CHAPTER 2

LITERATURE REVIEW & HYPOTHESES

2.1 Introduction

This chapter is structured to offer comprehensive insights into relevant theories and an overview of recent research studies. It begins with an exploration of the foundational theory, highlighting key variables, their interrelationships, and the roles of moderating factors.

The discussion then transitions to the theoretical framework, incorporating a review of research and literature on the Unified Theory of Acceptance and Use of Technology, with a moderator introduced, Interpersonal Service Quality. Each criterion, moderator, and predictor variable are analyzed in detail to construct the study model and formulate the hypotheses.

2.2 Dine-In Restaurants

Casual dining restaurants are a category of eateries that offer moderately priced meals in a relaxed setting *(Prayag, Taheri, & Ekiz, 2019)*. Positioned between fast food and fine dining, they combine elements of both. Like fast-food establishments, they provide a casual atmosphere, but their menu is priced higher than fast food while remaining more affordable than fine dining *(Camillo, 2021)*.

At the same time, they offer table service similar to fine dining restaurants. With families as their primary target market *(Kowalczyk & Derek, 2020)*, casual dining restaurants strike a balance in pricing, menu variety, and service style, making them a middle ground between convenience and a more refined dining experience.

2.3 Self-service technology (SST)

Self-service technologies (SSTs) are used in a variety of industries, including dining, finance, distribution, and transportation services that are enabled by media and accessed through PCs, smartphones, and kiosks. Onsite restaurant interactive self-service technology (ORISST) refers to technological interfaces inside a restaurant that provide consumers with the ability to engage in mediated communication to plan, produce and complete services without the help of restaurant employees *(Ahn & Seo, 2018; Meuter et al., 2000; Varadarajan et al., 2010)*. From this onward, this study assumes ORISST as SST. Meuter et al. (2000) categorized the types of SSTs according to their purpose and user interface because of the growing use of SSTs.

SST can be categorized by purpose (customer service, direct transaction, and self-help) and by interface (telephone/interactive voice response, online/internet, interactive kiosks, and video/CD). Each category has been summarized with corresponding cases. In the offline hospitality industry, the most widely used SST interface is the self-service kiosk. Self-service kiosks are commonly utilized in various settings, including hotels (for check-in and check-out), airports (for self check-in), and fast-food restaurants and large food courts (for ordering and payment) *(Kincaid & Baloglu, 2005; Riebeck et al., 2008)*, while in airline industry, Gelderman et al. (2011) examined the contextual aspects of kiosk use and found that airline passengers' use of kiosks was strongly influenced by waiting time; passengers were more likely to use kiosks when waiting times were high.

Ahn and Seo (2018) found that SST in restaurants can enhance customers' positive emotional responses and create a sense of enjoyment. By increasing customer involvement, SST empowers them in the service delivery process *(Na, Yang, & Lee, 2021)*. Tech-savvy customers, in particular, appreciate interactions with SST and are more inclined to embrace this service model over traditional staff-assisted services. However, the acceptance and satisfaction of SST largely depend on how customers perceive its technological attributes. Specifically,

customers are more likely to adopt SST in restaurants when it is easy to use, enjoyable, and reliable *(Nilsson et al., 2021)*.

SST enhances customer satisfaction by addressing service delivery gaps in restaurants. It improves service quality, speed, and cost efficiency *(Shiwen et al., 2021)*. By streamlining the ordering process, self-ordering systems contribute to a better overall dining experience, leading to higher customer satisfaction.

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

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a technology acceptance framework introduced by Venkatesh et al. (2003). This model seeks to identify the factors influencing technology usage behavior, particularly within the field of information technology (IT). As a comprehensive framework, UTAUT is designed to predict both the use of technology and the intention to adopt it. The model takes a unified approach, as it integrates insights from eight distinct theories: the Theory of Reasoned Action (TRA), the Technology Acceptance Model (TAM), the Motivational Model (MM), the Theory of Planned Behavior (TPB), a combined model of the Technology Acceptance Model and the Theory of Planned Behavior (C-TAM-TPB), the Model of PC Utilization (MPCU), the Innovation Diffusion Theory (IDT), and the Social Cognitive Theory (SCT) *(Davis et al., 1989; Venkatesh et al., 2003)*.

The framework identifies four primary factors driving intention and usage: performance expectancy, effort expectancy, social influence, and facilitating conditions. These factors are further shaped by moderating variables, including gender, age, experience, and voluntariness.

2.4.1 Performance Expectancy

Performance expectancy (PE), as outlined by Venkatesh et al. (2003), is the belief that using a technology will improve work performance. It originates from concepts like perceived usefulness, outcome expectancy, and relative

advantage. For example, someone might believe that using a specific software will help them work faster and more accurately. The research highlights its strong positive influence on behavioral intention. Additionally, this effect is shaped by moderating factors such as gender and age.

H_1: Performance Expectancy has positive effect on Intention to use SST.

2.4.2 Effort Expectancy

Effort Expectancy (EE), as outlined by Venkatesh et al. (2003), is a measure of how easy technology is to use. It is derived from concepts found in TAM, MPCU, and IDT models and suggests that technologies with simple interfaces are easier to adopt because they require less mental effort. Their research indicated that effort expectancy positively impacts behavioral intention. This relationship is further influenced by moderating factors such as gender, age, and experience.

H_2: Effort Expectancy has positive effect on Intention to use SST.

2.4.3 Social Influence

Social Influence (SI), as outlined by Venkatesh et al. (2003), measures how much an individual feels pressured by people they deem important to use a specific technology. It is derived from Subjective Norms (TRA and TPB) and Observability (IDT). For example, a manager's approval of a tool can influence its adoption by employees. The research demonstrated that social influence positively affects behavioral intention, with its impact moderated by factors such as gender, age, voluntariness, and experience.

H_3: Social Influence has positive effect on Intention to use SST.

2.4.4 Facilitating Conditions

Facilitating Conditions (FC), as defined by Venkatesh et al. (2003), refers to an individual's belief that their organization and its technical infrastructure will support their use of technology. It is derived from three other concepts: TPB’s

Perceived Behavioral Control, MPCU's Facilitating Conditions, and SCT's Resources. An example of Facilitating Conditions would be the availability of training sessions and IT support for adopting new software. While facilitating conditions do not directly affect behavioral intention, they have a positive impact on user behavior. This relationship is moderated by factors such as age and experience.

H_6: Facilitating Conditions moderate the effects of Intention to use SST on Actual Use of SST.

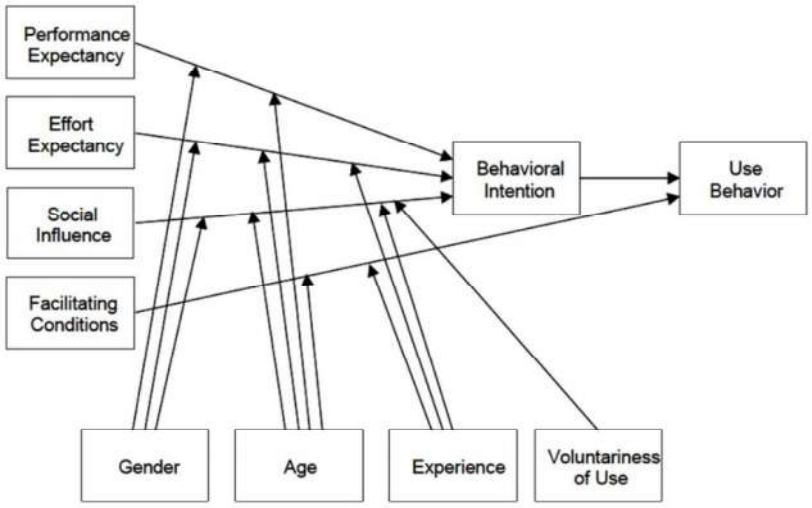

Figure 2.1 Unified Theory Of Acceptance And Use Of Technology Model.

Source: User Acceptance Of Information Technology: Toward A Unified View by Venkatesth, et al (2003)

The UTAUT model has been widely utilized in research to examine individual acceptance and usage of Information Technology (IT). Various studies applying the UTAUT framework have yielded diverse results, with several confirming that performance expectancy, effort expectancy, and social influence positively impact the intention to use IT.

2.5 Behavioral Intention

The Theory of Planned Behavior (TPB), proposed by Ajzen (1991), identifies behavioral intention as a key variable representing the motivational factors that drive an individual to perform a specific behavior. It reflects the effort

individuals are willing to exert to engage in a particular action. The theory emphasizes a strong connection between behavioral intention and actual behavior.

The stronger an individual's intention to perform a behavior, the more likely they are to carry it out. However, this relationship holds true only when the behavior is under volitional control—that is, when the individual has the ability to decide freely whether to perform or not perform the behavior *(Ajzen, 1991)*.

This theory aims to explain and predict human behavior in specific contexts by considering three primary determinants of behavioral intention: attitude, subjective norms, and perceived behavioral control. TPB builds on the Theory of Reasoned Action (TRA) by adding the concept of perceived behavioral control to address limitations in explaining behaviors not entirely under volitional control.

Technology plays a crucial role in shaping customer behavioral intentions within the restaurant industry. For instance, Brewer and Sebby (2021) found that while online menu design and informativeness significantly influence purchase intentions, their impact is indirect. Similarly, Aslam et al. (2021) examined customer perceptions of food ordering through delivery applications and found a strong preference for technology-driven solutions. Their study highlighted that behavioral intentions toward these applications were primarily driven by customers' perceived value and usefulness of the technology.

H_4: Intention to use SST has significantly positive effect on Actual Use of SST.

H_7: Intention to use SST mediates the effect of Performance Expectancy on Actual Use of SST.

H_8: Intention to use SST mediates the effect of Effort Expectancy on Actual Use of SST.

H_9: Intention to use SST mediates the effect of Social Influence on Actual Use of SST.

2.6 Use Behavior

Use Behavior (UB) refers to the actual usage of a technology or system, which is the ultimate outcome of the Unified Theory of Acceptance and Use of Technology model. It represents whether and how frequently users engage with the technology, which can be defined as User Engagement.

O'Brien and Toms (2008) identified key attributes of engagement, including interactivity, perceived user control, variety, and novelty, which characterize the interaction process. They further defined engagement as a process consisting of four stages: point of engagement, sustained engagement, disengagement, and re-engagement, with users often cycling through these stages multiple times in a single session.

In this study, user engagement is operationally defined as any form of interaction or utilization of self service technology. This definition adopts a holistic approach, considering users' behaviors, cognitions, and emotions in relation to content, design, and interactive features, rather than solely focusing on user actions and thoughts *(O'Brien & Toms, 2008)*.

2.7 Interpersonal Service Quality

Interpersonal service quality (ISQ), a crucial aspect of overall service quality, pertains to the quality of interactions between service providers and customers. It focuses on human elements like communication, empathy, responsiveness, and professionalism, which significantly affect customer satisfaction, trust, and overall service perception. This concept is especially vital in service industries where direct interaction can substantially influence the customer's experience and their perceived quality of the service. Similarly, in retail, both ISQ and SST quality are crucial for increasing customer patronage, with individual characteristics such as technology anxiety and need for interaction playing moderating roles *(Lee & Yang, 2013)*.

There are multiple factors that are affecting ISQ, the first one is Relationship Quality. The quality of relationships between service providers and customers, characterized by trust and satisfaction, is essential for future sales opportunities. Relational selling behaviors, such as cooperative intentions and mutual disclosure, strengthen the buyer-seller bond, enhancing relationship quality *(Crosby, Evans, & Cowles, 1990)*.

Another factor is Work Unit Well-Being, in the hospitality and tourism industry, interpersonal conflicts within work units can negatively impact service quality as perceived by customers. The well-being of work units, including job satisfaction and burnout, mediates this relationship, suggesting that improving occupational health can enhance service quality *(Benitez et al., 2021)*.

The third factor is Service Competence, frontline employees' interpersonal competencies are positively associated with service quality dimensions like reliability, responsiveness, assurance, and empathy. These competencies are crucial for delivering high-quality service and meeting customer expectations *(Wu et al., 2015)*.

The service environment, including factors like density and restaurant type, affects perceptions of ISQ. For instance, in restaurants, the type of dining experience (e.g., fine dining vs. casual) influences how customers perceive service quality based on environmental cues *(Hanks, Line, & Kim, 2017)*.

H_5: Interpersonal Service Quality moderate the effects of Intention to use SST on Actual Use of SST.

2.8 Previous Researches

Table 2.1 below presents the previous research that is relevant to the author's current research.

Table 2.1 List of Previous Related Research

No	Topic	Author & Year	Variables and Main Findings
1	Restaurant Employees' Technology Use Intention: Validating Technology Acceptance Model with External Factors.	Ham, S., Kim, W., & Forsythe, H., 2008	**System Quality, Organizational Support, Perceived Ease of Use, Intention to Use, Perceived Usefulness -** Organizational support was found to be positively and significantly influence both PEU and PU. In task-oriented technologies, PU is more significant, while in entertainment-oriented applications, PEU has a greater impact. In restaurant settings, POS usage intention is heavily influenced by PU rather than PEU.
2	Customers' acceptance intention of self-service technology of restaurant industry: expanding UTAUT with perceived risk and innovativeness.	Jeon, H., Sung, H., & Kim, H, 2020	**Performance expectancy, Effort expectancy, Social influence, Facilitating conditions, Perceived risk, Acceptance intention, Innovativeness -** Performance expectancy was the most important determinant of acceptance intention, followed by effort expectancy and social influence. Furthermore, individual innovativeness moderated the effects of social influence and perceived risk on acceptance intention. Performance expectancy, effort expectancy, and social influence positively influence adoption intention, while facilitating conditions and perceived risk do not significantly impact intention to use.

No	Topic	Author & Year	Variables and Main Findings
3	Factors influencing customer acceptance of kiosks at quick service restaurants.	Kim, J., Christodoulidou, N., & Choo, Y., 2013	**Intrinsic motivation, Role clarity, Ability, Extrinsic motivation, Previous experience, Likelihood of using kiosks at QSR -** Extrinsic motivation in using SSTs directly influenced the likelihood of using kiosks, and previous experience with SSTs indirectly influenced the likelihood of using kiosks through customer readiness in both male and female group's likelihood of using kiosks in both groups. Overall, gender did not play a significant moderating role in the relationships among experience, readiness, and likelihood of using kiosks at QSR.
4	"I'd like to order with a server." an experimental study of restaurant menu performance.	Leung, X., Josiam, B., & Moody, B., 2020	**Functionality, Design, Communication, Pleasure, Perceived Value -** The effect of pleasure on perceived value differed between SSTs and paper menus, with SSTs eliciting pleasure more from the menu itself, while paper menus from other restaurant elements. Customers engaged with SSTs might be too absorbed in the technology, missing out on other restaurant elements like server interaction, affecting the overall perceived value negatively. The study challenges stereotypes of gender and age in technology adoption, suggesting these differences diminish as technology becomes more integrated into daily life.

No	Topic	Author & Year	Variables and Main Findings
5	The adoption of self-service kiosks in quick-service restaurants.	Rastegar, N., 2018	**Trust, Ease of use, Usefulness, Perceived enjoyment, Self-efficacy, Perceived value, Satisfaction, Behavioural intention -** Self-efficacy positively affects Perceived Ease of Use (PEOU) and Perceived Usefulness (PU). Surprisingly, self-efficacy doesn't significantly influence perceived enjoyment, indicating that confidence in using SSKs does not necessarily lead to enjoyment. Trust positively relates to PU and PEOU, indicating that when customers understand and trust the kiosk, they are likely to find it both enjoyable and useful. Self-efficacy impacts TAM more significantly than trust, suggesting customers prioritize their ability to use SSKs over trust in the system's security features.
6	Factors affecting the consumers' embracement of manual self-ordering system (order chit) in restaurants.	Chong, K., 2021	**Information clarity, Perceived ease of use, Perceived fit, Freedom of choice, Peer pressure, Order chit adoption -** Results of a structural equation analysis suggest that ease of use, information clarity, perceived service, and ordering technique fit, and freedom of choice are found to be significant in increasing the acceptance of order chit system. However, peer pressure was found to not significantly affect the acceptance of such practices.

No	Topic	Author & Year	Variables and Main Findings
7	An Exploratory Study on the Impact of Self-Service Technology on Restaurant Operations.	Kincaid, C., & Baloğlu, Ş., 2005	**Convenience, Easy to use, Fast service, Independence from server, Fun, Fewer interruptions -** Multiple correspondence analysis showed that customer preferences and suggestions vary by their demographic characteristics, which imply that system features should be customized to targeted markets. Younger demography prefers SST compared to the older one.
8	Interpersonal service quality, self-service technology (SST) service quality, and retail patronage.	Lee, H., & Yang, K., 2013	**Interpersonal Service Quality, SST Service Quality, Retail Patronage Intentions, Actual Retail Patronage -** Higher technology anxiety strengthens the impact of interpersonal service quality on patronage intentions but weakens the impact of SST service quality. Additionally, the need for interaction and age also moderate the effect of SST service quality on retail patronage intentions.

2.9 Research Framework

Based on the objectives of this study, the framework is constructed with this configuration: the independent variables are performance expectation, effort expectation, and social influence; the dependent variable (outcome) is actual use of SST; the mediating variable is intention to use SST; and the moderating variables are ISQ and facilitating conditions, as depicted in the following diagram:

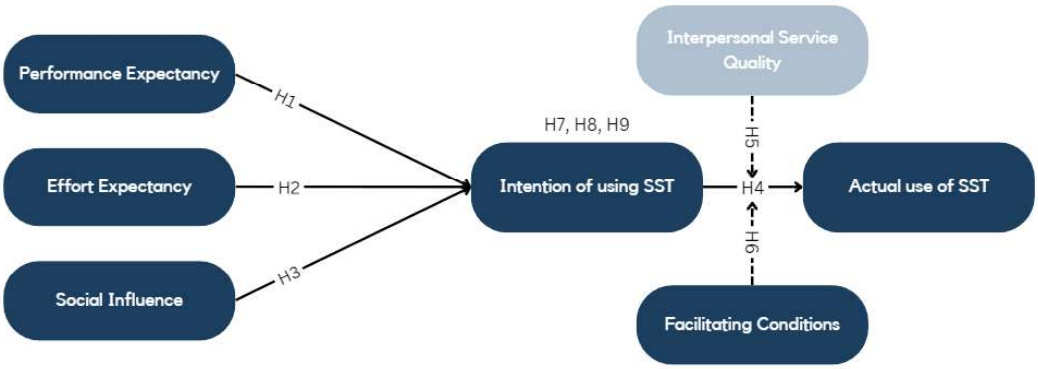

Figure 2.2 Research Framework

2.9.1 ISQ Moderates BI relation with UB

ISQ refers to the quality of human interaction between customers and service staff. This study observes that this moderates the relationship between the intention to use SST (BI) and the actual use of SST (UB) positively or negatively.

In industries like banking, hospitality, or retail, even if customers have a high intention to use SST, their actual usage depends on how well frontline employees assist them. Poor interpersonal service can deter users from adopting SST, while supportive interactions encourage use *(Kim, 2017)*. This shows positive moderation of ISQ toward adoption.

In the restaurant industry, many new customers hesitate to use SST due to unfamiliarity. If service staff are available to perform the same tasks as the SST, customers—at the first stage of trouble when trying to comprehend the technology—may prefer to call the staff for assistance instead, rather than fully adopting the SST. This shows negative moderation of ISQ toward adoption.

2.9.2 FC Moderates BI relation with UB

FC refers to the availability of resources, support, and infrastructure that enable SST use. This study observes that it moderates the relationship between the intention to use SST (BI) and the actual use of SST (UB). Even if a customer intends to use SST, a lack of proper infrastructure (e.g., poorly designed interfaces, lack of technical support, or unreliable system performance) can

prevent actual usage. This underscores the importance of FC in moderating the adoption process in specific contexts *(Na, Yang, & Lee, 2021)*.

In public transportation systems, self-ticketing kiosks or mobile apps may be intended for use, but if they suffer from usability issues or frequent downtimes, customers will prefer human-assisted services. Other example, in online banking, a user may intend to use digital services, but if the app is slow, difficult to navigate, or lacks customer support for troubleshooting, they will revert to branch visits instead.

2.9.3 Hypotheses

Based on the research framework, there are several hypotheses to examine:

H_1: Performance Expectancy has positive effect on Intention to use SST.

H_2: Effort Expectancy has positive effect on Intention to use SST.

H_3: Social Influence has positive effect on Intention to use SST.

H_4: Intention to use SST has significantly positive effect on Actual Use of SST.

H_5: Interpersonal Service Quality moderate the effects of Intention to use SST on Actual Use of SST.

H_6: Facilitating Conditions moderate the effects of Intention to use SST on Actual Use of SST.

H_7: Intention to use SST mediates the effect of Performance Expectancy on Actual Use of SST.

H_8: Intention to use SST mediates the effect of Effort Expectancy on Actual Use of SST.

H_9: Intention to use SST mediates the effect of Social Influence on Actual Use of SST.