

Smart Service Dimensions: Exploring Customer Experience and Participation using Stimulus-Organism-Response Model

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ABSTRACT

Today, the emergence of smart service technologies has an impact on customer experience and customer participation in the service industry. Artificial intelligence (AI) appears likely to influence marketing strategies, including business models, sales processes, and customer service options, as well as customer behaviors. Technology has been regarded as a game changer in the service context. As consumers become more accustomed to smart technology and robotic services, technology will continue to play an essential role in the service industry to better serve customers. While using smart technology, customers themselves will be involved in the service process. They will participate in the service with no or limited involvement with the staff. Therefore, it is very crucial to emphasize the technology-enhanced experience from a customers' perspective to have better understanding of the actual content and operational application of smart service and robotic experience by examining the specific dimensions of the smart service. Therefore, this proposed study aims to provide an intense discussion and comprehensive conceptualization of the smart service dimensions that may stimulate customer experience and participation by using Stimulus-Organism-Response (S-O-R) Model.

Keywords: Smart Service Dimensions, Customer Experience, Customer Participation.

INTRODUCTION

Artificial intelligence (AI) is predicted to significantly alter marketing tactics and consumer behavior in the future. There is a rise of automation technologies such as face recognition

technology, robotics, wearable technology, and voiceover technology that can be used in the manufacturing and delivery of products and services. The effect of Coronavirus disease, also known as Covid-19 also influence the use of robots to decrease human contact in hospitality services (Technology & Ivanov, 2020). Due to the pandemic impact, the growing implementation of self-service technologies (SSTs) are becoming more popular with many service organizations. Increased use of e-wallets for payments, internet banking for financial transactions, and e-commerce for groceries, medicine, and other everyday necessities are just a few examples of increasing of smart technologies. Many previous studies have recognized the relevance of technologies such as smart service design and robotics in delivering the service process.

Social distancing is considered one of the new norms to avoid Covid-19 which led to most service companies choosing less contact between employees and customers. The Covid-19 pandemic has had a significant impact on many parts of the tourism and hospitality industries. This has increased customers' awareness of safety and social distancing, which led them to prefer using technology over employee staff, even though previously employees were considered one of the most important attributes in the hospitality industry (Hwang et al., 2015). Thus, the pandemic is just one of the reasons and opportunities for the country to start spurring technology adoption and innovation in advancing the service industry.

Even nowadays many service companies and restaurants in Malaysia such as Sushi King, Sushi Zanmai, Petronas, Lotus, Johnny Restaurant, AEON Mall and many fast food, airlines and tourism industries have introduced customer-oriented SST and robot-staffed and lead to smart technology-based experience to its customers. Based on the research findings conducted by Kim et al., (2021), in identifying customers' preference for human-staffed and robot-staffed service, the present COVID-19 pandemic may hasten the adoption of service robots that provide contactless services, which are useful for keeping social distance and lowering fear of contagion through human connection. Furthermore, due to health risk posed by Covid-19, many studies have focused on the increasingly important role of robotics in the hospitality industry. There are also a few courses and competitions that involve kids and students that are related to robotics and technology innovation. These show the demand and talent of technology are rising in Malaysia. Changes in technology brought changes in ways in doing business and the interaction between customers and service industries.

The emergence of smart service technologies has an impact on the customer experience and customer participation in the service. Referring to Tuan, (2022), even though customer participation is essential for both firm and customer benefits, consumer preparation for service flow involvement has long been a major worry in customer behaviours. Voorhees et al., (2017) agreed that by taking a comprehensive approach to the customer experience, businesses may be able to deepen their bonds with their most valuable customers, which will boost retention, positive word of mouth, and profitability. After all, this proposed study is offered to help researchers explore Smart Service Design (SSD) in maximizing customers' Smart Service Experience (SSE) and Customer Participation (CP) in creating value for both service providers and customers.

LITERATURE REVIEW

Stimulus-Organism-Response (S-O-R) Model

Mehrabian and Russell's (1974) represents the three components framework which are stimulus-organism-response (S-O-R) posits that how people view and interpret the environment, whether consciously or unconsciously influence people feeling in that setting. The Mehrabian and Russell affect model's influence has never been refuted in earlier work. The S-O-R model will be used in this study to represent how feelings are central to how people respond to different elements in the environment. Thus, people's feelings and perception will drive their responses to that environment. Similar circumstances might elicit vastly varied emotions and responses. It is crucial to first understand customers' feelings in different environments before the service organization decides to change to smart service in its services.

In environmental psychology, approach or avoidance of an environment is a common outcome variable, whether the customers choose to use or avoid smart service adoption. The S-O-R framework will examine how customers perceived the experience of smart service dimensions and their subsequent behavioral intentions. The S-O-R presumes that individuals' psychological states and, ultimately, their consuming behavior are stimuli by a variety of external cues. While organism is referring to an individual's feelings, emotions, and cognitive behavior. Response, which includes psychological attitudes or behavioral reactions, is a behavioral reaction that happens because of stimuli in the external environment and internal processes of the organism (Kim & Park, 2019). Referring to Gao et al., (2022), S-O-R model offers a systemized theoretical framework to explore how smart service design stimuli affect the reactivity of an organism (customer smart experience) and how an organism responds to these stimuli in terms of customer participation and engagement.

The S-O-R model is frequently utilized in various research contexts to examine the link between stimulus, organism, and response. Numerous stimuli, such as smart service, robotics, self-service technology, and smart services environment were incorporated in the current technology literature using the S-O-R model (Ahn & Seo, 2018; Gao et al., 2022; Herrando et al., 2019).

Smart Service Dimensions (SSD)

Smart service is referring to technological presence of smart devices and AI (e.g., robots and self-service technologies) incorporated in service environments with minimum to no employee involvement (Wong et al., 2022). According to Kabadayi et al., (2019), smart services require not only more data but also rapid data collection, integration, and analysis to give a customised service to the consumer more quickly and effectively and improve the customer service experience. Emerging technology has transformed the way hospitality services are presented to customers. The usage of artificial intelligence (AI), technologies, and other tools has increased along with technological breakthroughs, and many service providers have introduced smart services that are now widely used in a variety of industries, including the hospitality and tourism sectors. Face recognition, computer-based booking services, QR code, and most significantly, robotics, which enables service automation, are examples of sophisticated technologies (Ciftci et al., 2021).

There are numerous attributes of smart services from previous studies. According to Kabadayi et al., (2019), there are five smart service dimensions that may contribute to customers'

experience which are empowerment, a seamless experience, enjoyment, privacy and security, and accurate service delivery. A self-service technology quality scale (SSTQUAL) developed by Lin and Hsieh, (2011) which consists of seven dimensions: functionality, enjoyment, security/privacy, assurance, design, convenience, and customization. While referring to Ahn and Seo (2018), the researchers measure the interactive restaurant self-service technology based on functionality, enjoyment, design, and customization. Gao et al., (2022) found that there are two important digital technology stimuli (personalization and interactivity) that can enhance customer experience. Therefore, in this study the researcher will cover only three variables for smart service dimensions which are interactivity, privacy and security, and enjoyment.

Interactivity:

Interactivity of smart service is defined as customers' interaction with the smart technologies which require customer active participation (Djelassi et al., 2018). Effects of technology use can vary depending on how interactive the technology is. Referring to Parise et al., (2016), searching for information is greatly facilitated by the interactive quality. Smart services with high-level interactivity urges customers to actively use the smart service. Digital stimuli of technology such as interactivity will influence customers' experience and leads to customers' behaviors in terms of customers' behavior and attitudes as satisfaction, participation, and engagement. Interactivity also found to have significant impacts with perceived value of smart technology-supported experience and high-level interactivity can motivate customers to use smart service more actively (Zhang et al., 2022).

Privacy and Security:

According to Lin & Hsieh (2011), privacy and security describe as perceived safety from fraud, intrusion, and loss of personal information. Referring to Habib et al., (2020) the level of privacy and security is referring to customers' perceptions of smart technologies as safe platforms for sharing and keeping private information. Result in the same study also found that privacy and security have significant relationship with customers' trust that may influence customers' intention to use the technologies. Difficulties and perceived security risk are barriers that associated with the doubt in using the smart services (Chouk & Mani, 2019). Therefore, it is crucial for the service industries to emphasize security based on the technical capabilities while implementing smart services. Referring to Geneiatakis et al., (2017), security and privacy considered as major concern of customers as the preferences to participate in smart service.

Enjoyment:

Enjoyment defines as experiences of pleasure or joy encountered during smart technology consumption and outcome (Lin & Hsieh, 2011). Customers who interact with smart service accept the innovation while enjoying themselves and the implementation of smart technologies relies on value provided to customers and influence customers' feeling of enjoyment (Kuo et al., 2017). According to Sadangharn (2022), while waiting for the traditional services, customers tend to complain if they have to wait for the long service. However, with the implementation and innovation of smart services, customers may forget to complain while they enjoy playing with the game or entertainment provided by the robotic services.

Smart Service Experience (SSE)

Referring to Kabadayi et al., (2019), applying such smart technology to manage customer experiences can be a strategic differentiator for many service companies and can benefit both service providers and their customers. Even in full-service hotels, robots such as room service delivery robots, porter robots, and robot receptionists contribute to the value co-creation process of the visitor experience. Referring to Shahid Iqbal et al., (2018), smart service quality also is being provided by the organization to enhance the client experience, lower costs directly or indirectly related to their personnel, achieve customer retention, and introduce technical breakthroughs to their business. The expansion and emergence of smart technology services in the eating experience coincides with the growing number of customers and their diverse dining preferences. Pre-dining, during-dining, and post-dining are the three stages of smart restaurant infrastructure that improves customers' dining experiences Leung and Loo (2022), that can be relate with the S-O-R model in the proposed framework.

Customer Participation (CP)

Referring to Locander et al., (2020), customer participation in employee-customer interactions has been identified as a significant influencer of valuable consumer experiences since it affects service delivery and the value provided and perceived. Therefore, the influence of customer involvement is hard to be ignored since the service industry must collaborate with customers to co-create value. Smart services also offer customers greater power and control as well as the opportunity to participate more actively in the service delivery process (Kabadayi et al., 2019). Blinda et al., (2019) agreed that customer participation success is influenced by variables that reflect customers' perceptions of the technology, process, or service itself. Usage of self-service technology, usage intentions, expected service quality, trust are an example of variables that may impact customer participation. Referring to Dreyer et al., (2019), an essential component for meeting customer requests is the environment in which a smart service is provided and they must participate in the service process to discover a strategy for satisfying their needs.

RESEARCH METHODS

This proposed study will develop a conceptual framework in Figure 1 by using S-O-R model which the smart service dimensions (stimuli), smart service experience (organism), and customer participation (response). Research questions of this study will relate with the smart service dimensions that consists of three main variables (interactivity, privacy and security, and enjoyment) associated with smart service experience. This study will examine which dimensions of smart service dimensions be the greatest role that influence customers' smart service experience and how the experience leads to customer participation. This study will explore in depth how smart on how smart service will provide values for service providers and customers.

The sampling technique for this proposed study will be purposive sampling technique in determining its targeted sampled respondents. The respondents will qualify to participate in this study if they have experience in using smart service technology. Hospitality industries with smart service implementation will be the focus for this study. This is due to the emergence and implementation of smart services which are widely use in the targeted area. To have valid finding for this proposed study, it is important to ensure all the respondents involved in this study must have experience in using smart service technology. Partial Least Squares structural equation modelling method (PLS-SEM) will be used to analyze the data.

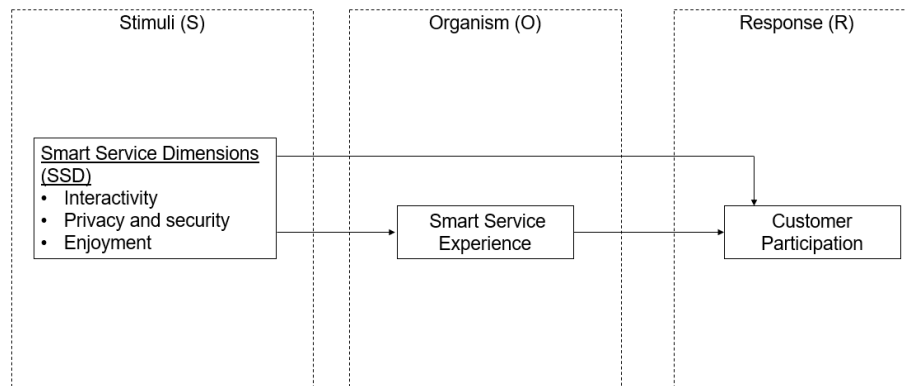


Figure 1: Proposed Conceptual Framework

CONCLUSIONS

This proposed study will make several key theoretical contributions. First and broadly, this study will empirically test a S-O-R Theory with smart service experience and their role in influencing customer participation. Second, this study will examine the impact of smart service dimensions on smart service experience. Third, this study also attempts to explore does the smart experience acts as an organism towards customer participation in smart service. This study will only cover on Malaysia community since Malaysia just newly start the implementation of smart service technologies and robotic services. The findings are expected to further reveal that smart service dimensions may stimuli customers experience and lead to customer participation in the service process.

Hence, this study is crucial for the hospitality industry and government in providing the best smart services that can satisfy customers and service providers. Before the emergence of smart service technologies and robotic services, customers were concerned about the employee involvement and participation in serving them. Therefore, with the implementation of smart service technologies, it is important for service providers to explore customers' experience and either customers will participate in the service process or are they feel unfairly treated since they pay for the services.

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