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Customers' Satisfaction on the Use of Self-Checkout Kiosks on Transaction Efficiency in Select Fast Food Chains

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ABSTRACT

The introduction of self-checkout kiosks has greatly improved the experience of students in the food industry in terms of efficiency and convenience. Thus, the current study examined the degree of satisfaction with the use of self-service kiosks and their effect on transactional efficiency among National University-Baliwag college students. The study used a quantitative approach that involved the use of correlation and descriptive designs in assessing satisfaction with the self-checkout system. Students who used the self-checkout kiosks were randomly chosen using stratified sampling methods. Descriptive statistics were used in data analysis obtained from questionnaires, while participants' satisfaction with the self-service kiosks and transaction times were assessed using Pearson's correlation coefficient. Findings indicated that students had a positive insight into self-checkout kiosks. Regardless of these advantages, customer concerns remained regarding payment security, suggesting the need for some improvements to enhance customer trust. The study aligned with Service-Dominant Logic (SDL) theory, which emphasized the perceived value, ease of use, usefulness, speed of ordering, and self-efficacy that influenced customer adoption of using self-checkout kiosks. The results had implications for businesses seeking to enhance customer experiences through self-checkout kiosk technologies. The data indicated overall positive results as they were all classified as "Strongly Agree." Self-efficacy rated highest with users' understanding (mean = 3.57, SD = 0.451), and participants also rated the ease of using kiosks (mean = 3.61, SD = 0.470) considerably high. The respondents were also selfefficacious in operating the kiosks independently, with a self-efficacy score (mean = 3.57, SD = 0.460). The respondents reported low mean values on security issues (mean = 3.36, SD = 0.518) and taxi waiting time (mean = 3.42, SD = 0.717). This implied that these variables required more effort.

Keywords: *Customers' Satisfaction, Ease of Use, National University-Baliwag College Students Perceived Security Risk, Perceived Value, Self-Efficacy, Speed Ordering, Stratified Sampling Method, Quantitative Study, Usefulness.*

Introduction Context and Rationale

Self-checkout kiosks became an important part of the modern food service environment. Due to these changes, it opened new opportunities for customers to learn new ways of interacting with businesses. These kiosks allowed customers to order on their own, pay online via QR codes, and pack their items independently and quickly without the need for human interaction (Pendrill, 2021). This type of service became popular as it helped users and businesses, especially during the pre-pandemic era, because they could order peacefully without needing human interaction. Self-checkout kiosks gained popularity in multiple retail shops and food service environments, including shopping malls like SM City Baliwag. Using the self-checkout kiosks, individuals were now free to order on their own, and they could even pay without the need to interact with workers, offering a more efficient experience for consumers (Nnami, 2024).

Individuals who valued their time, especially when they were busy or had a limited time to take breaks, found this technology to be beneficial. This technology might have been new to others, but it could be taught as self-checkouts allowed for customization, catering to the preferences of individuals who enjoyed customizing their meals. This kind of service allowed customization, catering to the preferences of people who enjoyed personalizing their meals in addition to making them particularly attractive in settings where customers were looking for more control over their choices (Wavetec, 2023).

It also greatly minimized human error, guaranteed orders to be remarkably accurate, and subsequently increased customer satisfaction. Businesses could observe a measurable sales increase through specific recommendations. From the business side, the introduction of selfcheckout kiosks lowered labor costs, as fewer cashiers were required for manual transactions, and it could reduce human errors that could lead to bigger problems for businesses (McMahon, 2024). After reading multiple studies about self-checkouts, businesses could enhance and improve customer experience.

Approximately 73% of shoppers, a particularly meaningful majority, clearly preferred using self-service technologies such as self-checkout systems over customary methods in retail settings (Pangarkar, 2025). These statistics highlighted a trend that was growing toward the use of self-service technologies across multiple demographics. Several factors drove this trend, including convenience, speed, and personalization.

Nevertheless, despite the benefits of self-checkout kiosks, accessibility barriers occurred for customers who did not have enough knowledge of how self-checkout kiosks worked or for those who were uncomfortable with the use of technology. Elders' information level on technologies was approximately 68.6% in 2020, corresponding with their usage level, which was 71.4%, indicating that it was still low even though it exceeded half of the percentage (Ministry of Science and ICT, 2020). More than half of Gen Z and Millennial customers chose self-checkout kiosks. Specifically, consumers in Generation Z favored self-checkout kiosks over traditional cashier checkouts, averaging 63 out of 100, driven by factors such as speed and convenience (Investor NCR, 2024).

This preference focused on a growing trend among younger generations towards adopting self-checkout kiosk technologies in fast food chains. With this, the study helped to gain more information regarding the self-checkout kiosk, mainly in SM City Baliwag. Other studies may have been accurate for some places as they were conducted in nearby or similar areas. However, additional information was obtained in this study regarding customer satisfaction and transaction efficiency for self-checkout kiosks used by students of National University Baliwag.

Theoretical Framework

Service-Dominant Logic (SDL) shifted the emphasis from a goods-centric perspective to one that prioritized services and value co-creation. According to SDL, value was co-created by providers and consumers, and technology could ease this co-creation by allowing customers to engage in the service delivery process. Customers who used self-ordering kiosks were actively involved in the service process, offering input on their orders and obtaining personalized experiences through customized orders and faster service. SDL proposed that firms could improve customer satisfaction by emphasizing the customer's role in the service process and employing technology to offer a more efficient and personalized experience.

According to Williams (2012), businesses strongly preferred marketing to their customers through the internet long before the appearance of social media, which could make businesses favor marketing directly to their clients. Wide-ranging customer marketing was encouraged by the S-D logic. With increased communication, many businesses could build rapport, understand their market, and fix any problems that arose during a product's lifecycle. SDL focused on value cocreation, which meant that value was not exclusively created by the firm but jointly through actors working together and sharing resources. These actors included the firm and its customers. Customers actively participated in this dynamic process. They contributed their own resources along with their ability to shape the value they received, instead of being passive recipients.

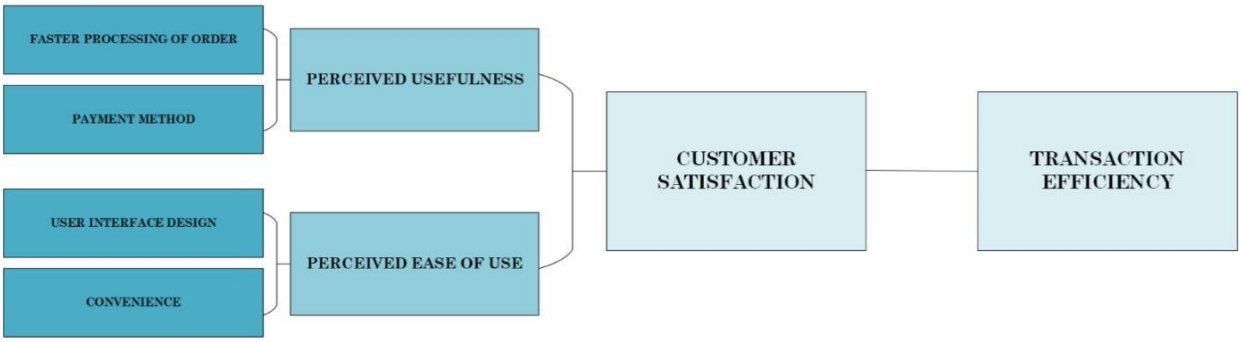
Beyond the dynamic producer-consumer interaction, SDL specifically pointed out how actors were intertwined thoroughly in exceptionally detailed networks or service ecosystems. These ecosystems eased a larger sharing of resources and greater coordination of actions, possibly resulting in emergent value outcomes that were especially challenging for a single entity to thoroughly predict or manage. S-D logic spread due to its qualities of uniting, transcending, accommodating, and transforming.

SDL developed into an interactive, systems-oriented perspective that recognized the essential role of social structures, shared norms, and institutions in value co-creation processes. Organizations made it easier to fully integrate resources smoothly across the entire ecosystem, control interactions, and reduce uncertainty. This relational and holistic approach allowed SDL to offer a comprehensive framework for understanding how businesses could interact with clients and other stakeholders efficiently to develop value propositions that helped both parties.

Conceptual Framework

Customer Satisfaction was a variable that identified the effect of using self-checkout kiosks. This identified the level of satisfaction of customers using automated ordering depending on their perceived usefulness and ease of use of select self-kiosks in select fast food. Aside from this variable, Transaction Efficiency was the dependent variable that determined how efficient and effective the operation was when customers used self-checkout kiosks, depending on their ordering experience.

The relationship between these variables showed how customer satisfaction with the use of self-checkout kiosks affected transaction efficiency in fast food settings, especially in ease of use. The factors that affected these variables included user interface design, convenience, payment methods, and faster processing of orders.



Research Questions

Self-checkout kiosks have become more common in the fast-food chains, understanding their impact on customer satisfaction and transaction efficiency has become essential. This study aims to determine the customers' satisfaction with the use of self-checkout kiosks and its effect on transaction efficiency in selecting fast food chains.

Specifically, it aims to answer the following questions:

1. How may the use of Self-checkout kiosks among the respondents be described?
2. How may the customers' satisfaction of Self-checkout kiosks be described in terms of:
    - 1.1 Ease of use;
    - 1.2 Usefulness; and
    - 1.3 Perceived Security Risk

3.How may the transaction efficiency of self-checkout kiosks be described? In terms of:

- 3.1 Speed ordering:
- 3.2 Perceived value; and
- 3.3 Self-efficacy

4.Is there a significant relationship between the use of self-checkout kiosks on the customers' satisfaction?

5.Is there a significant relationship between the use of self-checkout kiosks on the transaction Efficiency?

Significance of the Study

The findings of this study provide valuable insights to different stakeholders, specifically in the fastfood industry and users of self-checkout kiosks. For the managers of fastfood chains, the study highlights the fact that self-ordering kiosks provide these benefits, since customers are more satisfied while using self-ordering kiosks, complete their transactions faster, spend fewer minutes standing in lines, and have increased accuracy in their orders. This helps companies improve the responsiveness of a business's response to a kiosk system, increase customer loyalty and efficient operation, and meet the diverse preferences of users. For kiosk developers and manufacturers of support technology, the study offers insight into design and usability and assists them in improving such factors as ease of use and speed. The self-service kiosks examine how they improve the consumer experience and provide better service for individuals who prefer self-checkout kiosks rather than the over-the-counter system, particularly the overall experience of National University Baliwag's college students. Finally, for researchers, this study completes the missing information from other studies that lack evidence. As mentioned, this study supports other researchers and provides additional information that helps future researchers conduct their studies.

Scope and Delimitations

The objective of this quantitative study is to identify the impact of self-checkout kiosks on these two dependent variables: customer satisfaction and transaction efficiency in food services, specifically at SM City Baliwag. Using the stratified sampling technique, this study assesses the customer satisfaction and transaction efficiency of individuals regarding the self-checkout kiosks, particularly among students at National University-Baliwag.

This study is conducted in a span of 4 months with completing each chapter weekly. This study will focus only on customer satisfaction and transaction efficiency in select fast food chains. Non-food service industries are not covered in this study. Other technical specifications and financial impacts of business analyses will not be covered. Additionally, this research study will focus solely on National University-Baliwag's college students, excluding other demographic groups.

Methods Research Design

This study utilized a quantitative study using a descriptive survey and descriptive correlation to explore the relationship between self-checkout and customers' satisfaction and the relationship between self-checkout and transaction efficiency among National University-Baliwag college students. For this study, the descriptive survey was used to gather data from the participants using online questionnaires. On the other hand, the descriptive correlation enhances the information for the relationship between variables allowing us to have a broader idea and information in customers' satisfaction and transaction efficiency on self-checkout kiosks.

Respondents

The target population comprises of the college students at National University-Baliwag who had experience with self-checkout kiosks to be the respondents of the study. The stratified sampling is the type of sampling procedure used by the researchers. The stratified sampling was used for the selection of respondents to provide information that is related based on relevant characteristics such as their role as a student or other factors that might influence their experience with self-checkout kiosks on transaction efficiency in select fast food chain.

Instrument

Data were collected through a self-administered survey designed to capture information on Customer Satisfaction and Transactional Efficiency. The survey instrument is adapted from the research studies entitled " Exploring Customer Satisfaction with Self-Service Kiosk in Fast Food: A Study Among Uitm Permatang Pauh Students. " Conducted at the Universiti Teknologi MARA Cawangan Permatang Pauh Pulau Pinang (Ramli et al., 2024). "The adoption of selfservice kiosks in quick-service restaurants" conducted at the School of Hospitality, Food, and Tourism Management, University of Guelph, Guelph, Canada (Rastegar et al., 2021).

This survey includes questions that have been tested for reliability using Cronbach's alpha, ensuring consistent and reliable measurement of customer satisfaction and transactional efficiency. The scales show high internal consistency, with Cronbach's alpha values indicating that the items effectively measure the intended constructs. Additionally, the survey includes items adapted from existing research on self-service kiosks and transactional efficiency in fast food chains, ensuring the relevance of the study to the specific context of self-checkout kiosks in the selected fast-food establishments.

The analysis of reliability indicates that the tools are very reliable. Cronbach's alpha has high scores: 0.968, 0.936, and 0.955. These values suggest that the questions for every scale provided are precise and coherent in what they were measuring. All these scores, being more than 0.90, indicate that the reliability is exceptional. These results also indicate that the scales are useful for research as they are valid and reliable.

Data Gathering Procedure

Before starting the data collection, the researchers prepared all the necessary documents, including a letter requesting approval to conduct the study and the survey questionnaire. Once the permission was approved by the relevant administrative and academic authorities within the institution, researchers proceeded with distributing the online survey questionnaires using google forms to the selected respondents. The participants, who are students from National UniversityBaliwag, with experience in self-checkout kiosks, were oriented about the objective and purpose of survey and the significance of the study were also discussed. The participants were given enough time to construct their answers in the questionnaires. To ensure a well-represented sample of the population, the researchers will use stratified sampling. The participants will be divided into distinct subgroups or strata based on relevant characteristics such as their role as a student or other factors that might influence their experience with self-checkout kiosks. All the data collected will be used to identify the effect of self-checkout kiosks on the customers' satisfaction. The researchers also make sure that all the information provided by the participants will be kept confidential and used only for academic and research purposes. The students's involvement won't do any harm, and their dignity, privacy, and autonomy would be among the primary considerations of this study.

Data Analysis

The quantitative analysis will be performed on the data collected from the Likert scale questionnaire. For each item, a mean, median, mode and standard deviation will be computed to summarize customer perceptions of ease of use, usefulness, perceived security risk, speed of ordering, perceived value and self-efficacy. The Pearson's Correlation Coefficient (Pearson r) will also be used to examine the relationship between these elements and the utilization of self-service kiosks in restaurants.

Ethical Considerations

In conducting this research study on the advantages of applying self-service kiosks in restaurants, ethical issues are considered especially in the collection and treatment of participant data. The research seeks to understand how self-service kiosks can contribute to customer satisfaction, operational effectiveness, and business expansion in the restaurant sector. The purpose of the collection of personal data from participants is essential to acquire valid and informative data. We ensure all the participants that their personal details will be handled with utmost confidentiality and not be disclosed to unauthorized individuals. This study strictly complies with the Data Privacy Act of 2012 (Republic Act No. 10173), to ensure that all the data gathered shall be exclusively for purposes of this study and will be guarded against unlawful use, loss, and unauthorized access. The rights of participants to privacy, confidentiality, and informed consent will be upheld during the research process.

Results and Discussions

RESULTS

Table 1.

Descriptive Measures of Customers' Satisfaction with Self-Checkout Kiosks

Statements	**Mean**	**Standard Deviation**	**Verbal Interpretation**
Using self-checkout technology is convenient for me.	3.69	0.503	SA
Self-checkouts reduce the overall waiting time at the store.	3.42	0.717	A
Self-checkouts are easy to use and understand.	3.48	0.562	A
I feel more in control of my purchasing experience when using self-checkout Kiosks.	3.70	0.498	SA
Self-checkouts enhance the privacy and security of my personal information.	3.47	0.609	A
Self-checkouts provide a better overall purchasing experience compared to traditional cashier checkouts.	3.53	0.577	SA
TOTAL	3.55	0.429	SA

Legend for Table 1: Self-checkout

Mean > 3.5: Strongly Agree (SA)

Mean 3.0 - 3.49: Agree (A)

Mean 2.5 - 2.99: Agree to Disagree (A to D)

Mean 2.0 - 2.49: Disagree (D) Mean < 2.0: Strongly Disagree (SD)

Table 1 presented customer satisfaction regarding self-kiosks in terms of self-checkout. The calculated total mean for self-checkout was 3.55 with a standard deviation of 0.429, which was interpreted as "Strongly Agree (SA)." Prior to this category, most of the respondents found the self-checkout kiosks user-friendly and easy to navigate. According to this table, the statement "Using self-checkout technology was convenient for me," with a mean of 3.69 and a standard deviation of 0.503, indicated that using the self-checkout kiosk was convenient for the students of NU Baliwag. On the other hand, the lowest mean received a mean of 3.42 and a standard deviation of 0.717, which was the statement "Self-checkouts reduced the overall waiting time at the store." Regardless of the interpretation "strongly agree," it could be improved for them to have an enhanced experience in using the kiosks.

Table 2:

Descriptive Measures of Customers' Satisfaction of Self-Checkout Kiosks in Terms of Ease of Use

Statements	**Mean**	**Standard Deviation**	**Verbal Interpretation**

I find it easy to use the selfcheckout kiosk.	3.66	0.486	SA
The instructions displayed at the kiosk are clear and understandable.	3.54	0.561	SA
Learning to use the self-checkout kiosk in a quick service restaurant is easy.	3.55	0.594	SA
I could easily become skilled at using the kiosk.	3.55	0.570	SA
I find the self-service kiosks in fast food restaurants user-friendly.	3.53	0.586	SA
TOTAL	3.57	0.451	SA

Legend for Table 2: Easy to Use

Mean > 3.5: Strongly Agree (SA)

Mean 3.0 - 3.49: Agree (A)

Mean 2.5 - 2.99: Agree to Disagree (A to D)

Mean 2.0 - 2.49: Disagree (D) Mean < 2.0: Strongly Disagree (SD)

Table 2 illustrates customer satisfaction regarding self-checkout kiosk in terms of ease of use. The highest mean for this table corresponds to the statement "I find it easy to use the self-checkout kiosk," with a mean of 3.66 and a standard deviation of 0.486. On the other hand, the lowest mean was 3.53 with a standard deviation of 0.586, for the statement, "I found the self-service kiosks in fast food restaurants user-friendly," which indicated that some individuals may or may not have been able to adapt to this modern technology. The overall mean for ease of use was 3.57, with a standard deviation of 0.451, which was interpreted as "Strongly Agree (SA)." According to this table, the majority of the respondents found the self-checkout kiosks user-friendly and easy to navigate, with all of them falling into the "Strongly Agree" category.

Table 3.

Descriptive Measures of Customers' Satisfaction of Self-Checkout Kiosks in Terms of Usefulness

Statements	**Mean**	**Standard Deviation**	**Verbal Interpretation**
The kiosk provides complete information, such as meal choices and prices.	3.57	0.553	SA
The kiosk provides clear images of the different menu items.	3.60	0.539	SA
The kiosk allows me to browse the menu conveniently.	3.66	0.512	SA
TOTAL	3.61	0.470	SA

Legend for Table 3. Usefulness

Mean > 3.5: Strongly Agree (SA)

Mean 3.0 - 3.49: Agree (A)

Mean 2.5 - 2.99: Agree to Disagree (A to D)

Mean 2.0 - 2.49: Disagree (D) Mean < 2.0: Strongly Disagree (SD)

Table 3 showed the customers' satisfaction with regards to self-kiosks in terms of usefulness. This table showed that the highest mean was 3.66 and a standard deviation of 0.512, corresponding to the statement, “The kiosk allowed me to browse the menu conveniently,” indicating that respondents strongly agreed that they could easily browse the menu in the kiosks. On the other hand, the statement “The kiosk provided complete information, such as meal choices and prices,” received the lowest mean of 3.57 and a standard deviation of 0.533. While still interpreted as “Strongly Agree,” this suggested that providing complete information could improve customers’ perception of self-checkout kiosks. The calculated total mean for kiosk usefulness was 3.61 with a standard deviation of 0.470, which was interpreted as “Strongly Agree (SA).” Prior to this category, respondents were generally satisfied with their experience using self-checkout kiosks.

Table 4.

Descriptive Measures of Customers’ Satisfaction of Self-Checkout Kiosks in Terms of Perceived Security Risks

Statements	**Mean**	**Standard Deviation**	**Verbal Interpretation**
I feel safe when I make a payment using self-checkout kiosk.	3.35	0.568	A
I find it very easy to make the payment using self-checkout kiosk because it provides clear instructions that are understandable.	3.37	0.617	A
I feel very secure when using the kiosk.	3.36	0.593	A
TOTAL	3.36	0.518	A

Legend for Table 4. Perceived Security Risk

Mean > 3.5: Strongly Agree (SA)

Mean 3.0 - 3.49: Agree (A)

Mean 2.5 - 2.99: Agree to Disagree (A to D)

Mean 2.0 - 2.49: Disagree (D) Mean < 2.0: Strongly Disagree (SD)

Table 4 shows the customers trust with payment through kiosks in terms of perceived security risk. The highest mean for this table is 3.37 with a standard deviation of 0.617 corresponds to the statement, “I find it very easy to make the payment using a self-checkout kiosk because it provides clear instructions that are understandable.” indicating that the kiosks are coherent, making the students comfortable in using them. On the other hand, the statement “I felt safe when I made a payment using a self-checkout kiosk” received the lowest mean of 3.35 and a standard deviation of 0.568, suggesting that kiosk users needed to ensure customers’ payments were safe and away from risks. The calculated total mean for perceived security risk was 3.36 with a standard deviation of 0.518, which was interpreted as “Agree (A).” Prior to this category, the respondents felt secure using self-checkout kiosks, believing that their payment data was secure and easy to understand in the payment process. Regardless of having the lowest mean, it was still under the “Agree” category.

Table 5.

Descriptive Measures of Customers’ Satisfaction with Self-Checkout Kiosks

Statements	**Mean**	**Standard Deviation**	**Verbal Interpretation**
I think I did the right thing when I used the kiosk.	3.51	0.553	SA
My choice to use the kiosk was a wise one.	3.56	0.529	SA
The kiosk offered by restaurants exceeds my expectations.	3.41	0.617	A

Overall, I am satisfied with the kiosk at restaurants.	3.57	0.518	SA
TOTAL	3.51	0.484	SA

Legend for Table 5. Satisfaction

Mean > 3.5: Strongly Agree (SA)

Mean 3.0 - 3.49: Agree (A)

Mean 2.5 - 2.99: Agree to Disagree (A to D)

Mean 2.0 - 2.49: Disagree (D)

Mean < 2.0: Strongly Disagree (SD)

Table 5 showed the customers' satisfaction with regard to using kiosks. The calculated total mean for satisfaction was 3.51 with a standard deviation of 0.484, which was interpreted as "Strongly Agree (SA)." The statement "Overall, I was satisfied with the kiosk at restaurants" received the highest mean of 3.57 and a standard deviation of 0.518, indicating that the customers agreed that they were satisfied with the self-checkout kiosks. For the lowest mean, the statement "The kiosk offered by the restaurant exceeded my expectation" received a mean of 3.41 and a standard deviation of 0.617, meaning that compared to the other statements, students' insights about this statement were lower than the others.

Table 6.

Descriptive Measures of Customers' Satisfaction of Self-Checkout Kiosks in Terms of Speed of Ordering

Statements	**Mean**	**Standard Deviation**	**Verbal Interpretation**
Using the self-checkout kiosk will save my time.	3.50	0.582	SA
The kiosk allows me to browse the menu conveniently.	3.65	0.483	SA
The kiosk provides complete information, such as meal choices and prices.	3.60	0.548	SA
Using self-checkout kiosk during peak hours can decrease long waiting or queuing hours.	3.45	0.676	A
Language barriers can be reduced between customers and staff by using self-checkout kiosk.	3.52	0.562	SA
TOTAL	3.55	0.444	SA

Legend for Table 6. Speed Ordering

Mean > 3.5: Strongly Agree (SA)

Mean 3.0 - 3.49: Agree (A)

Mean 2.5 - 2.99: Agree to Disagree (A to D)

Mean 2.0 - 2.49: Disagree (D)

Mean < 2.0: Strongly Disagree (SD)

Table 6 showed the transactional efficiency with regard to self-kiosks in terms of speed ordering. The calculated total mean for speed ordering was 3.55 with a standard deviation of 0.444, which was interpreted as "Strongly Agree (SA)." Prior to this category, respondents strongly agreed that the kiosks allowed them to browse the menu conveniently, and that statement had a mean of 3.65 and a standard deviation of 0.483 as evidence. The statement "Using the self-checkout kiosks saved my time" received the lowest mean of 3.50 and a standard deviation of 0.582. Although it received the lowest mean, this statement's visual interpretation was still "Strongly Agree (SA)," which indicated that it was still useful for the consumers.

Table 7.

Descriptive Measures of Customers' Satisfaction of Self-Checkout Kiosks in Terms of Perceived Value

Statements	**Mean**	**Standard Deviation**	**Interpretation**
Using the kiosk makes my purchase easier.	3.62	0.515	SA
Using the self-checkout kiosk requires little energy to purchase.	3.49	0.636	A
Using the kiosk requires little effort.	3.49	0.627	A
Using the kiosk was a good value for money spent.	3.47	0.581	A
The kiosk lets me get my food in a timely manner.	3.40	0.691	A
TOTAL	3.49	0.492	A

Legend for Table 7. Perceived Value

Mean > 3.5: Strongly Agree (SA)

Mean 3.0 - 3.49: Agree (A)

Mean 2.5 - 2.99: Agree to Disagree (A to D)

Mean 2.0 - 2.49: Disagree (D) Mean < 2.0: Strongly Disagree (SD)

Table 7 showed the descriptive measure of transactional efficiency with regards to self-kiosks in terms of perceived value. The statement "Using the kiosk made my purchase easier" received the highest mean of 3.62 and a standard deviation of 0.515, revealing that students of NU Baliwag were more likely to use the kiosks when purchasing goods. On the other hand, the statement "The kiosk let me get my food in a timely manner" received the lowest mean of 3.40 and a standard deviation of 0.691, suggesting that restaurants should be organized and observe their waiting times. The calculated total mean for perceived value was 3.49 with a standard deviation of 0.492, which was interpreted as "Agree (A)." This showed that students' perception of the self-checkout kiosk was desirable for them.

Table 8.

Descriptive Measures of Customers' Satisfaction of Self-Checkout Kiosks in Terms of Self-Efficacy

Statements	**Mean**	**Standard Deviation**	**Interpretation**
Ordering food via kiosk is a task which I can perform well.	3.56	0.508	SA
I have all technical knowledge I need to use a kiosk.	3.59	0.524	SA
I am certain I can use the kiosk well.	3.59	0.520	SA
I feel confident that my skill at using the kiosk is just as good or	3.53	0.595	SA
even better than others who use the kiosk.			
TOTAL	3.57	0.460	SA

Legend for Table 8. Self-efficacy

Mean > 3.5: Strongly Agree (SA)

Mean 3.0 - 3.49: Agree (A)

Mean 2.5 - 2.99: Agree to Disagree (A to D)

Mean 2.0 - 2.49: Disagree (D) Mean < 2.0: Strongly Disagree (SD)

Table 8 showed the result in transactional efficiency with regards to self-kiosks in terms of selfefficacy. The calculated total mean for self-efficacy was 3.57 with a standard deviation of 0.460, which was interpreted as “Strongly Agree (SA).” For this table, two statements shared the highest mean. On the first statement, “I had all the technical knowledge I needed to use the kiosk,” they had the highest mean of 3.59 and a standard deviation of 0.524, and for the second statement, “I was certain I could use the kiosk well,” it also had the highest mean of 3.59 and a standard deviation of 0.520. According to this table, National University-Baliwag students were confident when using the self-checkout kiosks, and they were well aware of how to use the kiosk. On the other hand, the statement “I felt confident that my skill at using the kiosk was just as good or even better than others who used the kiosk” received the lowest mean of 3.53 and a standard deviation of 0.595. This table indicated that students believed that there were some other individuals who could use the kiosk better. Prior to this category, the respondents felt confident in their ability to use kiosks without the help of others; they were skilled in using self-kiosks without putting much effort into it.

Summary of Findings

The purpose of this research was to assess customer satisfaction with fast food chains' selfservice kiosks across several aspects such as usability, ease of use, usefulness, perceived security risks, transaction speed, and the contribution of demographic variables towards the levels of satisfaction. The research followed the procedures outlined in the previous chapter, and the responses to the research questions were gathered and tabulated as below:

The research aimed to quantify customers' satisfaction with the utilization of self-checkout kiosks in fast food chains. Findings indicated a general consensus among the participants to the convenience of use experience of the kiosks. A mean rating score of $\bar{x} = 3.69$ was achieved from the statement, "Using self-checkout technology was convenient for me," indicating the ease of use and usability of the kiosks. The lowest mean score ($\bar{x} = 3.42$) was assigned to the statement, "Selfcheckouts reduced the overall waiting time at the store," which shows that although the kiosks were convenient, there was scope for further improvement in reducing transaction time. The results were suggestive of a better customer experience through the utilization of self-checkout kiosks; however, further improvement could have made them more efficient.

The study examined the extent to which ease of use positively contributed to customer satisfaction with the kiosks. Findings confirmed that the customers felt the kiosks were easy to use, with the highest mean score ($\bar{x} = 3.66$) of the statement, "I found it easy to use the selfcheckout kiosk," which appeared to show that the majority of users experienced no difficulty. Conversely, the lowest mean score ($\bar{x} = 3.53$) was that of the statement, "I found the self-service kiosks in fast-food restaurants user-friendly," which appeared to show that there were customers who may have had to learn and take time. In terms of usefulness, findings revealed the respondents

concurred that the kiosks were useful ($\bar{x} = 3.61$), with the highest score ($\bar{x} = 3.66$) being that of the statement, "The kiosk allowed me to browse the menu conveniently."Some of the customers, however, reported that additional information about the meals and prices could have been provided ($\bar{x} = 3.57$). In relation to security, customers largely reported that the kiosks were safe ($\bar{x} = 3.36$), and an even higher rating was provided for the statement, "I found it easy to make payments using a self-checkout kiosk" ($\bar{x} = 3.37$).Some of the respondents still had doubts about security ($\bar{x} = 3.35$), which suggests that the addition of additional security features would have added to customer trust.

The study also explored to what assessed the self-service checkout kiosks affected transactional efficiency, and the focus was on the speed aspect. The majority of customers were in agreement ($\bar{x} = 3.55$) that the kiosks fostered transactional efficiency. The most extreme mean value ($\bar{x} = 3.65$) was recorded on the statement, "The kiosks allowed me to scan the menu with ease," thus verifying their contribution to effective ordering. The lowest mean score ($\bar{x} = 3.50$) was given for the statement, "Using the self-checkout kiosks saved my time," showing that although kiosks saved waiting time, some customers took longer. With regard to perceived value, the respondents accepted that the kiosks supplemented the transactions in a positive way ($\bar{x} = 3.49$), with the most highly rated ($\bar{x} = 3.62$) being the statement, "Using the kiosk made my purchase easier." Some of the respondents, though, expressed that the process of fulfilling the orders could have been accelerated ($\bar{x} = 3.40$). On self-efficacy, respondents stated they trusted they could utilize the kiosks ($\bar{x} = 3.57$), with the highest score ($\bar{x} = 3.59$) for statements concerning possessing the technical skills required to utilize the kiosks and trusting in their ability to utilize the kiosk effectively. However, it was acknowledged that the skill levels differed among the users, as indicated by the lowest score ($\bar{x} = 3.53$) on the statement, "I felt confident that my skill at using the kiosk was equally good or even better than others."

The research conclude that self-checkout kiosks positively impacted customer satisfaction and transactional efficiency for fast-food chains. Customers appreciated their usability, functionality, and perceived ease of convenience, but security improvements and shorter waiting times were notice to be crucial. Additionally, demographic characteristics, especially technology experience, played a very crucial role in shaping customer satisfaction levels. The findings emphasized the continued use and upgrade of self-checkout kiosks for the fast-food industry to further enhance customer experience.

Conclusion

The results and findings of the study suggested that students’ perception of self-checkout kiosks regarding convenience, ease of use, satisfaction, value, and even the effort needed to punch in the ordered details was highly positive. The self-checkout kiosks were reported as very effective by the students. Customers said that they believed self-checkout kiosks aided in making the purchasing process more effective by cutting down on the amount of time one had to wait in line, as well as having the ability to provide better privacy and security. Furthermore, based on the students’ data, they were able to operate the kiosks with instructions that were in plain and simple language, which greatly enhanced the usability of the system.

As noted in the results of the previous analysis, self-checkout kiosks were equipped with features that allowed them to provide complete and easy-to-understand information regarding the products for customers who wanted to view the menus without assistance. Some concerns still existed in regard to the security issues surrounding the process, as some believed that while the payment processing phase was easy to understand, more opportunities could have been provided to increase data security trust.

From the comments, it seemed evident that customers remained satisfied with the selfcheckout services, saying that because of the kiosk, they were able to transact much faster, had fewer interactions with the staff, and even overcame language barriers. Respondents had a positive impression of self-checkout kiosks because the kiosks made it easier for them to make purchases with little effort. Moreover, customers showed high self-efficacy when it came to utilizing kiosks, as they seemed to be confident in their ability to manage the system effectively.

Looking at the conclusions drawn, it could be stated that self-checkout kiosks played a vital role in enhancing the purchasing experience. Nevertheless, students' trust and satisfaction could have been even deeper with constant advancements in security measurements as well as further boosts in system efficiency.

The theory for this study, namely: Service-Dominant Logic (SDL) theory, was based upon which asserted perceived ease of use and perceived usefulness as major features that affected consumers' adoption of technology. It had been most employed in examining customers' behavior when technologies were self-serviced like kiosks at fast food restaurants. The results showed that while customer satisfaction depended significantly on the perceived usefulness and the ease of use, customers' intention to adopt the technology was also considerably affected by the intrinsic motivation of the enjoyment that they experienced (Rastegar et al., 2021). Motivating factors included satisfaction's perceived value.

These insights could have been useful to a large number of researchers. Understanding the user experience was certainly central to the self-order kiosk installation project for fast-food restaurants. Overcoming security challenges, offering simple operating instructions, and remodeling the design of the kiosks positively impacted customer experiences. Moreover, enabling employees to assist customers more helped to overcome the technological barrier for first-time users. All these actions together assisted the realization of a more user-friendly system and encouraged client loyalty and repeat business (Davis, 1986; Cronin et al., 2000).

Future research could focus on the self-service kiosk's longitudinal effects on customer loyalty in different demographic groups. Also, research on how factors such as age, gender, and experience with technology impacted perception could have constructed clearer user behavioral models. These aspects could have been important for more accurate planning of self-service kiosks implementation and contributed to a greater understanding of technology adoption in the hospitality industry (Morosan, 2011; Kim & Qu, 2014).

Recommendation

Specific suggestions are made in the study for businesses and organizations seeking to enhance their customer experience when using self-checkout kiosks. Here are some of those suggestions:

- Improvement on Security – Some customers have data safety concerns, and businesses should improve customer trust by using payment systems that offer encryption, customer validating steps, and assurance that the user's data is secure.
- Improvement on System Speed – Self-checkout systems are highly recommended by customers who want to save time. Businesses need to invest resources to make selfcheckout systems more responsive, minimize errors, and ensure faster and smoother processing of transactions.
- Use Clear and Simple Instructions – To cater to all kinds of users, kiosks should contain a user-friendly system and easily readable instructions that outline the procedure in clear steps. Including graphics and multilingual options increases user-friendliness even further.
- Offer Employee Assistance – Regardless of the no human-interaction system that the selfcheckout kiosks promote, some customers may need assistance, especially during their first encounter with self-checkout kiosks. Staff members can offer help at the kiosks to increase customer satisfaction.
- Improve Kiosk Design – Improving kiosk layouts to the extent of the customers' understanding of the system increases ease of usage. Additional enhancements, such as larger controls and provisions for the physically challenged or elderly, enhance ease of operation.
- Study Long-Term Customer Behavior – Further analysis explores the impacts of selfcheckout kiosks on customer retention in the long run. Moreover, analyzing the importance of demographic variables such as age or gender and the level of technology use in kiosk interaction helps customers in service customization.

By taking these steps, firms enable self-checkout kiosks to mitigate loss and make operations more user-friendly. Above all, it provides a pleasant ordering experience, increases confidence, and improves consumer satisfaction.

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