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A Concept of Consumer Acceptance on the Usage of Self-Ordering Kiosks at McDonald's

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Abstract

Self-ordering kiosks (SOKs) is a self-service technology (SSTs) designed to improve service quality and customer experience, replacing the traditional interaction between service provider and customers. While industries assumed that SOKs benefit both customers and business operations, this form of technology is also linked to several weaknesses resulting in lower business processes efficiency as well as customer acceptance. Following the contradicting perspectives regarding SOKs implementation, this study aims to examine the factors influencing consumer acceptance towards self-ordering kiosks in McDonald's Malaysia using Unified Theory of Acceptance and Use of Technology (UTAUT). Potential contributions following this study are highlighted.

Keywords: SOKs, SSTs, UTAUT, Consumer Acceptance.

Introduction

SSTs are widely used in food service industry following the assumption that this technology can improve the service quality while creating new and positive customer experiences. Previous studies regarding consumer behaviour indicated that, consumers are curious and tend to demand for a new experience and things especially in new innovation of technology which can enhance their attraction and loyalty toward the product and services (Lowe & Dwivedi, 2019).

One of the SSTs adopted in present food service industry including McDonald's Malaysia is Self-ordering kiosks (SOKs). McDonald's is expected to install this SOK throughout its outlets nationwide (Razaka et al., 2016) with the first one done in 2017. Basically, these kiosks allow customers to skip from queuing at the counter and let them place their orders with minimal hassle. However, SST has its own set of advantages and disadvantages affecting customer's acceptance toward this form of innovation. Previous study regarding SST acceptance shown that when a customer trusts that the technology in use is a good option,

enjoyable and easy to use; they are likely to accept it (Weijters, Rangarajan, Schillewaert & Niels, 2007).

In contrast, Dabholkar et al. (2003) stated that not all SSTs implementation are successful; and that the customer's acceptance towards SST are slow as they find it difficult to adopt this technology (Wang, 2012). This is also evidenced at Macdonald's as they received negative feedbacks or reviews from customers following the implementation of SOK in their outlets. Complaints were received regarding the process of ordering until payment is done via SOK; such as problem with the menu selection, payment method and language that offered by the system (Leong, 2019).

While these complaints may impact customer's acceptance toward SST adoption, it is equally important to understand the factors yielding customer's acceptance towards the technology. These factors may serve as a turnaround tool in improving existing SOK implementation. Yet, studies that observe these factors following SOK implementation especially at McDonald's Malaysia remain elusive. Hence, this opens an opportunity for a study to be carried McDonald's Malaysia to uncover the customers' acceptance factors following SOK implementation.

Literature Review

Self-Service Technology (SST)

SST was introduced to customers so that they gain satisfaction and good productivity since this technology is convenient to use (Gounaris et al., 2010). Customers are able to use the service without human involvement when using SSTs (Meuter et al., 2000). Previous research stated that SSTs positively affect customers' attitudes on using technology (Bakar, 2014). According to Bitner et al. (2000), high motivation will lead customers to use SSTs (Kim et al., 2013). In contrast, Dabholkar et al. (2003) stated that not all the SSTs have been successful and that customers' acceptance towards SST seems slow as they find it difficult to adopt (M. C. H. Wang, 2012). Previous studies predominantly focusing on SST failure; such as customers reaction on SST failure (Agapi, 2017), service failure and service recovery on SST (Reis et al., 2019), as well as customer recovery on SST failure (Zhu et al, 2013).

Self-Service Kiosks (SSK)

Self-service kiosk is defined as a screen device that provides services to the customer and has different application based on place and industry (Vakulenko et al., 2019). SSK become one of the famous SSTs adopted in food service industry (Kim et al., 2013). SSK has been widely adopted in quick service restaurant because of several factors such as minimizing labor cost (Kelly et al., 2010), faster service delivery and greater accuracy of customer orders (Kincaid et al., 2010). SSK has helped foodservice operators beyond improving service quality (Ottenbacher & Harrington, 2009). For example, Subway received positive feedbacks following their drive-thru kiosk implementation; it offers convenience to the customers while enabling Subway's operation to flourish (Kim et al., 2013). In addition, McDonald's in other countries claimed to have achieved greater customer loyalty and improvement in customer order accuracy (Today, 2006).

Unified Theory of Acceptance and Use of Technology (UTAUT)

Unified Theory of Acceptance and Use of Technology or UTAUT is a framework proposed by Venkatesh et.al (2003) to predict technology acceptance in organization setting. UTAUT integrates dominant construct from eight prior prevailing models including "Theory of Reasoned Action (Fishbein & Ajzen, 1975), Technology Acceptance Model or TAM (Davis, 1989), Motivational Model (Davis, et al. 1992), Theory of Planned Behavior or TPB (Ajzen, 1991), Combined TAM and TPB (Taylor & Todd, 1995), Model of PC Utilization (MPCU) (Thompson, et al., 1991), Innovation Diffusion Theory (Moore & Benbasat, 2001), as well as Social Cognitive Theory (Compeau, et al., 1999)." There are four construct of UTAUT that are "Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI) and Facilitating Conditions (FC)" that influence behavioral intention and use behavior. The relationship between UTAUT construct and behavioral intention are proposed to be moderated by "age, gender, experience and voluntariness" (Venkatesh et al., 2003).

Behavioral Intention

Behavioral intention is defined as "person's perceived likelihood or subjective probability that he or she will engage in a given behavior" (Ajzen, 1991). Behavioral intention plays as a central role in the technology models including TAM and UTAUT. Previous research indicated that behavioral intention toward SSTs was influenced by the attitude of SSTs (Wang et al., 2012). In contrast, study by Strombeck and Wakefield (2008) indicated that situational factor significantly influence behavioral intention toward SSTs (Chen et al., 2018). Behavioral intention does not lead to actual action. Therefore, studies that focus only on behavioral intention cannot determine user acceptance toward SSTs (Chen et al., 2018).

Use Behavior

Use behavior is defined as "the physical and mental acts involved in incorporating the information found into the person's existing information base" (Wilson, 2000). According to prior research, there are moderating factors that influence one's use behavior toward SSTs (Blut et al., 2016). In addition, some of empirical studies assumed that customer's use behavior of SSTs are influenced by individual factors (Parasuraman, 2000) as well as situational factors (Belk, 1975). Earlier IT studies also indicated 'use behavior' as a main factor to determine the effectiveness of technology (Zhu & Kraemer, 2005). Besides, when SST increases the service quality, customer is more likely to use the technology frequently as well as to experience it (Shahid et al., 2018b). This supported by prior research that recommended satisfaction and service quality as significant factors influencing use behavior of SSTs (Torres-Moraga et al., 2008).

The influence of Performance Expectancy (PE) on behavioral intention toward SST

Performance Expectancy (PE) is "the degree to which an individual believe that using a system will help him or her to attain gains in job performance" (Venkatesh et al., 2003). PE concept was similar to Perceived Usefulness (PU) in Technology Acceptance Model and the concept viewed individuals whom believed that using technology can improve her/he improve in task performance (Khayati & Zouaoui, 2013). Researchers are attracted to the PE concept and it has been studied at different field of human behaviors (Khayati & Zouaoui, 2013). PE was included in restaurant-related activities in foodservice industry where customer fully use self-ordering kiosk in the restaurant (Baba, Shahril & Hanafiah, 2020). Previous research shows the relationship between PE and behavioral intention as strong predictor to technology

acceptance (Abushanab & Pearson, 2007). The association between PE and behavior intention are strengthened by results obtained in UTAUT related studies (Nejadrezaei et al., 2018).

The influence of Effort Expectancy (EE) on behavioral intention toward SST

Effort Expectancy (EE) refers to "the degree of ease associated with customers' use of technology" (Venkatesh et al., 2003). In general, EE is defined as how easy an individual feel when he/she uses the technology and how ease is the usage of that technology (Sair & Danish, 2018). UTAUT model indicated that EE positively influence behavioral intention of use the technology (Venkatesh et al., 2003). While other studies supported the positive link between EE and behavioral intention (Alhassany & Faisal, 2018), Zhou et al. (2010) as well Yu (2012) perceived adversely (Wu & Wu, 2019). In fact, the relationship between EE and behavioral intention has been debated regularly following their effect toward SST. According to Chao (2019), EE was classified from the construct perceived ease of use (PEOU) and complexity. Review of earlier works relating to PEOU and complexity (Davis, 1989; Davis et al., 1989; Thompson et al., 1991; Moore and Benbasat, 1991) suggests a positive relationship between PEOU and behavioral intention.

The influence of Social Influence (SI) on behavioral intention toward SST

Social influence (SI) refers to "the extent to which an individual perceives that others who are important to her/him, consider that she or he should use the system" (Venkatesh et al., 2003). "Others who are important" refers to family, friends and relatives, who are believed to have a positive impact on the intention and use behavior on the self-ordering kiosk (Baba, N., Shahril & Hanafiah, 2020). Specifically, SI cab be referred as individual's perception to use the technology that comes from social pressure such as recommendation from friends, relatives and superiors. Previous studies on information system indicated that SI has positive relationship on customers' intention to use the technology (Yousafzai et al., 2009). Therefore, it can be assumed that customers will be influenced by others such as friends, family, co-workers and media to use the (Tarhini et al., 2016). SI has been investigated in multiple models including "Theory of Reasoned Action, Theory of Planned Behavior, and Decomposed Theory of Planned Behavior"; all results indicated the importance of this SI in predicting behavioral intention.

The influence of Facilitating Conditions (FC) on behavioral intention toward SST

The Facilitating Condition (FC) defined as "the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system" (Venkatesh et al., 2003). Previous studies supported the relationship between FC and behavioral intention toward SST (Herndon, 2019). Among others, FC also supports the use of self-ordering kiosk among customer while enhancing their use behavior toward this technology. In the context of this study, it is assumed that FC is likely to influence the use behavior on using self-ordering kiosks.

The influence of Behavioral Intention on Behavioral intention toward SST

The determinants of behavioral intention can predict the actual use behavior (Yu & Tao, 2009). Venkatesh et al (2000) found that behavioral intention mediated the relationship between predictors and use behavior (Naiwumbwe, 2012). In addition, Gremler and Brown (1997) stated that "satisfaction and service quality must be an antecedent requirement for the customer behavioral intentions" (Shahid et al., 2018b). Acceptance towards new technology is

influenced by the individual ability's to use the technology (Yuen et al., 2015). Having said that, higher self-efficacy is likely to be associated with greater use of the technology among customers. Therefore, it is assumed that several factors may influence McDonald's customers in using self-service kiosk (SOK).

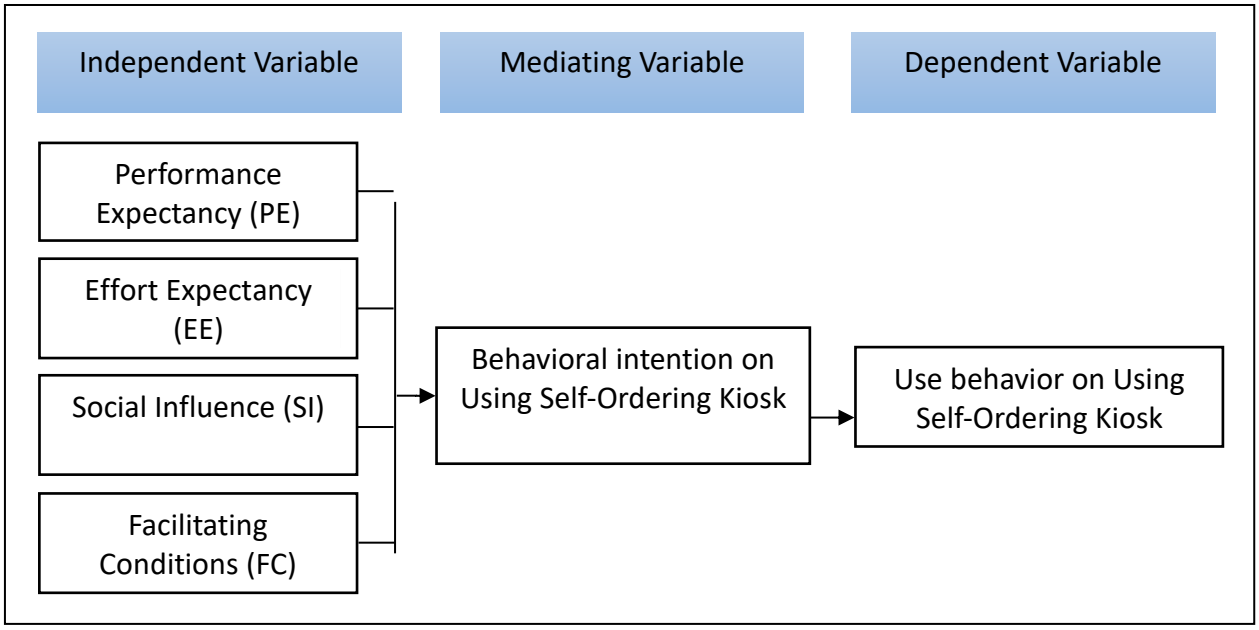

Figure 1: Theoretical framework. Source: UTAUT model (Venkatesh et al., 2003)

Research Framework

For the purpose of this study, researcher will apply the UTAUT model as proposed by Venkatesh et al (2003). While earlier research suggested a significant relationship between behavioral intention and use behavior no moderator effect between both variables (Abushanab & Pearson, 2007); this study will accord to similar principle. For that reason, researcher will omit the influence of moderating variable (gender, age, experience, and voluntariness of use) proposed in UTAUT. Since this study mainly emphasize on independent variable of UTAUT (Performance Expectancy; Effort Expectancy; Social Influence; and Facilitating Condition) and their relationship toward behavioral intention and use behavior, all the moderating variable will be dropped in this framework. The dependent variable (use behavior) will be measured by customer's actual amount of usage (amount of time and frequency of using the self-service kiosk). Refer Figure 1 for theoretical framework of the study.

Contribution and Conclusion

Output produced from this study may benefit both the academic and industrial realms simultaneously. From the academic standpoint, findings produced will nourish existing literature on UTAUT components (performance expectancy, effort expectancy, social influence and facilitating condition) relating to self-service kiosk implementation). Likewise, the study may benefit the foodservice industry especially fast food service operators to gain an understanding on consumer acceptance regarding the use of self-service kiosk. In addition, the result is hoped to justify whether they should invest in self-service technology within their premises.

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