle shows a significant effect on the attitudes and intention to use the SST (Tongnamtiang & Leelasantitham, 2019; Wang et al., 2018). While other researchers suggested that adopting an incompatible innovation necessitates the adoption of a new value system, which is a time-consuming procedure, compatibility is linked to SST usage intention and behaviour (Lee et al., 2019; Tongnamtiang & Leelasantitham, 2019). However, there is still a lack of studies on the technical compatibility of SSTs and consumer attitude use towards SST in cinema theatres and fast-food restaurants. These studies show that customers are more motivated to use SSTs and that their perception of usefulness, ease-of-use, and compatibility, as well as their perceived trust, has a positive impact on their attitude and intention toward using SSTs.

Finally, the shifting or transition to self-service technology alters the consumer-retailer interaction by delegating the position of service conductor to the customer. Furthermore, a recent paradigm change in service science implies that customers participate in the value creation process, signalling a shift in the customer service approach (Cascio & Montealegre, 2016).

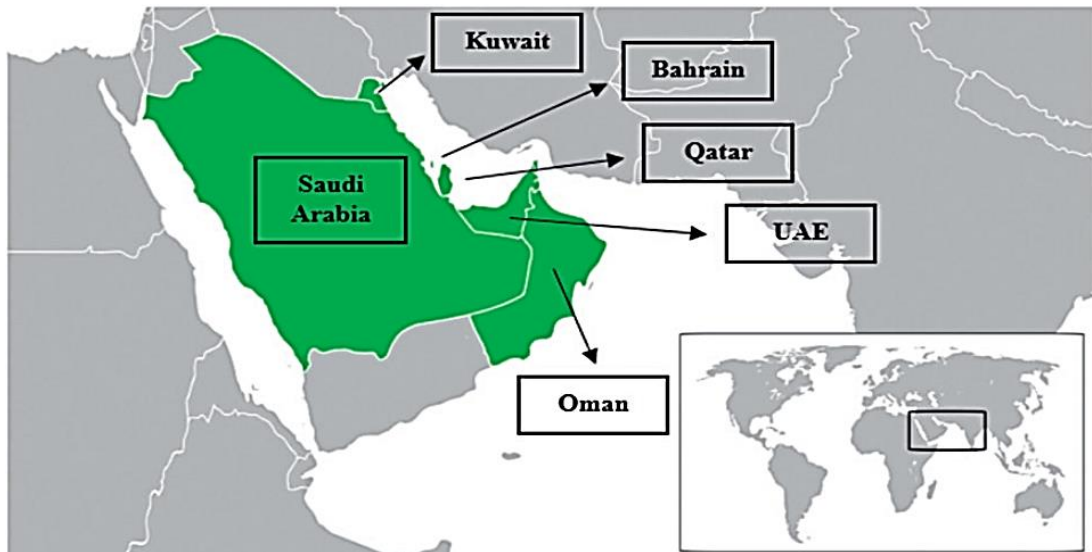
1.3 Overview of Saudi Arabia

This section will present an overview of Saudi Arabia and its retail industry to show the new trend regarding banned human rights, freedoms, the size, and the importance of the retail industry to Saudi Arabia's economy.

Saudi Arabia is, in reality, one of the world's most religiously conservative countries, with several societal limitations on the entertainment sectors, such as musicals and movies. As a result, due to the Islamic religiosity and way of life, participation in leisure and amusement activities was culturally unacceptable (Alkhudair, 2018). On the other hand, Saudi Arabia has recently begun modifying or adjusting its ultra-conservative image to diversify its economy by utilizing its untapped potential as a budding state-backed entertainment sector.

Modifications also have begun to resolve concerns of cultural gender disparities that have marginalized women in ways that portray them as inferior to their male counterparts in several social situations (Alshammari, Whaley, Hur, & Kim, 2019). Due to these culturally entrenched gender distinctions, Saudi Arabia's social space was compartmentalized to avoid gender mixing, with women required to wear full Hijab unless they went out with a male relative such as their spouse, brother, or father (Nabbout, 2019). Furthermore, the culture forbade women from driving automobiles or traveling domestically or internationally without the consent of their male guardians. However, as a result of Mohammed bin Salman's (Saudi Crown Prince) decision and movements by women's rights activists, women's status has improved, and many restrictions have been lifted, including driving, travelling, renting a hotel room, living away from family or male partners, and going out alone. Women were first permitted inside sports stadiums in 2018 (CBS News, 2018), and the

entertainment industry is expected to enhance Saudi women's desire to attend festivals and have greater lifestyle freedom (Alshammari, Whaley, Hur, & Kim, 2019).



Source: (Al Wutayd, 2020)

Figure 1.1. Map of Saudi Arabia with other Gulf Cooperation Council (GCC) Countries.

Saudi Arabia has the largest retail market in the Gulf Cooperation Council (GCC) countries (Alpen Capital, 2019). According to the Saudi Arabia General Authority for Statistics, the current population is 33.413.660 million (2019). Saudi Arabia's population is anticipated to reach thirty-seven million by 2025. Because Saudi Arabia's median age is 31.8 years, having many younger individuals is a strong indication of future market growth and development. Other key demographic indicators point to a large growth in retail spending in Saudi Arabia, as the country's younger people obtain a better education, prefer contemporary or modern lives, and swiftly adopt modern technologies. Although Saudi Arabia's retail sector is the largest in GCC, it is still growing compared to better established retail sectors in other GCC that benefit from an open economic strategy (Iftahy et al., 2019).

The present retail market is split between a food segment with a 35 per cent market share and a non-food segment with a 65 percent market share. In 2013, the whole market rose by 6% to 265 billion Saudi Riyals, up from 250 billion in 2012. This actual growth rate, which was initially predicted at 11%, is nevertheless outstanding. The retail industry accounts for around 17% of the country's gross domestic product (GDP) (Magni, Poh, & Sawaya, 2015). The organized retail business currently accounts for 44 percent of the retail market and is anticipated to account for 65 percent by 2020. Saudi Arabia's retail industry is expected to grow considerably in major, medium, and small businesses during the next decade, with the middle class growing at a rate of 13% per year (Ahmed & Mousa, 2015).

The growth of retail marketing made Carrefour, Euro Marche, Danube, Debenhams, IKEA, Lulu hypermarkets, Extra, H&M, New Look, Galeries Lafayette, Burberry, F&F, Zara, and Liu Jo, are among the many foreign brands joining the Saudi Arabia retail sector. The Saudi government has promoted and encouraged foreign direct investment in the retail sector (Randheer & Al-Aali, 2015). The importance of retail companies to the economy cannot be overstated and is unquestionable. Economists believe that strengthening the retail industry will benefit not just the economy but also the retail sector. It can also assist in revitalizing specific target sectors, such as urban and rural areas (Khan, Rana, & Masmali, 2015).

More specifically, the rising trend of self-service technology is expanding to retail settings in several nations. This service channel aggressively encourages customers to co-produce services without the assistance of front-line employees, resulting in increased store productivity and service quality (Iftahy et al., 2019). Despite its increased availability being advantageous to the retail business, self-service

technology has had little success in retail environments. The main reason for the poor or disappointing outcomes is a lack of awareness and understanding among businesses and merchants regarding consumer perceptions of SST usage (Fernandes & Pedroso, 2017).

While some economies have been quick to accept new self-service technologies, others have been sluggish to recognize, adapt, and employ them (Bulmer, Elms, & Moore, 2018). The first step in convincing customers to adopt new technology is to make them try it for the first time. Consumers should not only modify their behaviour, but they should also become co-producers of the service and supply it according to their requirements (Pantano & Servidio, 2012). Although academic research has looked at some of the characteristics that influence consumer acceptance of SST, the literature on consumer adoption of SST must be expanded. Previous research has focused on how consumers perceive SST characteristics and the factors that influence early SST adoption in industrialized and developed countries (Wang, Harris, & Patterson, 2017). However, there are limited and few studies on the factors that influence customers' willingness and intention to embrace and use SST, particularly in developing countries such as Saudi Arabia.

1.3.1 Overview of Cinema Theaters and Fast Food Restaurants in Saudi Arabia

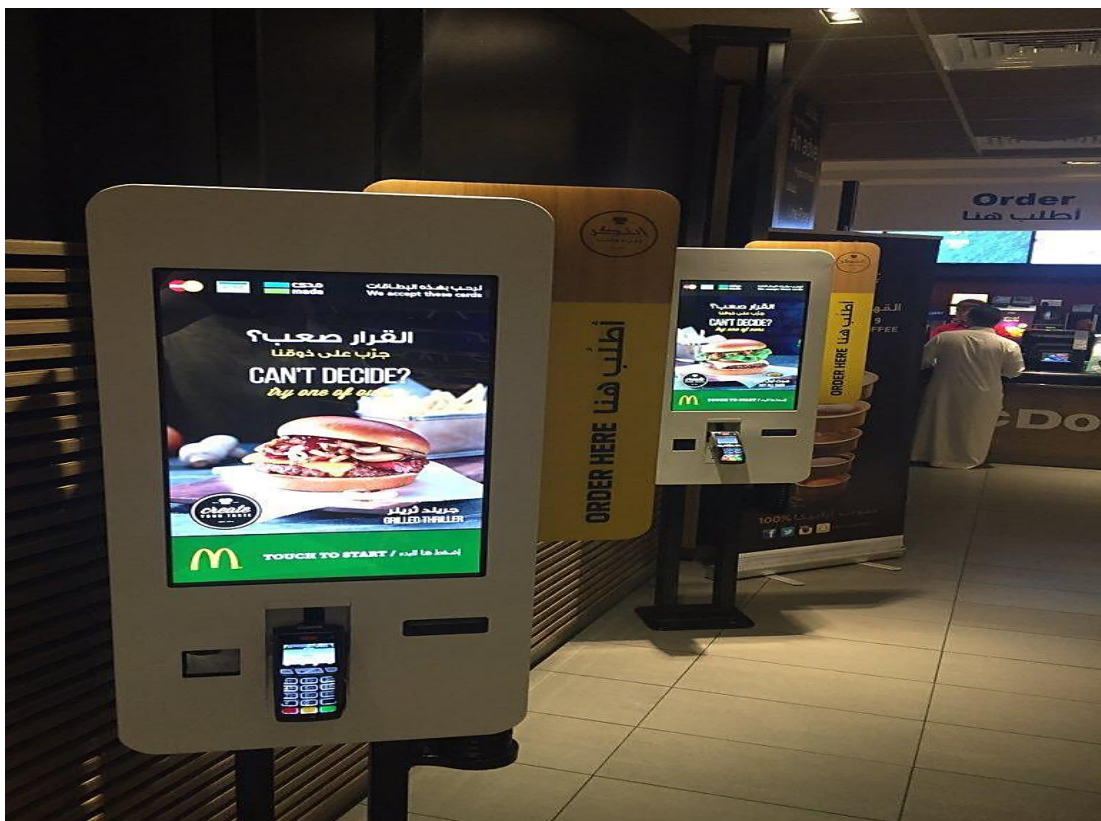
Cinema theaters and fast-food restaurants are undergoing rapid transformations to respond to consumer orders, serve customers, receive payments, and keep up with rapidly evolving technology. The cinema and fast-food restaurant industries are also thriving in Saudi Arabia (Alkhuraiji, 2020). According to Statista (2022), there were roughly 14,553 fast-food restaurants in Saudi Arabia in 2015. For example, McDonald's is the lead player, with a share of 28.8% among the top 30,

followed by Herfy (12%) and Al Baik (5.7%). According to recent reports, the Saudi Arabian fast-food market would develop at a CAGR of 6.9% from 2017 to 2023. In 2020, revenue from food delivery applications in Saudi Arabia is estimated to reach 1556 million dollars, increasing 32.4 percent from the previous year. In addition, the Saudi market is expected to reach 7.9 million users of service delivery apps in 2020, up 28.9% from 2019. The predicted annual growth rate for utilizing delivery applications is 9.8%, which will result in revenue of 2259 million dollars in 2024. This demonstrates how crucial the meal delivery app sector is, necessitating a thorough examination (Asfoura, Aljuraywi, Alhajjaj & Alzahed, 2021).

Due to rising food consumption, increased expenditure on food goods, and urbanization, the fast-food market is expected to rise rapidly over the forecast period (Saudi Arabia Fast Food market, 2017). Greater demand for fast service restaurants has been fuelled by factors such as increased price consciousness and value-seeking consumer behaviour, among others. Another factor driving this sector's quick expansion is the increasing use of the internet and social media, which has exposed a significant number of Saudis to Western cuisine and culture (Research and Markets, 2021). The fast-food sector in Saudi Arabia is well-diversified, due to the introduction of multinational food chains, the presence of expatriates, the increasing number of tourists, and shifting dietary preferences.

Furthermore, while attempting to introduce Saudis to the meals of other nations, the fast-food sector is growing by the day due to the variety of fast foods offered by numerous international and national companies. SSTs are also being adopted by the food fast industry. For instance, Saudi restaurants that use online services such as online menus, locations, pictures, and customer handling are ranked

higher than those offering less of these services (Binsawad, 2020). Moreover, the social media platforms and mobile payments from merchants also provide all-dimensional tools, for ordering as well as paying the bill (Altwairesh & Aloud, 2021; Binsawad, 2020). Many major fast-food establishments from McDonald's are making the self-service kiosk experience the norm (Figure 3). Hence, with the implementation of the SSTs, the fast-food service provider can maximize the satisfaction of the customer.



Source: (mada.com.sa)

Figure 1.2. McDonald's self-service technology in Saudi Arabia.

Saudi Arabian cinema is a modest business that produces only a few feature films and documentaries each year. In addition, each theatre will have its application to keep patrons up to date on the latest events and offers. As cinemas will soon open in all Saudi cities, there will be a variety of cinemas, movies, and film showings for any flavour and budget. In 2019, Saudi Arabia had 35 cinemas, the same as in 2018

(Statista, 2022), and this number is expected to rise to 45 by 2020 and 53 by December 2021. The majority of these cinemas are managed by VOX Cinemas (Figure, 4). The Quality-of-Life Program (QoL) of 2020) also covers all the regions in the country as Saudi Arabia has 13 regions except the *boundary of (Al-Masjid Al-Haram Region of Makkah and Masjid Nabawi in Al-Madina Al-Monawara)*.



Source: (*thenationalnews.com*)

Figure 1.3. VOX cinema in Jeddah, Saudi Arabia

From 1983 to 2018, Saudi Arabia had no theatres. Cinemas have been prohibited in Saudi Arabia for 35 years until the first theatre opened on April 18, 2018, in Riyadh. Over the next five years, Cinemas theatres expects to open up to 40 cinemas in 15 Saudi cities. Saudi Arabia's government intends to have more than 300 movie theatres with over 2,000 screens by 2030. Saudi Arabian cinema, whether domestically produced or imported, is subject to censorship (https://en.wikipedia.org/wiki/Cinema_of_Saudi_Arabia).

Despite the booming cinema and fast-food industries in Saudi Arabia, businesses are attempting to cut costs while providing greater convenience to customers. With the growth of technology, SSTs have become quite widespread and are affecting a wide range of industries. Similarly, the cinema and fast-food businesses do as well. Food delivery apps have never been more popular in Saudi Arabia than they are now, but this popularity comes at a cost to local businesses. As stated by Alkhuraiji (2020), it is strongly believed that the implementation of SSTs in the cinema industry (a mobile application) can provide universal access to all cinemas and theaters in Saudi Arabia for selecting film showings, online seat reservations, and ticket purchasing that can directly address a growing. In detail, an SSTs-based restaurant for cinemas that allows users to search for movies and cinema operators quickly and easily. However, the level of usage of SSTs in the Saudi cinema and fast-food industries are still below the level of ambition. For example, VOX Cinemas has just a website, available only for the Riyadh Park Mall (Alkhuraiji, 2020).

1.4 Problem Statement

Given the emergence of innovative self-service technology, SST is designed to simplify life and make it easier for consumers to carry out their daily tasks, as stated in the background section. However, self-service technology adoption has been seen as sluggish, lagged more minor, and less than it should be, and the number of customers utilizing these services has not risen to the extent anticipated or degree expected (Alotaibi & Al-matari, 2015; Robertson, McDonald, Leckie, & Mcquilken 2016).

Various challenges face the use of SST and affect its growth, according to Saeid and Macanovic (2017) despite the momentum witnessed by the deployment of different SST technologies, different challenges face the use of SST and affect the growth of SST in different businesses. The main challenge is the acceptance of new technologies such as how consumers are willing to develop their intention to new technology and whether this emerging technology will grab their intention (Alalwan, Dwivedi, Rana, & Algharabat, 2018; Saeid & Macanovic, 2017). SSTs, on the other hand, are not ideal, as they still have the potential to fail (Taufik & Hanafiah, 2019). According to the assertions above, the perceived ease of utilizing SSTs for that specific sort of person is low, and the encumbrances and barriers prevent them from using SSTs. In the end, they will refuse to spend due to a lack of convenience. In this regard, some customers claimed that the company's introduction of SSTs was simply a plan to get them to spend more money in their store. SST is particularly prone to service failure due to its unique characteristics (e.g., lack of service employees and reliance on high-tech) (Yi & Kim, 2017). When a customer's sense of control is threatened by a service failure, they are more likely to quit using technology entirely. Again, when employing SST, the lack of human communication could result in problems relating to failure before, during, or after the delivery of the service. Another issue with SST is that substituting it for human interaction may cause a delay in the formation of relationship bonds, lowering client loyalty (Alsiehemy, 2017). Unresolved service failures can result in a variety of unfavourable consumer behaviours, including vocal complaints, vengeance, poor word-of-mouth (WOM), and switching, all of which hurt service providers (Michel, 2004). As a result, the frequency of SST failures, as well as the impediments to recovery, pose a substantial challenge to organizations and the economy.

Furthermore, customers who utilize SSTs are at greater risk in the early stages of the process of adopting SSTs since they are less familiar with SSTs (Littler & Melanthiou, 2006). A lack of information regarding SSTs can contribute to increased risk perceptions (Lee, 2019). Thus, SSTs may not be appropriate for consumers with unique needs. Customers with a lot of expertise, according to Venkatesh et al. (2003) and Venkatesh et al. (2012), are more likely to get around problems like the availability of technical and informational support or the degree of compatibility to get the desired advantage. As a result of the foregoing facts, there is some debate over the primary factors that may impede or contribute to customers' attitudes and intents about using SSTs (Abed, 2020; Alotaibi, Houghton, & Sandhu, 2017; Chuang & Lai, 2019; Sedighimanesh et al., 2017).

Self-service technology is referred to as the answer to the problem of how to increase the availability of services while still being able to keep costs low (Collier & Barnes, 2015). With the development of SST, many companies have been quick to adopt these technological interactions (Feng, Lu, & Zhou, 2019). Much to their disappointment, many consumers, however, were hesitant and unwilling to employ and use various self-service kiosks and technologies, much to companies' chagrin (Robertson et al., 2016; Saeid & Macanovic, 2017). If customers are unwilling to utilize SST, firms must continue to supply services via human encounters, with their accompanying operational and personnel costs (Alsiehemy, 2017). In this case, customers must wait a long time for the organization's service professionals, as the services are not delivered by the technical interface, but rather by the firm's employees. Customers are also required to visit the firm during business hours; instead, they can use the electronic interface to get these services 24 hours a day, seven days a week. As a result, SST non-compliance has resulted in customer confusion, expense

increases, pay high prices, and an unfavourable service environment for SST users (Iqbal, Hassan, & Habibah, 2017). The advent of technology will cause businesses to increase expenses while providing less convenience to consumers.

If consumers continue to be hesitant to utilize SST, companies will be forced to increase the costs of staff training, equipment, and communications, resulting in higher service pricing. Indeed, many businesses are forced to continue providing services through human interactions because customers' reluctance to using this technology makes it pointless to invest in SSTs. It has been proven that the need for human interaction is linked to the avoidance of technology-based services (Lee & Lyu, 2016). SSTs, on the other hand, provide services that are less consistent and stable, as a result of differences in demand for the service or the mental framework of the worker (Iqbal et al., 2017), which impacts the consumer's purchasing power and the economy as a whole. Through constant monitoring and evaluation, service firms must take the initiative to drive favourable customer intentions towards SSTs.

Despite the costly business of deploying SST facilities in some sectors, the uptake has been relatively slow. Customers also stated that, even though SSTs are more innovative and cost-effective channels, they are still hesitant to use them due to the risks. As a result, clients who perceive a high level of risk associated with SST-based recovery are more likely to have a lower propensity to employ SST. Prior research on perceived risk has repeatedly demonstrated that a higher perceived risk of using SSTs correlates to a reduced inclination to use and adopt the system (Alalwan et al., 2016). The lack of face-to-face interaction in this situation raises consumers' perceptions of risk. Furthermore, not all customers are eager adapters; rather, some customers enjoy conventional human interactions (Considine & Cormican, 2016).

Currently, for example, only a few airline tickets are being booked via SST, although this was expected to show a dramatic increase (Taufik & Hanafiah, 2019). On the other, hand, anxiety can cause people to avoid using technology and be hesitant to use an SST. Furthermore, due to the sensitive nature of transactions such as online banking and mobile conducted using SSTs, where there are high degrees of uncertainty, intangibility, heterogeneity, and vagueness, as well as the absence of human interaction, customers are notably affected by the perceived risk and trust of using SSTs. Customers are less likely to adopt SST as a result of these qualities, which dampens their enthusiasm for the technology (Baabdullah et al., 2019).

Furthermore, according to Veracious Statistics Research (2018) in their report about global self-service technology market size and share by region, the Middle East ranked second to last in terms of both size and share.



Source: Mordor Intelligence Report (2019)

Figure 1.4. Mordor Intelligence Report about Self-Service Market - Growth, Trends, and Forecasts by Region (2020 – 2025)

Also, according to the Mordor Intelligence report (2019) about Self-Service Market - Growth, Trends, And Forecasts (2020 - 2025), the Middle East's growth, trends, and forecasts were at a low stage compared with other regions, as shown in figure 1-2 above. As a result, further studies are needed in the Middle East to examine the factors that influence SST acceptability, uptake, and use. Furthermore, because Saudi Arabia is located in the Middle East, numerous academics, including Rahim and Bakar (2015), and Baabdullah et al. (2019) argue for in-depth studies, particularly in Saudi Arabia.

Furthermore, self-service systems and technologies are interactive gadgets with user interactions designed to meet the user's demands for various processes. These terminals use specific hardware and software components that are designed to offer users information and other applications. The study focuses on the most frequently utilized SST types: ATMs, vending machines, and kiosks, as shown in figure 1.2, which is about Self-Service Market - Growth, Trends, And Forecasts (2020 - 2025). These technologies are being used in various businesses, including entertainment, hospitality, and shopping, including fast-food chains. In Saudi Arabia, some types of SST are available; some are in the banking industry, such as ATMs and mobile banking, and in airports, such as self-check-ins (Alotaibi & Al-matari, 2015). Also, the newest self-service technology in Saudi Arabia is self-ordering systems for products and services, which can be found in fast-food restaurants and cinema theatres.

Technology has become more important in people's daily lives, primarily as technology spreads around the world to break down waiting times and the need for human interaction. However, in Saudi Arabia, the level of self-service technology adoption is said to be much lower than that in the developed countries (Alotaibi & Al-