

Enhancing Fast-Food Experiences: Customer Roles in Using Self-Service Technology

Harnidah Samengon

Faculty of Design and Architecture, Department of Landscape Architecture, Universiti Putra Malaysia, Serdang, Malaysia, Faculty of Hospitality, Tourism and Wellness, Universiti Malaysia Kelantan, Pengkalan Chepa, Malaysia
Email: harnidah3@gmail.com

Farah Adibah Che Ishak, Muhammad Shahrin Ab Karim,
Hazrina Ghazali, Mohd Mursyid Arshad

Faculty of Design and Architecture, Department of Landscape Architecture, Universiti Putra Malaysia, Serdang, Malaysia
Email: farahadibah@upm.edu.my, shahrin@upm.edu.my, hazrina@upm.edu.my, m_mursyid@upm.edu.my

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Abstract

Self-service technologies (SST) have transformed the fast-food industry by enhancing operational efficiency and customer experiences. However, the varying degrees of customer readiness and ability to engage with SST pose challenges, leading to potential frustration and impact on overall satisfaction. This study, guided by Service-Dominant (SD) Logic, explores customers' diverse roles when using SST in fast-food restaurants. Using a qualitative methodology, including semi-structured interviews and observations in Klang Valley fast-food restaurants, this research identified four primary customer roles: motivated co-creator of value, technological sweeper, responsible judge for value co-creation, and enforced worker. These roles highlight varying degrees of customer engagement and proficiency with SST. The findings emphasize the importance of recognizing these roles to optimize SST design and support systems, enhancing customer satisfaction and engagement. The study contributes to the SD Logic framework by illustrating the active role of customers in value co-creation, underscoring the need for adaptive and responsive service systems. These insights provide valuable guidance for fast-food restaurants aiming to improve SST experiences and service quality.

Keywords: Self-Service Technology, Fast-Food Restaurants, Roles, Qualitative Research, In-Depth Interview.

Introduction

Self-service technologies (SST) have become a staple in the fast-food industry, transforming how customers place orders, make payments, and interact with service providers. These technologies include self-order kiosks, mobile applications, and automated payment systems designed to enhance operational efficiency and improve customer experience (Wang et al., 2020). The adoption of SST in fast-food restaurants is driven by several factors, including the need to reduce wait times, lower labor costs, and meet the growing demand for convenience and speed in service delivery (Pantano & Pizzi, 2020). The integration of SST in fast-food restaurants offers numerous benefits. Customers can customize their orders more precisely, explore menu options at their own pace, and avoid potential miscommunication with staff. For businesses, SST can streamline operations, reduce human error, and gather valuable data on customer preferences and behavior (Kim & Qu, 2021). Despite these advantages, implementing SST requires a thorough understanding of customer roles and their interactions with the technology.

The significance of studying customer roles in the context of SSTs lies in understanding how these technologies impact the customer experience and how they can be optimized to serve users better. As fast-food establishments increasingly adopt these digital solutions, there is a pressing need to explore how different customer segments interact with SSTs, their levels of comfort and proficiency, and how these factors influence their satisfaction and loyalty (Pantano & Pizzi, 2020). This understanding is crucial for businesses aiming to refine their SST offerings and address potential issues that could undermine the technology's effectiveness. For instance, while SSTs offer advantages such as reduced human error and enhanced order accuracy, they also present challenges related to varying levels of customer digital literacy and comfort with technology (Kim & Qu, 2021).

The COVID-19 pandemic and the subsequent Movement Control Order (MCO) in Malaysia have further accelerated the adoption of SSTs, making this research particularly timely and relevant. The pandemic has underscored the need for contactless and efficient service solutions, providing a unique context to study how customers adapt to and engage with SSTs under heightened demand for safety and convenience (Wang et al., 2021). Analysing customer behavior and preferences during this period offers valuable insights into the resilience of SSTs and their role in enhancing service delivery in crises.

While SST presents opportunities for enhanced efficiency and customer satisfaction, several challenges persist in its implementation and use in fast-food restaurants. A critical issue is the varying degrees of customer readiness and ability to engage with the technology. Not all customers are equally comfortable or proficient in using SST, leading to potential frustration and a negative impact on their dining experience (Lee et al., 2019). This technological disparity can be particularly pronounced among older adults and individuals with lower levels of digital literacy (Laukkanen & Tura, 2020). Moreover, the shift from human interaction to technology-mediated service can affect the perceived quality of service. Customers who value personal interaction may find SST impersonal and less satisfying, potentially leading to decreased customer loyalty (Collier & Barnes, 2021). Additionally, technical issues such as system malfunctions, user interface complexity, and data privacy concerns can further complicate the customer experience and hinder the widespread adoption of SST (Wang et al., 2021).

Understanding customers' roles when interacting with SST in fast-food restaurants is essential to addressing these challenges. This includes exploring how customer segments use the technology, their satisfaction levels, and the factors influencing their acceptance and use of SST. By investigating these aspects, businesses can develop strategies to improve the design and implementation of SST, ensuring it meets the needs and preferences of diverse customer groups. Besides that, understanding customer interactions with SSTs is also essential for several reasons. Firstly, examining how customers use and perceive these technologies can help fast-food businesses tailor their SST offerings to meet customer needs better, ultimately improving service delivery and boosting customer satisfaction (Kim & Qu, 2021). This is particularly significant in the context of Malaysia's Movement Control Order (MCO), which has accelerated the adoption of digital solutions. The pandemic has offered a unique opportunity to analyze customer behavior in a crisis environment, providing valuable insights into how SSTs can be optimized to enhance customer experience during and beyond such disruptive events (Wang et al., 2021).

Moreover, this research benefits various stakeholders beyond just the fast-food industry. For technology developers and policymakers, understanding customer interactions with SSTs provides critical data for designing more inclusive and user-friendly technologies (Lee et al., 2019). It can inform policies that support digital inclusion and drive the development of technologies that cater to diverse customer needs, including those with lower digital literacy or older adults (Laukkanen & Tura, 2020).

Customers' position as co-creators of value is one of the significant challenges they encounter when employing SST in the fast-food sector, as per the Service-Dominant (S-D) Logic. S-D Logic contends that value is jointly generated by service providers and customers, with customers frequently serving as operant resources (Vargo & Lusch, 2004). Nevertheless, customers may be burdened by the transition to SST, as they are asked to perform responsibilities previously performed by employees. Suppose the technology could be more user-friendly and customers need more skills or confidence to use it effectively. This role reversal can result in increased cognitive burden and potential frustration (Lee et al., 2019). For example, older adults or individuals with limited digital literacy may have difficulty navigating digital menus and processing payments, harming their overall dining experience and satisfaction (Laukkanen & Tura, 2020).

Furthermore, the S-D Logic perspective emphasizes that the beneficiary (i.e., the customer) is the one who phenomenologically determines value, resulting in the subjective and variable perceived value of SST (Vargo & Lusch, 2008). SST may be perceived as impersonal and less satisfactory than human interaction by some consumers despite the convenience and control it provides. When technical difficulties arise, the absence of personalized service and immediate assistance can be particularly problematic, resulting in customer dissatisfaction and a lowered perception of the quality of service (Collier & Barnes, 2021). Furthermore, the customer's function as a provider can be further complicated by privacy and security concerns associated with digital transactions, as they must trust that their personal information is well-protected (Wang et al., 2021). Thus, although SST provides substantial operational advantages for fast-food establishments, it is imperative to comprehend and resolve the diverse experiences and obstacles of customers as value co-creators to optimize its implementation and improve customer satisfaction.

Roles of Customers Using Self-service Technology in the Fast-Food Restaurant

The customer's role is transformed from a passive recipient to an active co-creator of value in SD Logic (Vargo & Lusch, 2004). This transition is illustrated by the implementation of SST in the fast-food sector, which enables customers to interface directly with the technology to fulfill tasks previously performed by employees. Customers participate in the ordering, customization, and payment processes through mobile applications or terminals as part of this co-creation process. SST's empowerment and autonomy can enhance the customer experience by allowing consumers greater control and personalization over their orders (Kim & Qu, 2021). Although this active engagement is necessary, it requires a specific level of technological proficiency and a willingness to interact with the system, which can vary considerably among customers.

Customers' technological readiness and proficiency considerably influence SST's effective implementation and utilization in fast-food restaurants. Technological readiness is the degree to which a consumer is willing to adopt and implement new technologies to achieve their objectives (Parasuraman, 2000). SST is more likely to be appreciated and used proficiently by highly technologically prepared customers, which leads to a positive dining experience (Lee et al., 2019). In contrast, customers who hesitate to use new technologies or lack technological skills may find SST intimidating or aggravating. This technological divide underscores fast-food establishments' need to develop user-friendly interfaces and offer sufficient support to guarantee SST accessibility to all customer segments (Laukkanen & Tura, 2020).

The simplicity of use, reliability, and perceived benefits of the technology are numerous factors that can significantly influence customer perceptions of service quality when using SST. Research suggests that although specific customers appreciate the speed and convenience of SST, others may view it as impersonal or less gratifying than traditional human interaction (Collier & Barnes, 2021). The technology's capacity to meet or exceed customer expectations is, therefore, a critical factor in the efficacy of SST in providing a satisfactory service experience. Additionally, the perceptions and acceptance of SST in fast-food settings can be substantially influenced by customers' current attitudes toward automation and their prior experiences with technology.

Managing privacy and security concerns is another critical component of the customer's role when using SST. The security measures of the technology become increasingly important to customers as they submit personal and payment information into self-service systems. Customer trust and their propensity to utilize SST can be significantly affected by concerns regarding data breaches or unauthorized access (Wang et al., 2021). To alleviate these concerns and foster customer confidence in using SST, fast-food restaurants must implement robust security protocols and maintain transparent communication regarding data protection practices.

The diversification of customers' duties in utilizing SST has substantial implications for fast-food restaurants. Businesses must acknowledge the diverse levels of consumer readiness and customize their SST offerings to accommodate varying levels of technological proficiency. To improve the customer experience and encourage the widespread adoption of SST, it is imperative to implement strategies such as offering customer support, resolving privacy concerns, and providing intuitive and accessible interfaces (Pantano & Pizzi, 2020). Furthermore, businesses can better understand customer preferences and pain points by implementing continuous feedback mechanisms, allowing them to refine their SST solutions to better satisfy their customer base's needs.

Methodology

Implementations of SST in actual fast-food restaurant service contexts are relatively uncommon despite the increasing interest in SST among academicians and practitioners (Ivanov & Webster, 2019). Therefore, it was determined that an exploratory qualitative approach would be the most suitable method for this investigation. The researchers opted to employ a combination of semi-structured interviews and observations as an investigative methodology. This was due to their ability to generate extensive data despite the limited number of cases and respondents (Suchan & Brewer, 2000). The data was collected between September and December of 2020. After extensive research, it was determined that the Klang Valley region would be the optimal location for this investigation. This was predominantly because the Klang Valley area is the location of most FFRs that have already installed SSTs. Following extensive investigation, a comprehensive list of fast-food restaurants was assembled. Five fast-food restaurants from diverse organizations were contacted to arrange site visits. The objective of these excursions was to conduct interviews with customers and conduct on-site observations. Four fast food restaurants were granted observation access, with two located in KFC and two in McDonald's. Nevertheless, only two of the fifteen contacted respondents could arrange a formal interview, which suggests that the COVID-19 pandemic has caused safety concerns and scheduling issues.

A purposive sample method was implemented to collect information from "elite informants," as defined by (Aguinis and Solarino, 2019). When selecting interview participants, the most critical factor was whether or not the informants had prior experience with SST and a comprehensive understanding of the technology's application in fast-food restaurants. Bogner Littig and Menz (2009), emphasize the importance of interviewing subject matter experts to obtain their germane interpretive knowledge, also known as "know-why," and their procedural expertise, also known as "know-how," when investigating emergent phenomena.

The primary objective of the observations was to identify patterns of behavior within the five primary areas of service production and delivery: (a) the meet-and-greet process, which involves the initial interaction with customers upon their arrival at the establishment; (b) the ordering and check-in process, which involves the identification of the individual responsible for taking the order and the resolution of any inquiries; (c) the eating and clearing process, which encompasses the resolution of any food-related issues or requests from customers; (e) the post-order process, which includes the determination of whether the customer will retrieve the order themselves or if the employee will do so, and the management of this

situation. (d) payment procedures, including how payments are received and the policies regarding gratuities. Several contextual considerations, including the positioning of SST within the servicescape, were also considered in addition to these five areas.

Each subject was observed for an average of four hours. The objective was to document a wide range of interactions between customers and SSTs during a particular service period (breakfast, lunch, or dinner) or peak service hours, if feasible. The observer would occupy an inconspicuous position among the customers being evaluated in establishments primarily responsible for providing culinary services. Lincoln and Guba (1985), recommended a methodical approach to member verification after each observation session. At this juncture, the observer engaged in a debriefing session, during which they reviewed the field notes and sought clarification or confirmation on any topics that caused them some ambiguity.

A three-step thematic analysis was conducted for each of the research questions following the methodology outlined by Creswell and Clark (2017), and Wong and Wickham (2015), utilizing the qualitative analysis instrument Nvivo (version 11 software package). In the initial phase of open coding, the underlying concept was investigated by dividing each answer text into smaller components, such as a phrase, a sentence, or a paragraph, based on the information contained within the transcription. Initially, the answer texts for each query were coded individually to enhance inter-coder reliability. Afterward, the responses were compared and contrasted to establish a consensus on the coding rules and codes (Wong & Wickham, 2015).

After the axial coding operations were completed, the first-order codes were assigned to their respective second-order code categories. For example, responses to the initial inquiry that were data-coded as "efficient" and "avoiding contact gaps" were classified as "quick and prevent congestion." Finally, the second-order codes were utilized to generate aggregate themes. For instance, the phrase "efficiency and convenience service" was created by combining the terms "efficient" and "easy." Once more, all of the discoveries were assessed. After the discussions between the programmers, these findings were recorded. Ultimately, a third expert reviewer, responsible for publishing the findings of numerous qualitative research projects, reviewed and enhanced the analysis and theme categories.

Findings

The following section illustrates the findings from the data analysis about the roles of customers in using SST at fast food restaurants. Customers play four roles when using SST in fast-food restaurants, which was discovered. Quotes from in-depth interviews were used to demonstrate the result.

Motivated Co-Creator of Value

According to informants 2, customers who assume the position of the motivated worker believe that they must act as workers and contribute to the adequate supply of services rather than exerting minimal effort. This obligation encompasses the provision of necessary customer inputs and collaboration with the service provider as necessary. The motivated worker role can be observed in service failures, as customers demonstrate their utmost effort to restore the service.

When you are a first-time user of this kind of technology, you will act like a new student in a new subject, and it creates an enthusiasm to try and achieve new things and ensure that you can complete it by yourself with a little help from the staff (Informants 2)

Technological Sweeper

Referring to his experiences interacting with multiple SST types during a service encounter, Informant 1 highlights the encounter's enhanced benefits. According to Informant 1, he utilizes a multi-channel SST and exhibits a sweeper-like behavior, frequently transitioning between different technological interfaces and modes. This position demonstrates a distinct customer perspective by independently and creatively combining multiple SSTs to accomplish a service objective most efficiently. The significance of the technological sweeper's function increases during the rising consumer adoption of mobile devices.

I see the iPad and the phones as a little computer. So, I don't differentiate between that kind of technology and the other kind of technology as long as they do the same thing, which is going to a website or connecting you to a person that you want, or to the company that you want (Informant 1)

Responsible Judges for Value Co-Creator

According to the results, Informant 7 indicated that customers occasionally assume the role of judges, engaging in cognitive processes to assess their behaviors and identify potential enhancements to the service. Moreover, judges can provide constructive input and subsequently communicate it to the service provider or other customers. The favorable evaluation from the judge signifies the customer's belief that they are providing valuable input that demonstrates their knowledge and has the potential to enhance the quality of the service. The establishment of this distinction holds significance since the presence of a positive judge plays a crucial role in fostering service development and innovation.

We can give some recommendations and ideas on enhancing the service and systems applied in this restaurant. We have that right and the restaurant will also benefit from their customers' voices. Sometimes if I think the system is a bit disturbing or frustrating, I will write comments on their page or tell the staff directly (Informant 7)

Enforced Worker

Informant 2 articulates the obligatory involvement of the worker in-service failure and recovery scenarios, wherein the customer is compelled to participate in the service recovery process. Significant negative consequences mark the occurrence of service recovery circumstances for customers who do not engage in the service recovery process. This factor can result in an unpleasant experience, especially for the first-timer user, and create a negative perception of the SST experience.

I had an experience whereby I had made an order but incorrectly pin the location of my house. I try to consult with the rider but the rider was a bit frustration since the fault is from me. Sometimes I am a bit nervous to try again ordering through the application since I had a bad experience on it (Informant 2)

Discussion

Although considerable research has been conducted on the customer's role in the service industry as a whole (Curran & Meuter, 2005; Guan et al., 2021; Harland, 2022), the specific roles that customers undertake in the context of SST remain unidentified (Oraedu et al., 2022). The S-D Logic proposition has guided comprehension of how service context-specific roles contribute to value co-creation (McColl-Kennedy, Cheung, & Ferrier, 2015), which states that service value is co-created and phenomenologically determined by the beneficiary. Consequently, scholars have acknowledged the imperative nature of investigating customer positions within particular service environments (McColl-Kennedy et al., 2015). The present analysis identifies the following SST customer roles: motivated co-creator of value, responsible judges for value co-creator, technological sweeper and enforced worker. The researcher designated these roles in light of the conclusion that the customer roles previously identified in the literature (Klier et al., 2016; Larivière et al., 2017) failed to adequately represent the customer's perception of their roles within the context of SST. While certain aspects of the four customer roles specific to SST are comparable to those of general service roles identified in the literature, these roles also incorporate subtleties unique to the SST context.

Conclusion

To summarise, the insights gathered from informants reveal diverse customer roles when interacting with self-service technology (SST) in fast-food restaurants, emphasizing the varied ways customers contribute to and influence their service experiences. The "motivated co-creator of value" embodies a proactive approach, where customers perceive an obligation to act as workers, contributing significantly to service effectiveness, particularly during service failures. The "technological sweeper" represents customers who adeptly navigate multiple SST channels, maximizing efficiency through creative and independent use of various technological interfaces. In the role of "responsible judges for value co-creation," customers critically assess services, offering constructive feedback to enhance service quality, thus playing a vital role in fostering service innovation. Conversely, the "enforced worker" highlights the challenges and negative perceptions that arise when customers are compelled to participate in service recovery, particularly in cases of service failure, leading to potential reluctance in future SST use. These varied roles underline the importance of understanding customer behaviors and perspectives to optimize the implementation and effectiveness of SSTs in fast-food environments.

Significance of Study

Practical

The practical significance of this study lies in its ability to guide fast-food restaurants in tailoring their SST to better meet customer needs and expectations. By recognizing and understanding customers' diverse roles—such as the motivated co-creator of value, technological sweeper, responsible judge for value co-creation, and enforced worker—

restaurants can enhance their SST design and support systems. For instance, providing comprehensive onboarding and assistance for first-time users can mitigate negative experiences and foster confidence in SSTs. Creating intuitive, flexible interfaces that accommodate the technological sweeper's behavior can also improve efficiency and customer satisfaction. Encouraging and facilitating feedback allows responsible judges to contribute to service improvements, driving innovation and customer loyalty. Lastly, addressing service recovery scenarios with empathy and effective solutions can reduce the frustration of enforced workers, promoting a positive perception of SSTs. This study offers valuable insights for fast-food restaurants aiming to optimize their SSTs, enhance customer engagement, and improve service quality.

Theoretical

The theoretical significance of this study, particularly through the lens of Service-Dominant (SD) logic, lies in its exploration of the active roles customers play in co-creating value when using self-service technology (SST) in fast-food restaurants. SD logic emphasizes the collaborative value creation process between providers and consumers, shifting the traditional view of customers as passive recipients of services to active participants in the service delivery process. This study illustrates how customers assume various roles—motivated co-creators, technological sweepers, responsible judges, and enforced workers—each contributing uniquely to the service encounter. By highlighting these roles, the research underscores the importance of customer agency and engagement in enhancing service experiences and outcomes. The findings suggest that for SSTs to be truly effective, they must be designed and implemented to recognize and facilitate these active customer roles. This perspective aligns with SD logic's foundational principles, reinforcing that value is co-created through interactions and emphasizing the need for service systems to be adaptive and responsive to customer participation and feedback. Thus, the study provides valuable insights for theoretical advancements in understanding customer behavior within the SD logic framework and practical implications for designing and managing SSTs in the fast-food industry.

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