

# Analyzing The Relations Between Menu Features and Customer Intention to Use for Self Service Kiosk at Mcdonald's

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## Abstract

Self-service technologies have been defined as a technical interface that allows clients to create services without the assistance of a service representative. As the food service sector grows, technology advances that improve service operations are being developed and deployed at a rapid pace. In general, self-service kiosks are designed to provide prompt service, eliminate the ordering line, and increase sales revenue. However, the majority of self-service kiosk research focuses on technology adoption behavior, with limited research on menu features. Therefore, this study aims to analyze customer intention to use self-service kiosk (SSK) services based on menu feature factors. This research builds on previous studies showing customer satisfaction with SSK services at McDonald's. The kiosks are part of McDonald's modernization program, Nxtgen, offering a digitized alternative for ordering and paying, ensuring a more seamless transaction process. The study investigates the indirect effects of menu visual appeal, menu informativeness, design, and perceived control on customers' preferences for using kiosks instead of going to the counter at McDonald's. A quantitative method was chosen for data collection, utilizing the Statistical Package for the Social Sciences (SPSS) version 22 for data analysis. The study's questionnaire will be distributed to 150 respondents in Malaysia who have used McDonald's kiosks, through various platforms such as WhatsApp, Telegram, Facebook, and other network-based applications. The analysis of the collected data reveals that four independent variables have a significant relationship with the dependent variable, providing beneficial insights for McDonald's to adapt and retain their competitive edge despite the challenges posed by the crisis.

**Keywords:** Menu Visual Appeal, Menu informativeness, Design, Perceived

**Introduction**

In the growing food service sector, technological advancements that enhance service operations are being rapidly developed and deployed. Kimes (2008) note that self-service technology can increase service speed, allow for more accessible meal customization, reduce errors, and enhance customer satisfaction. McDonald's has introduced self-service kiosks in Malaysia, starting with locations in Bukit Bintang and Bangsar Telawi, following similar introductions in Singapore and Hong Kong. These kiosks enable customers to place orders and make payments without waiting in line, and they allow for customized orders.

Research highlights the influence of menu design on the adoption of self-service kiosks. Hou et al (2017a) found that pictures of dishes positively impact customers' attitudes toward menus, particularly for those with ambiguous names. Rabab'ah and Al-Qudah (2022) revealed that various appeals, such as sensual and emotional, are used to persuade customers. Sari et al (2022) emphasized that clear menu descriptions help consumers decide what to choose. A menu, defined as a list of food and drink items available to be served, is crucial to the food service concept. It defines the product offering, sets financial factors like price, and serves as a marketing tool (Ozdemir & Caliskan, 2014). Menus influence customer perceptions and necessitate managerial activities like planning, pricing, and designing (Jones & Miffl, 2016). A well-designed menu can promote specific products and enhance customer satisfaction.

The design of SSKs often fails to consider the personal, attitudinal, and situational characteristics of older users. Aging is associated with declines in perceptual, cognitive, and motor abilities, and muscular strength older adults also experience technology anxiety and lack confidence in using new technologies, which negatively impacts their performance. Situational stressors, like time pressure and the presence of others, exacerbate these issues. These difficulties contribute to the digital divide, where inequities in access and benefits from digital technologies lead to decreased social engagement and lower independence. This "digital exclusion" results in a self-perpetuating cycle of isolation for the digitally poor. There is limited research on the factors encouraging the adoption of SSKs, particularly in developing countries like Malaysia. This study aims to fill that gap by investigating the factors influencing customer intention to use McDonald's self-service kiosks, focusing on menu features. Most research on technology adoption has focused on technology adoption factors and lack of study about menu features. Thus, this study explores menu features factors influencing customer intention to use McDonald's self-service kiosks, underscoring the importance of menu design in enhancing customer experiences and operational efficiency.

**Literature Review and Hypothesis Development*****Introduction of Self-Service Kiosk in Malaysia***

Self-service kiosks in Malaysia are automated tools that allow customers to interact directly with businesses and make purchases independently. These kiosks are utilized in various settings, such as purchasing rail or bus tickets, ordering food in restaurants, and checking in at hotels and airports. The automation system in these kiosks enables rapid transactions, eliminating the need for lengthy waits and manual processing, thus enhancing efficiency and reducing human contact. The primary purpose of self-service kiosks is to facilitate client engagement by providing a fast and straightforward transaction process. They typically offer features like payment options, check-in assistance, branding or advertising displays, and

inventory management. Many kiosks use NFC technology for secure payment options, allowing customers to purchase various digital services seamlessly. Additionally, they streamline the check-in process for hotels and airlines, significantly saving time compared to traditional methods. Promotions and advertisements can also be prominently displayed on kiosks, helping organizations meet their branding and promotional goals efficiently. Given their high usage and foot traffic, kiosks ensure a high level of service automation.

### **Self Service Kiosk for Food Industry**

Self-service ordering kiosks are being implemented nationwide, significantly transforming the fast food and restaurant sector by providing prompt service, reducing ordering lines, and increasing sales revenue. Restaurateurs are incorporating technology to enhance customer service, such as modifying menus to include images and nutritional information (Buchanan, 2011; Hsu et al., 2013; Huber et al., 2010). The restaurant industry is highly competitive, with customers expecting excellent service and a pleasant dining experience (Markovic et al., 2010). To retain existing customers, attract new business, and increase market share, the industry must stay updated with technological advancements and adopt new technologies (Kimes, 2008).

### **Self Service Kiosk for Hotel Industry**

Vendfun, a company based in Melaka, has introduced the innovative Vendfun Hybrid Kiosk, which combines self-service check-in and check-out with vending capabilities. This 2-in-1 kiosk helps hotel operators manage resources and reduce operational costs. Featuring a 50-inch touch-screen panel, the kiosk allows customers to check in, check out, receive promotional vouchers, and purchase items like food and beverages. The Vendfun Hybrid Kiosk, which is available for sale, rental, or rent-to-own, includes features such as cashless payment options, a passport scanner, a receipt printer, a room card dispenser, and vending capabilities. It is also compatible with any hotel property management system (PMS) software, allowing for customization (Asia, 2021).

### **Purchase Public Transport Ticket**

Self-service bus ticket kiosks streamline communication between carriers and public administration, offering comprehensive data and statistics while cutting financial expenditures. These kiosks prioritize efficiency, with users finding them easy to operate and highly satisfactory due to their effectiveness.

### **Payment for Parking Ticket**

Automated parking systems, integrated with self-service kiosks or payment machines, amalgamate various components like barrier gates, cash desks, and ticket machines into a single device. Supported by adaptable software, these systems serve as efficient solutions for parking management across different scales, from small to medium-sized lots to larger, more complex systems. They incorporate features such as tracking available parking spots, navigation aids, video monitoring, and license plate recognition, enhancing overall effectiveness and functionality.

### **Self-Service Kiosk at McDonald's**

Technological advancements are reshaping societal behaviors, with mobile devices like smartphones altering traditional activities such as library visits. The introduction of self-

service kiosks can mitigate issues like long queues at public institutions, encouraging more widespread usage. These kiosks, interactive touch-screen devices, streamline operations, allowing businesses to serve customers more efficiently while freeing up employees for higher-value tasks. McDonald's, KFC, and Burger King have embraced self-service kiosks, particularly in high-traffic locations, to expedite order processing and increase revenue. While not suitable for all dining experiences, self-service kiosks provide customers with control over their orders, reducing wait times and empowering them with customization options (Alexander et al., 2010).

### ***Factors of Customers use in Self-Service Kiosk at Mcdonald's Menu Visual Appeal***

Previous research has extensively explored various aspects of menu design to enhance the profitability of fast-food restaurants. Studies have examined the impact of restaurant menu descriptions on diners' behavioral intentions Fasih et al (2016); McCall & Lynn (2008), the influence of menu design on consumers' perceptions Magnini & Kim (2016), the effects of descriptive menu labels on sales Wansink et al (2005), and the role of pictures and food names in menu evaluations (Hou et al., 2017). Menus serve as the initial point of communication between customers and restaurants, highlighting the importance of their visual appeal (Lee & Kim, 2020). Research has shown that visually appealing menus influence how consumers feel about the food they purchase, thereby increasing their interest, desire, and decision to make a purchase (Brewer & Sebby, 2021; Tonkin et al., 2019). Pictures on menus are particularly effective in drawing customers' attention and shaping positive attitudes and behavioral intentions (Hou et al., 2017).

Moreover, menu design aims to attract customers to the most marketable meals, ultimately increasing restaurant earnings (Dayan & Bar-Hillel, 2011). Various visual components of menu design, such as background, colors, textures, photos, fonts, size, dialogue boxes, product placement, and pricing placement, influence customers' responses and intentions (Reynolds et al., 2005). Studies have indicated that adding graphics to menu items enhances positive feelings among customers, particularly those who construct mental images from verbal information (Hou et al., 2017). However, the effectiveness of adding photographs to menus is not always guaranteed, especially considering the use of perplexing dish names by restaurant owners. Understanding how different food names and visuals impact customer perceptions and behavior is essential (Wansink et al., 2005). Research has shown that the inclusion of photos alongside popular descriptive food names positively influences consumers' attitudes, willingness to pay, and purchasing intentions. Yet, visuals only positively affect verbalizers when faced with confusing food names, as visualizers exhibit less favorable attitudes and behavioral effects after viewing dishes with ambiguously labeled photographs (Hou et al., 2017).

Furthermore, in the United States, images and article names are common features on menus, with photographs often occupying a significant portion of the limited space. The use of visuals in marketing communication has been emphasized, alongside the trend of using descriptive terms for food products (Wansink et al., 2001). Recent research has explored the addition of images to verbal information, highlighting variations in information processing styles between verbalizers and visualizers (Wyer et al., 2008). Incorporating photographs into menus can enhance product information recall and improve client attitudes, ultimately

increasing intention to purchase (Kisielius & Sternthal, 1984). For instance, photo advertising has been found to create better brand perceptions than mere images (Mitchell & Olson, 1981), while including photographs in instructional nutrition booklets increases the time consumers spend looking at product labels, thereby promoting healthy food choices (Pennings et al., 2014).

H1: Menu visual appeal has a significantly positive effect on gen X intentions to use Self-service Kiosk

### ***Menu Informative***

Thorough menu descriptions have been shown to influence consumers' meal choices and subsequently enhance restaurant revenues (McCall & Lynn, 2008; Wansink et al., 2001). Rozin et al (2011) suggest that even small decreases in food intake can have significant effects on issues like obesity over time. Research evaluating the influence of changing the position of menu items found that those placed at the beginning or end of the list were twice as noticeable as those in the middle, indicating the potential for increasing the visibility of healthier menu items (Josiam & Foster, 2009). With the proportion of Americans dining out increasing, restaurants face increasing pressure to contribute positively to public health challenges (Pulos & Leng, 2010). Menu laws, such as the Truth-in-Menu and Menu Education and Labeling (MEAL) bill, have been implemented in various countries, requiring standardized nutritional information to be provided for menu items (Kim et al., 2013).

Customers today seek greater visibility in menu items and want to know more about product origins and characteristics, with the menu serving as the primary dissemination tool (McCall & Lynn, 2008). Additional menu item descriptions can impact various aspects of consumer behavior and perceptions, ultimately influencing purchase decisions and restaurant profitability (Mills & Thomas, 2008). The Customer Information Expectancy Restaurant Menu (CIERM) concept categorizes menu information into product information, nutritional information, and meal preparation details, all of which impact customer satisfaction, restaurant performance, and profitability (Mah & Timmings, 2015; Kang et al., 2015). Providing information about product characteristics and origins is particularly crucial, as it enhances perceived quality and reduces perceived risks for customers. Furthermore, customer reactions to menu information can vary based on individual and establishment characteristics, influencing behavioral intentions such as the intention to purchase (Peters & Hervé Remaud, 2020). In fast-food restaurants, consumers expect more detailed information for higher-priced menu items, reflecting the relationship between price and perceived quality (Alexander et al., 2010).

H2: Menu informativeness has a significantly positive effect on gen X intentions to use Self-service Kiosk

### ***Menu Design***

Menu design plays a crucial role in enhancing the enjoyment of the food ordering process, with electronic displays offering dynamic options for special promotions and cross-selling strategies (Yang & Geetha, 2019). As a marketing tool, a well-designed menu can significantly impact sales and customer perception (Buchanan, 2011; Mills & Thomas, 2008; Wang, 2012). Therefore, it is essential for restaurant owners to focus on various aspects of

menu presentation, such as layout, design, and artwork, to create a positive impression and meet customer expectations (McCall & Lynn, 2008; Kwong, 2005).

Menu layout is a critical aspect of menu design, influencing consumers' attention and ordering behavior (Buchanan, 2011; McVety, 2004; Pulos & Leng, 2010). Clear and straightforward layouts promote sales, while the strategic use of colors can affect consumers' moods and perceptions (Reynolds et al., 2008; Singh et al., 2006). For instance, colors like yellow and orange are associated with pleasantness, while blue may create a relaxing atmosphere (Singh et al., 2006). The incorporation of images and graphics in menu design not only enhances the restaurant's interior but also provides guests with a sense of the establishment's theme (Buchanan, 2011). Additionally, attribute-based menus empower customers to process and choose menu items independently, enhancing their perception of variety (Kwon & Mattila, 2017). However, menus should strike a balance by avoiding overcrowding with images and graphics to prevent distractions from the culinary options (Davis et al., 2018).

H3: Menu Design has a significantly positive effect on gen X intentions to use Self- service Kiosk

### ***Perceived Control***

Perceived control in the context of self-service refers to an individual's belief in their ability to manage resources and influence the outcome of an interaction (Collier & Sherrell, 2010). This belief encompasses the necessary skills and confidence to command a situation successfully (Bae & Chang, 2021). Research suggests that perceived control influences the level of arousal or enjoyment derived from an encounter (Ward & Barnes, 2001). Efficiency, defined as optimizing service performance with minimal waste of customer resources, is a key aspect linked to perceived control in self-service interactions (Fließ & Kleinaltenkamp, 2004). Qualitative research indicates that customers prioritize perceived speed or efficiency when choosing self-service over full-service options (Meuter et al., 2018; Pujari, 2004). When customers feel in control of the self-service process, their perceptions of transaction efficiency are likely to improve, as they desire control over the pace and interactivity of the experience (Hui & Bateson, 1991).

Moreover, perceived control directly influences the positive emotions customers experience during a self-service encounter, enhancing their enjoyment of the experience (Ward & Barnes, 2001; Collier & Sherrell, 2010). Customers who feel empowered in the service process are more likely to derive satisfaction and enjoyment from the experience, rather than feeling anxious about the next steps they need to take.

H4: Perceptions of control has a significantly positive effect on gen X intentions to use Self-service Kiosk

### ***Classification of Older Customer***

The classification of older clients is based on three important factors. Historically, chronological age has been the key distinguishing factor between younger and older consumers (Kotter-Grühn et al., 2015). However, individuals of the same chronological age can have varied subjective aging experiences in physical, psychological, and social



dimensions (Kastenbaum et al., 2019). As a result, subjective age, which reflects how old people feel, has been proposed as a more accurate predictor of motivational or behavioral changes associated with aging (Barrett & Montepare, 2015; Kleinspehn-Ammerlahn et al., 2008; Chapman et al., 2007; Ramsey & Gentzler, 2014). Furthermore, a future time perspective, which distinguishes between expansive and confined views of the future, influences objectives and motives (Carstensen et al., 1999; Lang & Carstensen, 2002; Kessler & Staudinger, 2009). This perspective alters people's focus and goals, influencing their behavior depending on whether they see their future as open-ended or limited (Carstensen et al., 2003).

### ***X Generation Intention to use Self-Service Kiosk***

Cognitive capacities deteriorate with age, influencing how older adults use technologies such as self-service kiosks. Mathur and Moschis (1994) point out that older adults may use credit cards less due to lifestyle changes rather than age. Neurobiological studies show that structures critical for perception, memory, and processing speed decline with age (Cabeza et al., 2002; Hedden & Gabrieli, 2004). Despite this, older adults do not exhibit a general reduction in coordination for difficult cognitive activities (De Ribaupierre & Ludwig, 2003), though linguistic and computer skills peak between ages 30 and 50 and gradually decline thereafter (Hedden & Gabrieli, 2004). Generation X, as digital immigrants, prefers in-person interactions for purchasing and financial decisions (Linnes et al., 2017). They frequently notice a deterioration in cognitive capacities when learning, prompting many to assume they are "too old" to acquire new technology. Age has regularly been shown to have a considerable negative impact on technological anxiety across demographics (Simon & Usunier, 2007).

### **Research Framework**

This theoretical framework is used to examine the determinants of customers' intention to use self-service kiosks at McDonald's. The independent variables, including Menu Visual Appeal (MVS), Menu Informativeness (MIF), Design (D), and Perceived Control (PC), were discussed in previous paragraphs, while the dependent variable is Customer Intention to Use the Self-Service Kiosk. In short, the proposed framework in this study helps the public and readers gain a deeper insight into the relationships between menu features and customer intention to use self-service among Generation X (see Figure 1).

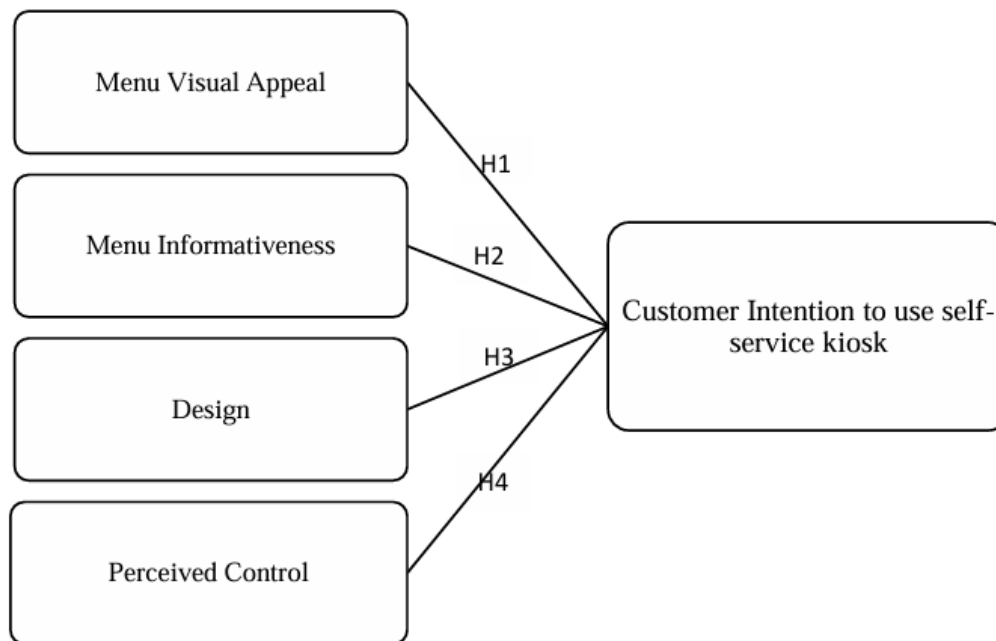


Figure 1: Conceptual Framework

### Methodology

This study employed a quantitative research approach, utilizing an online questionnaire survey conducted among 150 Generation X McDonald's customers. A pilot test was conducted with 25 users of self-service checkouts to analyze the validity of the survey questionnaire and gather feedback on its structure. The questionnaire consists of three sections: Section A, Section B, and Section C. Section A focuses on the general information of the respondents. In Section B, the questions relate to the independent variables such as Menu Visual Appeal (MVS), Menu Informativeness (MIF), Design (D), and Perceived Control (PC), which are factors influencing the relationship between menu features and customer intention to use self-service kiosks at McDonald's. Section C focuses on the dependent variable, which is the relationship between menu features and customer intention to use self-service kiosks at McDonald's. The study employed measurement scales that have been previously validated in existing literature. Responses to the questions were recorded using a Likert scale, allowing respondents to choose the most suitable option for each item. The scale includes five ratings: 1 for strongly disagree, 2 for disagree, 3 for neither agree nor disagree, 4 for agree, and 5 for strongly agree. The collected data were processed using SPSS version 22, involving descriptive statistics, reliability and validity analysis, Pearson correlation, and multiple regression tests to address the objectives of this study.

Table 1 presents the demographic information of survey participants. The data indicate that 33% of the respondents (n=50) are male, while 67% (n=100) are female. Regarding racial distribution, the majority of respondents are Malay, constituting 30% (n=45), followed by others at 29% (n=43), Indian at 21% (n=31), and Chinese at 20% (n=30). In terms of educational background, 29% (n=44) of respondents have SPM, 21% (n=31) have STPM, 29% (n=43) have a Diploma, 19% (n=29) have a Degree, and only 2 respondents (1%) have a Master's or PhD. Regarding occupation, 71% (n=106) of the respondents are self-employed, 22% (n=33) work in the private sector, and 7% (n=11) work in the public sector. As for the usage of self-service kiosks, 58% (n=87) are monthly users, 17% (n=25) use them every two



weeks, 12% (n=18) use them weekly, and 13% (n=20) use them several times a week. Regarding the residence state of respondents, 47% (n=70) are from Melaka, 33% (n=49) are from Sabah, 12% (n=17) are from Selangor, 7% (n=11) are from Johor, and 1% (n=2) are from other states.

Table 1  
*Respondents' Background.*

Background	Categories	Frequency	Percentage (%)
Gender	Male	50	33
	Female	100	67
Race	Malay	45	30
	Chinese	31	20
	Indian	31	21
	Others	43	29
Educational level	SPM	44	29
	STPM	32	21
	Diploma	43	29
	Degree	29	19
	Others (Master / PhD)	2	2
Occupation	Self -employed	106	71
	Private Sector	33	22
	Public Sector	11	7
Frequency usage	Once a month	87	58
	Once every two weeks	25	17
	Once a week	18	12
	Several times a week	20	13
State	Melaka	70	47
	Sabah	49	33
	Selangor	17	12
	Johor	11	7
	Others	2	1

### Reliability Analysis and Validity Test

Reliability analysis is measured by Cronbach's Alpha. Table 2 shows that the Cronbach's Alpha values for all variables range from 0.846 to 0.903, which are significantly higher than 0.70. According to Malhotra (2012), Cronbach's Alpha values  $\leq 0.60$  are considered unreliable and poor. However, values  $\geq 0.70$  are considered highly acceptable and excellent. Overall, the reliability analysis of this study is highly acceptable.

Table 2

*Reliability analysis of each variable*

Variable	Number of Items	Cronbach's Alpha
Menu Visual Appeal (MVS)	5	0.846
Menu Informativeness (MIF)	5	0.903
Design (DGN)	5	0.846
Perceived Control (PC)	5	0.868
Purchase Intention (PCI)	5	0.902

In general, the data presented in Table 3 indicate significant and favorable correlations between purchase intention and various factors: menu visual appeal ( $r=0.616$ ,  $p<0.01$ ), menu informativeness ( $r=0.572$ ,  $p<0.01$ ), design ( $r=0.714$ ,  $p<0.01$ ), and perceived control ( $r=0.731$ ,  $p<0.01$ ).

Table 3

*Pearson correlation for variable of study.*

	MVS	MIF	DGN	PC	PCI
MVS	1	.362**	.497**	.492**	.616**
MIF	.362**	1	.621**	.654**	.572**
DGN	.497**	.621**	1	.848**	.714**
PC	.492**	.654**	.848**	1	.731**
PCI	.616**	.572**	.714**	.731**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

MVS= Menu Visual Appeal, MIF = Menu Informativeness, DGN = Design, PC = Perceive Control, and PCI=Purchase Intention

The model summary for factors influencing customer purchase intention is presented in Table 4. The R-squared coefficient of determination indicates that the four independent variables collectively account for 64.4% ( $R^2 = 0.644$ ) of the total variance in purchase intention, influenced by menu visual appeal, menu informativeness, design, and perceived control. This regression model, detailed in the table, examines the relationships between menu visual appeal, menu informativeness, design, and perceived control and their impact on customer purchase intention. The standardized coefficients reveal that menu visual appeal ( $p < 0.05$ ,  $\beta = 0.308$ ), design ( $p < 0.05$ ,  $\beta = 0.219$ ), and perceived control ( $p < 0.05$ ,  $\beta = 0.317$ ) are all significantly related to customer purchase intention. However, the variable menu informativeness ( $p > 0.05$ ,  $\beta = 0.117$ ) is found to be insignificant in relation to customer purchase intention.

Table 4

*Regression for Customer Intention determine.*

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	.052	.262		0.198	.843
Menu Visual Appeal	.295	.055	.308	5.334	.000
Menu Informativeness	.119	.068	.117	1.758	.081
Design	.243	.107	.219	2.274	.024
Perceived Control	.341	.107	.317	3.197	.002

a. Dependent Variable: user satisfaction.

R= 0.803. R square= 0.644. Adjusted R= 0.634. F = 65.662

### Discussion

The study examines the factors influencing customer purchase intention using self-service kiosks at McDonald's and explores the causal relationships among the constructs using a proposed research framework. It acknowledges a relationship between Menu Visual Appeal (MVS), Menu Informativeness (MIF), Design (DGN), Perceived Control (PC), and Purchase Intention.

According to Han et al (2021), visual appeal positively affects experiential authenticity. Previous research by Wyer et al (2008) indicates that menu visual appeal stimulates customers' curiosity and purchase intention. Additionally, Hou et al (2017) found different information processing patterns between verbalizers and visualizers regarding the joint influence of food names and photos on customer attitudes and behavioral intentions. Furthermore, in online retailing scenarios, the projected visual appearance of products must be enticing to attract consumers, who can view or touch the actual products. Product images serve as essential tools for retailers to communicate with consumers. According to Hassanein & Head (2007), these images enhance internet shoppers' enjoyment, intention to use, and trust. Moreover, Li & Xie (2019) demonstrated that professionally shot and high-quality photographs significantly increase customer engagement on social media platforms like Twitter and Instagram, which have grown in popularity.

Therefore, menu visual appeal is a crucial component of menus and significantly influences Generation X's intention to use self-service kiosks at McDonald's. According to Yang & Geetha (2019), colorful images and interesting menu designs make ordering food more enjoyable. Several studies have investigated how target size, button spacing, and inclination angle affect user behavior and preferences with touchscreen interfaces. Interface design, as noted by Galdolage (n.d.), is crucial in kiosks as it helps customers navigate functional features, thereby determining efficiency and effectiveness from their perspective. In summary, the menu is the primary selling tool in the food service sector, presented in various forms such as printed menus, tablets, or menu kiosks. For this study, McDonald's implemented a menu ordering system utilizing kiosk technology. The menu at fast-food restaurants guides patrons by listing the available dishes and drinks. Rastegar (2018) suggested that self-service kiosks can reduce errors and increase customer satisfaction by enabling customized ordering. Additionally, a visual summary of a customer's order enhances

accuracy and shifts responsibility to the customer. Therefore, implementing menu designs on self-service kiosks helps attract Generation X customers to use them at McDonald's..

Previous studies by Jamil et al (2019) have shown that with self-service kiosks (SSK), customers can customize products for themselves, creating meals based on their personal choices, exerting more control over the process, and conveniently paying without standing in long lines. Shin & Dai (2020) identify perceived control as a mechanism through which customers voluntarily use SSKs, leading to positive customer service experiences. Furthermore, customers are more likely to use SSKs if they observe others using them easily. Thus, H1, H2, and H3 are accepted. Among all variables, H4 is rejected, indicating that menu informativeness is the only variable that does not significantly relate to purchase intention. Previous studies Han et al (2020) have indicated that nutrition and menu information provided at fast-food restaurant kiosks may not be available at other types of restaurants, such as casual-dining and full-service restaurants. Additionally, research Minge et al. (2014) suggests that older adults frequently struggle with information and communication technology, and feelings of helplessness may worsen due to failed attempts and frustrations. Reduced vision, common among the elderly, exacerbates these challenges, making the size of information displays particularly crucial for those with poor vision (Hagen & Sandnes, 2010). Consequently, menu informativeness negatively influences Generation X's intention to use SSKs.

### **Conclusions**

This study examined the relationship between menu features and customer intentions to use self-service kiosks (SSKs) at McDonald's, employing constructs from models by Brewer and Sebby, Collier and Barnes, and Junsawang. The findings demonstrated that the independent variables—Menu Visual Appeal (MVS), Menu Informativeness (MIF), Design (DGN), and Perceived Control (PC)—had significant relationships with the dependent variable, consumer intention to use SSKs during the post-pandemic. Data analysis methods included descriptive analysis, Pearson correlation analysis, reliability analysis, multiple regression analysis, and hypothesis testing. The results revealed that MVS, DGN, and PC positively and significantly influenced the intention to use SSKs among Generation X, while MIF had a negative relationship. Particularly noteworthy was the highly significant relationship between Perceived Control and Gen X's intention to use SSKs. Most respondents agreed that the menu provided good descriptions of the food, with Menu Visual Appeal being the most significant factor affecting intentions. Educating consumers about menu items through clear descriptions increased the likelihood of purchase. Therefore, McDonald's should continually update and simplify SSK features to boost Gen X's intention to use them during the pandemic (Brewer & Sebby, 2021; Collier & Barnes, 2015; Junsawang et al., 2020).

### **Significant Implications of the Research**

This study successfully examined the conceptual model proposed by Brewer and Sebby (2021), focusing on the constructs of Menu Visual Appeal, Menu Informativeness, Design, and Perceived Control. These constructs proved effective in predicting customers' decision-making processes regarding self-service kiosks. The study also provided insights into how customers process information and form intentions to use such kiosks, especially in unconventional situations. Future research could enhance this model by incorporating additional variables or adapting it to different scenarios within hospitality management. The

results indicated that three independent variables had a significant positive relationship with Generation X's intentions to use self-service kiosks, while one variable was rejected. As a result, all proposed alternative hypotheses were accepted. The discussions and findings were grounded in Brewer and Sebby's (2021) application of the Stimulus-Organism-Response (S-O-R) model to assess consumer intentions. This study contributes to the literature on self-service kiosk menus at McDonald's in Malaysia, an area that has received relatively little research attention to date.

On a managerial level, this study offers several practical implications for the restaurant industry, particularly in product definition, content marketing, and appealing to new markets. It suggests that self-service kiosks should include appealing photographs for each menu item to boost sales, as menu visual appeal positively influences consumer intentions to use. However, restaurateurs should ensure that the images accurately represent the actual dishes to avoid raising consumer expectations that cannot be met. Research indicates that attention to detail, such as food arrangement and plating, can enhance customers' recognition, trust, and overall satisfaction with the menu items. High-quality visuals can influence perceptions of ingredient quality, meal preparation, and overall restaurant standards (Li & Xie, 2020). Combining visuals with descriptive terms leads to greater behavioral intentions among consumers (Kisielius & Sternthal, 1984).

The convenience of online food ordering, whether through a restaurant's website or an online platform, has enhanced consumer behavioral intentions by simplifying information processing and providing valuable feedback. Research shows that incorporating appealing pictures and detailed descriptions significantly boosts user intention (Kochilas, 1991). McDonald's should strategically prioritize both self-service kiosk performance and dine-in service to gain a competitive advantage. A well-designed menu profoundly impacts customer satisfaction and loyalty across pre-purchase, purchase, and post-purchase stages. Therefore, to sustain competitiveness and achieve long-term success, McDonald's and other restaurant managers must stay abreast of industry developments and continually enhance their offerings based on customer feedback

### **Ethical Considerations**

This study is voluntarily participation and the respondents agreed to take part in the study. Information gathered during this study is confidential.

### **Conflict of Interest**

The authors declare that they have no conflict of interest.

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