

Investigating the Adoption of Quinos POS in Jakarta's Restaurant Industry: An Integrated UTAUT Approach

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Abstract. This study aims to identify factors influencing the adoption of Quinos POS systems based on modifications to the Unified Theory of Acceptance and Use of Technology (UTAUT). Prior literature lacks insights on drivers of POS system usage. Quantitative survey methodology was utilized to collect data from 210 cafes/restaurants in Jakarta using Quinos POS. The findings indicate that performance expectancy, effort expectancy, system quality and interactivity significantly influence behavioral intentions to use Quinos POS, while facilitating conditions do not. System quality and interactivity emerged as key differentiators for POS adoption. The results provide valuable practical implications for POS system designers and vendors.

Keywords: Point of sale, Interactivity, UTAUT Model, System Quality

1. Introduction

Accurate documentation or resolution of business transactions is essential for tracking the generated revenue. Point of Sale (POS) is crucial in recording payments as it serves as an indicator in the economy, serving as a tool to measure income levels (Grawidi Yuarita and Marisa n.d.). The Sales System goes beyond mere buying and selling transactions; it also integrates accounting calculations, merchandise and inventory management, employee payroll materials, purchase ledger calculations, and many other functions (Sains. 2017). PT Quinos POS Teknologi is a company specializing in the sale of point of sale systems, established in 2006. The company offers point of sale software and supporting devices such as all-in-one computers, printers, cash registers, and other related equipment. PT Quinos POS Teknologi targets all companies in the food and beverage industry, as well as other industries utilizing point of sale systems as cash register solutions. The fluctuating and dynamic nature of the business environment has increased uncertainty for individual companies, owing to globalization and internalization (Erina Sudaryati 2020).

Quinos POS comes with various features, including Quinoscloud, QMember, Order Box, and Quinos Tablet, alongside its primary point-of-sale function. Although Quinos POS offers many features, some cafes or restaurants that have used Quinos POS have decided not to continue using it as their cash register system. Among them are major groups such as Kopi Kenangan and Yoshinoya. The rapid growth of these two groups has rendered Quinos POS incapable of accommodating the multi-outlet needs required for both groups. As a result, both major groups have opted to replace their point of sale systems with another system. To further strengthen this research, the author conducted an initial questionnaire distributed to Quinos users through sampling. This questionnaire is anticipated to provide clarity on the selection of variables that will be utilized for conducting additional research. The number of respondents for the initial questionnaire was 21, and the samples were obtained by distributing a Google Form to the respective outlet managers. From the results of the distributed questionnaire, several conclusions were drawn based on field observations.

1. There are still many obstacles occurring in the field that disrupt restaurant operations. Quinos POS is an application for sales or Point of Sale systems, so any issues regarding printers for printing receipts or printers for the kitchen or bar will significantly disrupt the operations of the restaurant or cafe. Quinos' current solution is to visit the cafe or restaurant and reinstall the existing printer drivers. Related Variable are Performance Expectancy and Effort Expectancy.
2. More disruptions are experienced in terms of the network (Local Area Network). Because the printer used is connected via Local Area Network and uses UTP CAT5/CAT6 cables, if there is a cable break or the RJ45 connector attached to the printer and Switch HUB is faulty, then the performance of the Quinos POS will be disrupted because the command to print to the printer is interrupted. Quinos' solution to this issue currently is to visit the cafe or restaurant and replace its RJ45 connector. Related variable is Facilitating Conditions.
3. The length of response time during payment becomes one of the challenges in using the Quinos POS system. The feature to generate reports within a certain timeframe takes a very long time, and often the Quinos system freezes during the report generation process. The current solution is to wait until the application returns to normal operation. Related variable is System Quality.
4. The response from the Quinos technical team when issues occur is also highlighted in this research because the prompt assistance from Quinos POS technicians is crucial for the smooth operation of Quinos POS. The current solution is to respond to all troubleshooting inquiries received via WhatsApp chat or phone calls. Related variable is Interactivity.

2. Literature Review

In this research, the authors expand the conventional UTAUT model by incorporating variables of system quality and interactivity. In this section, the author furnishes a description of each variable utilized in the hypotheses of the study.

2.1. The Unified Theory of Acceptance and Use of Technology (UTA)

UTAUT, or the Unified Theory of Acceptance and Use of Technology, is one of the commonly utilized models in researching user acceptance towards an Information System (IS). UTAUT is a model developed by (Venkatesh. n.d.) drawn from several theories considered most impactful among the eight technology acceptance models previously conducted. These eight models include Derived from various theories deemed highly influential, UTAUT is a model that amalgamates insights from eight previously conducted technology acceptance models : Theory Reasoned Action (TRA), Social Cognitive Theory (SCT), Theory Acceptance Model (TAM), Model Of PC Utilization (MPTU), Motivational Model (MM), Combined TAM and TPB, Theory of Planned Behavioral (TPB).

In the study conducted by (Venkatesh. n.d.), four variables were found to have a significant impact on Behavioral Intention and Use Behavior. These variables include Performance Expectancy, Effort Expectancy, Social Influence dan Facilitation Condition. The four independent variables have a direct and indirect impact on the two other variables, Behavioral Intention and Use Behavior. In addition to the mentioned six variables, there are also four moderator variables - Gender, Age, Experience, and Voluntariness of Use. This leads to the framework of the UTAUT Model

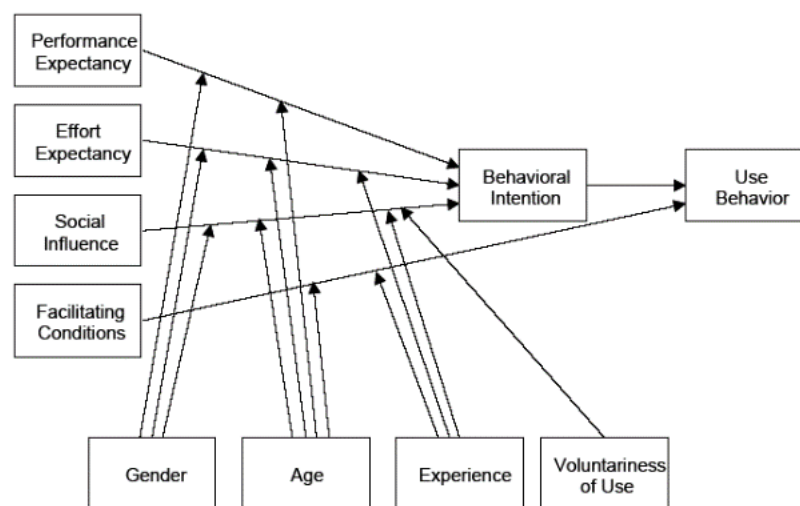


Fig. 1: UTAUT Model

2.2. Performance Expectancy

The impact of Performance Expectancy has demonstrated effectiveness in both voluntary and obligatory situations, even in scenarios with limited experience (Ayaz and Yanartaş 2020). Nevertheless, from a theoretical perspective, Performance Expectancy may differ based on gender and age (Venkatesh. n.d.).

In this research, the perception of performance expectations serves as a gauge to assess the users' sense of efficiency in utilizing the system for tasks such as cashier transactions, business management, or other supplementary features. Performance Expectancy is the measure of how much benefit users perceive from technology when carrying out particular activities (Raffaghelli. 2022). Previous research has revealed that performance expectancy positively influences behavioral intention (Shabrina and Sfenrianto 2023).

H1. Performance expectations have a positive influence on behavioral intentions.

2.3. Effort Expectancy

Effort Expectancy is defined as the level of ease in using a system. As per (Ayaz and Yanartaş 2020) Effort Expectancy is the exerted effort that impacts behavioral intention, whether in voluntary or

mandatory user contexts. The factors of Age, Gender, and Experience exhibit variations in terms of effort expectancy, as indicated by (Venkatesh. n.d.). In this research, effort expectation is characterized as the perceived operational ease that users experience when utilizing the system to access all its features. Previous research has revealed that effort expectancy significantly affected behavioural intentions (Abbad 2021).

H2. Effort expectations have a positive influence on behavioral intentions.

2.4. Interactivity

Interactivity refers to the extent to which a user perceives a system as responsive, flexible, and capable of supporting two-way communication processes (Menon and Shilpa 2023). Interactivity can also play a role in stimulating consumer imagination when shopping on a mobile website due to limitations in social presence and sensory experiences (Park and Yoo 2020). Interactivity is often considered associated with positive behavioral and cognitive responses (Yoon 2016). In this research, interactivity is defined as the speed of the support team's response in Quinos POS when problems arise.

H3. Interactivity have a positive influence on behavioral intentions.

2.5. Facilitating Condition

The presence of dedicated resources and technical infrastructure can be regarded as facilitating conditions influencing the role of trust in intention. Facilitating Conditions are characterized by users' perceptions of available resources and support while carrying out tasks (Raffaghelli. 2022). In this study, facilitating conditions are defined as the conditions which users believe they can use the system properly so that the system can support business performance (Shabrina and Sfenrianto 2023).

H4. Facilitating condition have a positive influence on behavioral intentions.

2.6. System Quality

The quality of the system is characterized by the desirable features inherent to the system itself (Sabeh. 2021). Their findings indicate that only social influence, system quality, and facilitating conditions have a notable positive influence on behavioral intention (Sabeh. 2021). The identification of system quality relies on factors such as reliability, accessibility, user-friendliness, and functionality.(Al-Azawei and Al-Azawi 2021). System quality pertains to how easily the system can be used and utilized without specific challenges (Alzahrani. 2019). In this research, system quality is defined as the degree of ease in using Quinos POS.

H5. System quality have a positive influence on behavioral intentions.

2.7. Behavioural Intention

Behavioral intention is characterized by the extent to which an individual consciously plans to engage or abstain from specific future behaviors. In the foundational concepts of user acceptance models, Behavioral intention acts as the intermediary construct between perceptions of information technology use and the actual use behavior. According to (Venkatesh. n.d.), Behavioral Intention is the degree of users' willingness to utilize the system within a specific timeframe, assuming that users have access to the information technology. In this research, behavioral intention is interpreted as the intent to utilize Quinos POS.

H6. Behavioral Intention have a positive influence on use behavior.

3. Research Methodology

This research employs a quantitative approach with a sample of 323 participants situated in DKI Jakarta. All participants are employees of cafes and restaurants utilizing Quinos POS. Surveys were created and distributed to participants through Google Forms by whatsapp personal chat or group chat to the responden. Respondents were required to click and respond to the questionnaire provided through the

provided link. The responses were collected and stored using Google Form technology. The provided questionnaires will be assessed using a Likert Scale, a commonly used measurement scale in questionnaire-based research.

Table 1 Respondent Profile

Indicator	Respondent Profile	
Position	Cashier	118 (36,53 %)
	Waiter/Waitress	157 (48,61 %)
	Supervisor	17 (5,26 %)
	Manager	16 (4,95 %)
	Management	15 (4,65 %)
Age	18-28 y.o	231 (71,52 %)
	29-39 y.o	88 (27,24 %)
	40-50 y.o	4 (1,24 %)
Location	West Jakarta	131 (40,56 %)
	North Jakarta	79 (24,46 %)
	South Jakarta	44 (13,62 %)
	Central Jakarta	35 (10,53 %)
	East Jakarta	34 (10,53 %)
Gender	Male	166 (51,39 %)
	Female	157 (48,61 %)

There are 323 employees who participated in this study as responders. Given that Table 1 shows that 157 respondents, or 48.61% of all Quinos POS users, occupy the role of Waiter/Waitress. This is clearly the largest share of respondents. There are 118 replies, or 36.53%, for the cashier post. There are 16 responders, or 4.95%, for the Manager role, and 15 replies, or 4.65%, for the Management position. Based on the data, waiters and waitresses are the most common Quinos POS users.

West Jakarta, with 131 responses, or 40.56%, is the region using Quinos POS the most, according to Table 5 above. East Jakarta has 34 respondents, or 10.53%, Central Jakarta has 35 respondents, or 10.83%, and North Jakarta has 79 respondents, or 24.46%. South Jakarta has 44 respondents, or 13.62%. Quinos POS is widely used in West Jakarta because of the substantial influx of new eateries and cafes, especially in the Pantai Indah Kapuk (PIK) sector. The Tangerang Regency is also seeing an increase in this tendency.

The methodology employed for data processing and analysis in this study, based on the questionnaire results, utilizes the Structural Equation Model (SEM). SEM is chosen in this research as it can assess both the measurement model and structural model simultaneously. The analysis of data will be conducted using SmartPLS application version 4.0.9.9, encompassing stages such as validity testing, reliability testing, and hypothesis testing.

3.1. Research Model

This research is conducted to identify the factors influencing the use of Quinos POS using the modified Unified Theory of Acceptance and Use of Technology (UTAUT) method. This methodology is utilized to examine whether Intention (Behavioral Intention) and Usage Behavior (Use Behavior) on Quinos POS are impacted by Performance Expectancy, Effort Expectancy, and Facilitating Conditions. Moderation variables like User Voluntariness (Voluntariness of Use) and Social Influence are not incorporated in this study, given that the research is focused on respondents who are restaurant staff either starting or already using Quinos POS within a specific timeframe.

The extend variables that add to UTAUT model in this study are System Quality and Interactivity. According to (Park and Yoo 2020), there are four indicators of interactivity, namely:

Table 2. Interactivity

1	Process very quickly
2	Information very fast
3	Information without any delay
4	Instantaneous information

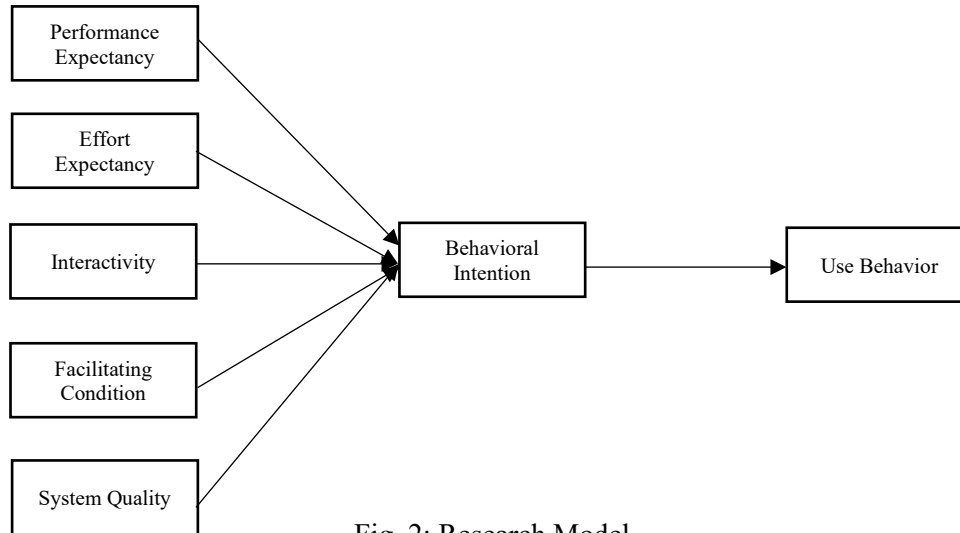


Fig. 2: Research Model

The table below provides an explanation of the indicators used for each variable :

Table 3. Variable and indicators

Variable	Indicator	Source
Performance Expectancy	PE1. Accelerating work processes.	(Abbad 2021)
	PE2. Beneficial for tasks.	(Ayaz and Yanartaş 2020)
	PE3. Enhancing overall performance.	(Ayaz and Yanartaş 2020)
	PE4. Simplifying job responsibilities.	(Ayaz and Yanartaş 2020)
	PE5. Easy access to information.	(Arif, Ameen, and Rafiq 2018)
Effort Expectancy	EE1. Easy to learn.	(Ye, Zheng, and Yi 2020)
	EE2. Easily understandable.	(Abbad 2021)
	EE3. Simple to teach.	(Ayaz and Yanartaş 2020)
Interactivity	IA1. Support team assistance is very prompt.	(Park and Yoo 2020)
	IA2. Information from the support team is very fast.	(Park and Yoo 2020)
	IA3. Information provided by the support team is very accurate.	(Park and Yoo 2020)
	IA4 The support team responds very quickly.	(Park and Yoo 2020)
System Quality	SQ1. Reliable.	Al-Azawei and Al-Azawi 2021)
	SQ2. Provides information very quickly.	(Riasti and Nugroho 2019)
	SQ3. Comfortable to use.	(Riasti and Nugroho 2019)
	SQ4. Easy to use.	(Isaac. 2019)
Facilitating Condition	FC1. Facilities are adequately available.	(Isaac . 2019)
	FC2. There is knowledge on how to use it.	(Raza . 2021a)
	FC3. Compatible with what I already have.	(Arif, Ameen, and Rafiq 2018)
	FC4. There is assistance available.	(Kim and Lee 2022)
Behavioral Intention	BI1. Frequently used.	(Al-Azawei and Al-Azawi 2021; Ayaz and Yanartaş 2020)
	BI2. Obtaining information.	(Arif, Ameen, and Rafiq 2018)
	BI3. ntending to use in the future.	(Almaiah, Alamri, and Al-Rahmi 2019)
Use Behavior	UB1. I am a regular user.	(Abbad 2021)
	UB2. Tasks are completed with Quinos.	(Abbad 2021)
	UB3. Using Quinos POS is a good idea.	(Raza . 2021a)

4. Result And Analysis

To determine the validity and reliability of each indicator, the link between indicators and latent variables is assessed using the outer model. Quinos POS was the instrument used in this study's convergent validity test. Outer loading should exceed 0.7 because the square of that number indicates that the construct score covers at least 50% of the variable's variance (J F Hair . 2017). Every variable complies with the rule, and every associated variable is deemed useable (Manley . 2021).

4.1. Validity and Reliability Test

Examining the respondents' consistency and stability in responding to the questionnaire's questions is the goal of validity and reliability testing. When all constructs have loading factor values greater than 0.7, all constructs have Cronbach's alpha values greater than 0.7, and all constructs have composite reliability (CR) values greater than 0.7, the study's construct results are deemed valid. Practically speaking, both reliability criteria should be more than 0.70 hair(Joe F. Hair, Howard, and Nitzl 2020).

The Average Variable Extracted (AVE) value also demonstrates convergent validity on the outer model. The manifest/indicator variables' degree of diversity within the concept is expressed by the AVE value. An AVE value of at least 0.50 is advised. Every CR number is higher than the suggested threshold of 0.7, and every AVE value is higher than the minimal requirement of 0.5 (Jeong and Kim 2020).

Table 4. Summary Validity and Reliability Test In Quinos POS

Variable	Code	Loading Factor	CR	Cronbach's Alpha	AVE	Status
Behavioral Intention	BI1	0.818	0.857	0.749	0.667	Valid
	BI2	0.857				
	BI3	0.773				
Effort Expectancy	EE1	0.759	0.861	0.757	0.674	Valid
	EE2	0.873				
	EE3	0.827				
Facilitating Condition	FC1	0.740	0.863	0.789	0.612	Valid
	FC2	0.800				
	FC3	0.780				
	FC4	0.808				
Interactivity	IA1	0.808	0.866	0.794	0.619	Valid
	IA2	0.843				
	IA3	0.784				
	IA4	0.744				
Performance Expectancy	PE1	0.801	0.886	0.840	0.610	Valid
	PE2	0.822				
	PE3	0.746				
	PE4	0.778				
	PE5	0.755				
System Quality	SQ1	0.744	0.851	0.767	0.589	Valid
	SQ2	0.801				
	SQ3	0.766				
	SQ4	0.758				
Use Behavior	UB1	0.832	0.858	0.752	0.669	Valid
	UB2	0.842				
	UB3	0.779				

4.2. Hypothesis Testing

Analyzing the T Statistics and P value completes the hypothesis testing process. If the P value is less than 0.05 and the T statistic is greater than 1.96, the hypothesis is accepted and the hypothesis is rejected

if the T statistic is <1.96 and the P value is >0.05 .

Table 7. Result hypothesis testing

Hypothesis	Value		Status
	T Statistic	P value	
H1	3.999	0.000	Accepted
H2	1.989	0.047	Accepted
H3	1.366	0.172	Rejected
H4	2.631	0.009	Accepted
H5	1.899	0.058	Rejected
H6	20.127	0.000	Accepted

4.3. Verification of Research Hypothesis Result

H1 : The findings of testing Hypothesis 1 indicate a t-statistic value of 3.999, which is higher than the usual value of 1.96, based on Table 7. This suggests that Behavioral Intention (BI) is significantly influenced by Performance Expectancy (PE). Given that the P-Value is less than the conventional P-Value of less than 0.05 (0.000), it can be concluded that there is a statistically significant relationship between Performance Expectancy (PE) and Behavioral Intention (BI). Based on the results obtained in Table 7, it can be concluded that H1 is accepted. Therefore, it can be inferred that the better the performance of Quinos POS, the higher the user's intention, represented in this case by the Behavioral Intention (BI) variable.

H2 : Furthermore, in Table 7, we can observe that for Hypothesis 2, the t-statistic value is 1.989, which is greater than the standard value of 1.96. This indicates that Effort Expectancy (EE) has an impact on Behavioral Intention (BI). The p-value for Hypothesis 2 is 0.047, and this value is less than the expected p-value of 0.05. This implies that Effort Expectancy (EE) significantly influences Behavioral Intention (BI). Based on Table 7, the conclusion can be drawn that H2 is accepted. Therefore, it can be inferred that the easier the use of Quinos, the more comfortable users are in incorporating Quinos into their daily work.

H3 : With a t-statistic result of 1.366, which is smaller than the standard value of 1.96, the data in Table 7 for Hypothesis 3 indicates that Interactivity (IA) does not have a significant impact on Behavioral Intention (BI). The p-value for Hypothesis 3 is 0.172, which is also greater than the standard p-value of 0.05. This means that Interactivity (IA) does not significantly influence Behavioral Intention (BI). Table 7 leads to the conclusion that H3 is rejected. Consequently, it can be deduced that Quinos offers little support in the event of problems, which causes customers who depend on Quinos for their everyday tasks to become dissatisfied.

H4 : According to Table 7, it can be concluded that Hypothesis 4 is accepted, and H0 is rejected. This indicates that System Quality (SQ) has a significant impact on Behavioral Intention (BI), as evidenced by the t-statistic value of 2.631, exceeding the standard value of 1.96. Additionally, the p-value for Hypothesis 4 is 0.009, which is below the standard threshold of 0.05, signifying the significant influence of System Quality (SQ) on Behavioral Intention (BI). It is clear from Table 7's results that H5 is confirmed. This implies that Quinos is operating effectively and greatly assisting the respondents with their work.

H5 : With a t-statistic result of 1.899, which is smaller than the standard value of 1.96, the data in Table 7 for Hypothesis 5 indicates that Facilitating Condition (FC) does not have a significant impact on Behavioral Intention (BI). The p-value for Hypothesis 5 is 0.058, which is also greater than the standard p-value of 0.05. This suggests that Facilitating Condition (FC) does not significantly influence Behavioral Intention (BI). Based on the data presented in Table 7, it can be inferred that H5 is refuted. This implies that the hardware infrastructure in the respondents' workplaces is insufficient for the optimal functioning of Quinos, leading to frequent disruptions.

H6 : Moreover, in Table 7, Hypothesis 6 exhibits a t-statistic value of 20.127, which significantly surpasses the required standard value of 1.96. This indicates that Behavioral Intention (BI) has a substantial impact on Use Behavior (UB). The p-value for Hypothesis 6 is recorded as 0.000, which is less than the expected p-value of 0.05. This signifies that Behavioral Intention (BI) significantly influences Use Behavior (UB). Based on Table 7, it can be concluded that H6 is accepted. This indicates that the respondents perceive using Quinos as an activity that is essential in their daily work.

4.4. Verification of Research Hypothesis Result

Behavioral Intention has the greatest t-statistic value among the variables analyzed in Table 7. The acceptance of Hypothesis H6 supports the highest t-statistic's conclusion, which is that Behavioral Intention is the main element that significantly determines Use Behavior. Thus, in order to positively influence Use Behavior, this research can investigate variables that intervene in Behavioral Intention (Wijaya . 2022). It follows that when behavioral intention becomes a significant influencing element, the use of apps like Quinos POS is likely to happen.

Performance Expectancy also has a significant t-statistic value concerning Behavioral Intention. Therefore, the performance of an application greatly influences users' willingness to use it, as supported by the acceptance of Hypothesis H1. The findings indicate a positive relationship between Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Social Isolation towards the Behavioral Intention of the application, as well as between the Behavioral Intention of the application and user behavior (Raza . 2021b). Consequently, in this study, it can be concluded that the performance of Quinos POS is considered adequate and meets the standards desired by its users.

The System Quality of Quinos POS also obtained a significant t-statistic value, indicating that the quality of this application's system is indeed excellent and reliable. This is supported by the acceptance of Hypothesis H4, stating that System Quality has a positive influence on Behavioral Intentions. Additionally, Effort Expectancy also received a good t-statistic value, indicating that Quinos POS is easy to use and learn, which is reinforced by the acceptance of H2. However, it is essential to note that continuous improvement in the quality and performance of the Quinos POS system is still necessary to support the smooth operation of restaurants or cafes relying on Quinos POS as their cashier system.

Furthermore, Behavioral Intention is not influenced by Facilitating Condition and Interactivity, as evidenced by the rejection of Hypotheses H3 and H5. This demonstrates that Quinos POS users will continue to use Quinos even if the facilities and technical support response during disruptions are relatively low. This is due to the nature of Quinos POS being a one-time payment application, allowing perpetual usage. The pricing for Quinos POS is relatively higher compared to most other POS applications, making the investment in this point-of-sale application for cafes or restaurants significant. This investment might not be as beneficial if replaced by another point-of-sale application.

Based on the analysis results, it can be concluded that the use of the Quinos POS application will increase when users have the intention (Behavioral Intention) to use it. Factors contributing to the formation of Behavioral Intention include Performance Expectancy, Effort Expectancy, System Quality, Facilitating Condition, and Interactivity. Therefore, an increase in Behavioral Intention is expected to drive an increase in the usage (Use Behavior) of the Quinos POS application.

5. Conclusion

This study's outcomes contribute new insights on POS adoption by expanding the UTAUT lens. By identifying system quality and interactivity as key drivers, the results provide guidance to POS vendors like Quinos POS regarding areas of focus. This study aims to identify the factors influencing the success of Quinos POS usage in the cafe and restaurant environment. Quinos POS is a sales system designed to enhance business efficiency at the Micro, Small, and Medium Enterprises (MSMEs) level. The research approach is quantitative, involving the distribution of questionnaires through Google Form to 323 employees working in restaurants and cafes in the Jakarta Special Capital Region (DKI Jakarta). The

conclusions are limited by the small sample of Jakarta cafes and warrant confirmation through wider studies. Overall, the integration of UTAUT with system and service quality factors provides a valuable framework to guide future POS technology acceptance research.

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