

CUSTOMER SATISFACTION ON E-BANKING SERVICES AMONG UNIVERSITY STUDENTS IN MALAYSIA



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ABSTRACT

Electronic banking (e-banking) has become increasingly important due to its convenience and benefits to banking customers. The purpose of this study is to examine the factors influencing customer satisfaction with e-banking services among university students in Malaysia. Using a standardized questionnaire, the study utilized a cross-sectional design to collect data from 87 students based in Selangor, Malaysia. The findings show that reliability, security, and perceived usefulness are positively associated with customer satisfaction with e-banking services. These results indicate that customers are more attracted to banks that allow faster transactions via online portals, which are readily available, and customers perceive the system's usefulness in continuing their usage. In addition, customers stress the effectiveness of the website security system as they are concerned with the privacy of their personal information and the safety of their financial transactions while using e-banking. Understanding the factors influencing customer satisfaction with e-banking services will help banking institutions in Malaysia to deliver their customers an effective website with an appropriate setting and upgraded technological development to deliver first-class conditions services.

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INTRODUCTION

It is known that electronic banking (e-banking) has become one of the most important services in our daily life. As a distribution channel medium, e-banking allows banking customers to perform banking activities with ease at anytime and anywhere (Saidi et al., 2016). However, e-banking services are not always perfect. In fact, there are still some negative feedbacks from the users of e-banking services. For instance, customers mentioned internet security, online banking regulations, and customers' privacy as the most important future challenges of e-banking in India (Kaushal & Balaini, 2016). In addition, customers concerned very much on the fact that there is fear of identity theft and disclosing private information in online or e-banking (Mogos & Jamail, 2021). They feel bank may invade their privacy by utilising their information for marketing and other secondary purposes without consent of consumers. People feel very much irritated when they received calls for credit cards or insurance offers (Kumar & Mehrotra, 2022). Therefore, it is important for financial institutions to listen to these feedbacks and make improvements, as all of these are the key determinants that will directly affect customer satisfaction as well as the reputation and performance of the financial institutions.

Increased competition and recent technological developments in the financial sector towards customer satisfaction have created awareness toward the e-banking services (Liébana-Cabanillas et al., 2013). They added that many attempts have been made to justify differentiation and customer's preference in terms of satisfaction with the e-banking services that customers received given that most financial institution offers similar products and services. Customers now demand new levels of convenience and flexibility in addition to powerful and easy services that traditional means cannot offer leads to understand how customers perceive and evaluate e-banking service is vital for banks to succeed in the marketplace. Because of the products offered to the customers of a bank are more or less standardized in nature, there is an increasing need to

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differentiate themselves from the competitors on other criteria that can influence customer satisfaction and loyalty. This requires banks continue to develop their e-banking capabilities by identifying strategies to increase access, and usage of this low-cost channel.

This study argues that e-banking service is a growing area of importance which has had bigger attention in the literature. However, this study identifies a significant gap where majority of the research has focused on the adoption and behavioural intention towards e-banking usage (Alalwan et al., 2017; Choudrie et al., 2018), while little research has been conducted in post-adoption behaviours such as satisfaction. Satisfaction has been widely accepted as a key measure of continuous use and success in the information systems and e-commerce contexts. The results of this study make an important contribution to knowledge and enhance our understanding on the aspects of e-banking service such as reliability, security, and usefulness that need to be taken into account to enhance customers' satisfaction in e-banking usage context. The main objectives of this study are to identify the extent of customers' satisfaction towards e-banking service and to examine the factors influencing customers' satisfaction towards e-banking service among university students in Malaysia.

LITERATURE REVIEW

Customer Satisfaction in the Context of E-banking

Customer satisfaction generally means customer response in the context of the state of fulfilment, and customer adjudication of the fulfilled state (Oliver, 2010). It is defined as any behavior with regard to product or service after it has been received and used (Hayati et al., 2020). Satisfaction can also be described as the feedback of a post-purchase assessment of certain service/product's quality, and compared with the expectation of the prior-purchasing stage (Kotler & Keller, 2011). When considering the construct of satisfaction in the online context, Forgas-Coll et al. (2013) defined customer satisfaction as the contentment of the customer with respect to their prior experience with a given e-commerce corporation. In this way, e-satisfaction is defined as the customer's pleasant sense due to the positive experience with an e-service. Thus, customer satisfaction is a customer's feeling of pleasure or displeasure after he or she has distinguished a performance of a product/service with respect to his or her expectancy (Das & Ravi, 2021). Consistent with these definitions, and in so far as this study is concerned, customer satisfaction is the attitude of the customer formulated in response to using any form of e-banking services. Accordingly, e-banking attributes may increase, decrease, or keep the same customer satisfaction.

Figure 1 shows the research framework for this study. The central theme of the customer satisfaction process is the expectancy disconfirmation paradigm (Ruyter & Bloemer, 1999). According to this paradigm, a consumer's feeling of satisfaction results from comparing a product or service's perceived performance in relation to his or her expectations. If the performance falls short of expectations, negative disconfirmation occurs, resulting in a feeling of dissatisfaction. If the performance exceeds the expectations, positive disconfirmation occurs, and the consumer is highly satisfied. If the performance just matches expectations, the consumer's expectations are confirmed, and the consumer is just satisfied. Building upon expectancy disconfirmation paradigm, this study attempt to sketch a new framework for understanding whether reliability, security, and perceived usefulness can influence of customer satisfaction among university students in Malaysia.

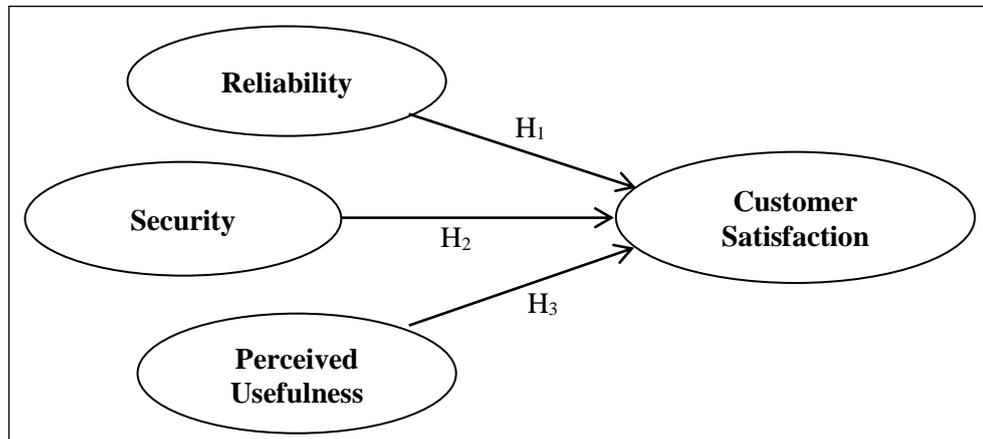


Figure 1. Conceptual Framework

Effect of Reliability on Customer Satisfaction

Reliability is the ability of the service provider to perform the promised services accurately and consistently (Parasuraman et al., 2002). Previous studies found that the e-banking service quality directly linked with reliability features has a significant effect on the degree of customer satisfaction. For instance, Ayo et al. (2016) revealed that competence of e-service support staff, system availability, service portfolio, responsiveness and reliability, in that order, were found to be most significant in rating e-service quality. These perceived e-service qualities have a strong influence on customer satisfaction and use of e-banking, which means that greater quality of e-service has the potential to increase satisfaction and consequently result to more usage of e-banking. Hammoud et al. (2018) showed that reliability, efficiency, and ease of use; responsiveness and communication; and security and privacy all have a significant impact on customer satisfaction, with reliability being the dimension with the strongest impact among bank clients in the Lebanese banking sector. Another study by Hussien and Abd El Aziz (2013) revealed that each quality dimension such as reliability directly affect user's satisfaction

of the service, resulting to a significant effect on customer satisfaction.

Recently, Ul Haq and Awan (2020) measured e-banking service quality and its impact on the loyalty through a mediating impact of e-banking satisfaction among banks' clients in Pakistan during Covid-19 pandemic. They found that reliability and website design proved to increase e-banking loyalty, the link between e-banking privacy and security and e-banking loyalty proved as fully mediated by e-banking satisfaction, whereas indirect effect of the reliability and website design with e-banking loyalty was partially mediated. Similarly, Raza et al. (2020) found that service quality dimensions have a positive and significant influence on customer satisfaction and subsequently, has a significant and positive impact on customer loyalty. Therefore, this study conjectures the following hypothesis.

H₁: There is a significant association between reliability of e-banking service and customer satisfaction among students

Effect of Security on the Customer Satisfaction

Security cannot get away from privacy. Privacy issues have been shown to be an important barrier for online services (Kumar & Gupta, 2020; Suresh & Rani, 2021). E-banking security is defined as the threat of creating a state, condition or event with the potential to cause difficulty to obtain data or network resources that make destruction, disclosure, modification of data, fraud and abuse (Usman et al., 2020). According to Kumar and Gupta (2020), security means the concerns about the guarding of private information with three specific objectives, namely integrity, authentication and confidentiality. When customers decide to use e-banking services, indirectly they have actually been exposed to security risk (Martins et al., 2014). Customers are susceptible to harm since they provide sensitive information, such as debit and credit card information, unique identification numbers, contact number, email ids, when undertaking online transactions. It should be noted that the lower the perceived security risk involved in the use of e-banking, the more likely an individual will be willing to use it (Farzianpour et al., 2014). Some authors believed that for a large client-based banks, they need to guarantee the customers' trust in the quality of technology used by the bank. Among the basic attributes listed, service protection is specified. Service protection is basically protecting the secrecy of personal and sensitive data, as well as transactions of customers and banks (Novickyte & Pedroja, 2015).

Previous studies have shown that data protection is one of the main indicators of customer satisfaction with e-banking (Novickyte & Pedroja, 2015). A study done by Chen et al. (2012) revealed that customers are inclined in having higher expectations for user-friendly interface and internet transactions security. Therefore, banks in Taiwan are constantly improving technologies and protect themselves against potential hacking attack. In Slovakia, Belás et al. (2016) confirmed that security issue has become crucial element when it comes to banking activities as 90 percent of the respondents used e-banking services and 78.19 percent being the overall level of trust in electronic payments security. Ul Haq and Awan (2020) found that the link between e-banking privacy and security towards e-banking loyalty was proved as fully mediated by e-banking satisfaction. This result implies that customer give importance to secure e-banking platforms. Based on this discussion, this study assumes the following hypothesis.

H₂: There is a significant association between security of e-banking service and customer satisfaction among students

Effect of Perceived Usefulness on the Customer Satisfaction

Perceived usefulness is the subjective probability that the application of a new technology would improve the way a user could complete a given task (Akinyemi et al., 2013). In other words, when dealing with e-banking, the superiority of internet banking compared to conventional or regular banking methods. For instance, customers who are busy and have tight schedule, having the flexibility of bank transactions through internet access is an advantage, as the perceived usefulness has a potential effect on the usage of e-banking (Enaizan et al., 2017). In the context of this study, perceived usefulness implies the extent to which bank customers believe e-banking services will be useful in the fulfilment of their banking needs.

Past studies such as Liébana-Cabanillas et al. (2013) revealed that usefulness and accessibility constructs have direct influence on customer satisfaction. Other studies done in Jordan by Abu-Assi et al. (2014) and Rawwash et al. (2020) showed consistency in terms of findings that satisfaction in using e-banking services by customers is positively influenced by perceived usefulness. In the context of e-banking users in Jakarta, Indonesia, Andrea et al. (2021) found that perceived usefulness, perceived ease of use, and technology readiness having significant effect on the customer satisfaction. Surprising result was revealed by Ugwuanyi et al. (2021) whereby perceived usefulness did not directly predict customer satisfaction, meaning that customers expect the performance of banks' self-service technologies to be a basic requirement. Based on this discussion, this study predicts the following hypothesis.

H₃: There is a significant association between perceived usefulness of e-banking service and customer satisfaction among students

MATERIALS AND METHODS

Design, Population, and Sample

Quantitative approach with cross-sectional design using structured questionnaire survey were used as the primary research design for this study because the intention of this research is to gather data regarding satisfaction of students about their e-banking usage. The questionnaires were distributed to students in a private university located in Selangor, Malaysia. Several criteria are outlined for the selection of respondents for this study, namely (a) respondent must be a customer at one of the banking institutions in Malaysia; and (b) respondent should have knowledge about e-banking services. The selection of students who are also banking institution customers as a study sample is accurate in examining the factors that influence the

customer satisfaction of e-banking service because they are a group that deals with banking institutions through internet banking. The simple random sampling was used and there are 100 surveys distributed to the students. Approximately, 87 percent of the valid questionnaires (n = 87) have been returned and was found useful for the analysis.

Preliminary Assessment

As a preliminary analysis of the data collected, the reliability assessment of the scales was carried out by calculating the values of the Cronbach’s alpha for each construct separately. According to Bougie and Sekaran (2019), reliability coefficient test indicates how well the items in a set which positively correlated from one another. Variables can be considered as reliable if the Cronbach’s alpha value was set to 0.7 and above (Pallant, 2020). Table 1 depicts that all variables measuring customer satisfaction (reliability, security, and perceived usefulness) are ranging from values 0.927 to 0.962. Hence, the internal consistencies of all constructs are considered acceptable since each reliability testing exceeds the suggested threshold.

Table 1. Reliability and Normality Assessment Results

Constructs	Cronbach's Alpha	Skewness	Kurtosis	No. of Items
Customer Satisfaction	.927	-0.447	0.254	10
Reliability	.941	-0.595	0.637	10
Security	.957	-0.236	-0.917	10
Perceived Usefulness	.962	-0.565	-0.571	10

Further, the assessment of normality of the metric variables in this study involves empirical measures of a distribution’s shape characteristics (skewness and kurtosis). Table 1 shows that the normality assessment values for customer satisfaction, reliability, security, and perceived usefulness are between ±3.00 as suggested by Hair et al. (2019). Therefore, this assessment confirmed that the data of this study is normally distributed. Next, multicollinearity testing was done to examine the relationship among the independent variables. Multicollinearity exists when the independent variables are highly correlated, with r value of more than 0.9 (Pallant, 2020). The correlation coefficient results between the variables are indicated in Table 2. All the independent variables show at least some positive relationship with the dependent variable, and the correlations between independent variables are less than 0.8.

Table 2. Pearson Correlation Coefficient and Collinearity Diagnostics Results

	Customer Satisfaction	Reliability	Security	Perceived Usefulness	Tolerance	VIF
Customer Satisfaction	1	.747***	.731***	.746***		
Reliability		1	.754***	.703***	0.305	3.284
Security			1	.757***	0.367	2.727
Perceived Usefulness				1	0.302	3.310

Note: Correlation is significant at *** 1% level, ** 5% level and * 10% level, respectively, using two-tailed tests.

To further check for multicollinearity, a collinearity diagnostics test (tolerance and VIF values) was conducted. As shown in Table 2, the tolerance values are greater than 0.10 and the VIF values are lower than 10; hence, no multicollinearity problem exists (Pallant, 2020).

RESULTS AND DISCUSSIONS

Demographic Profile

Figure 2a depicts unsurprisingly that female (51.7%) is more than the male (48.3%), which reflects the gender gap issues in higher learning institutions’ enrolment in Malaysia. Further, Figure 4b shows that majority of the respondents are between 21 and 23 years old. They make up more than two-third (72.4%) of the total responses to the survey given. Figure 2c reveals that majority of the respondents are Indian (64.4%), followed by Malay (21.8%), Chinese (12.6%), and others (1.1%). Figure 2d discloses that minority percentage of respondents (4.6%) have Foundation as their highest education level, while majority of them are undergraduate students (74.7%). There is only 17.2% of respondents acquired education up to postgraduate level such as Master Degree or PhD.

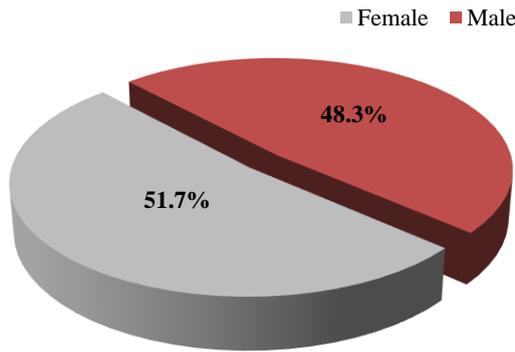


Figure 2a: Respondents' Gender

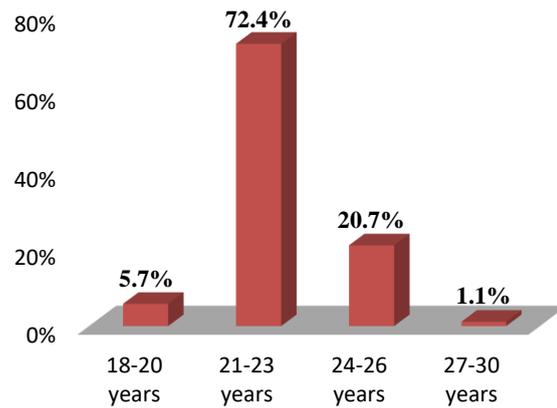


Figure 2b: Respondents' Age Group

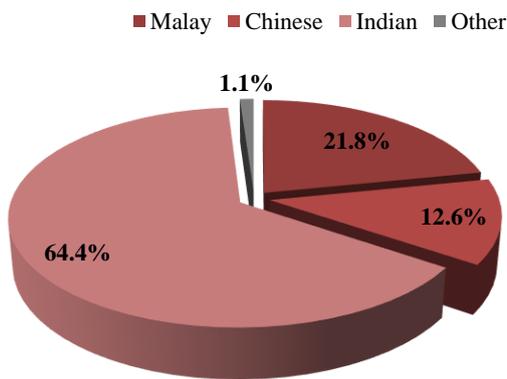


Figure 2c: Respondents' Race

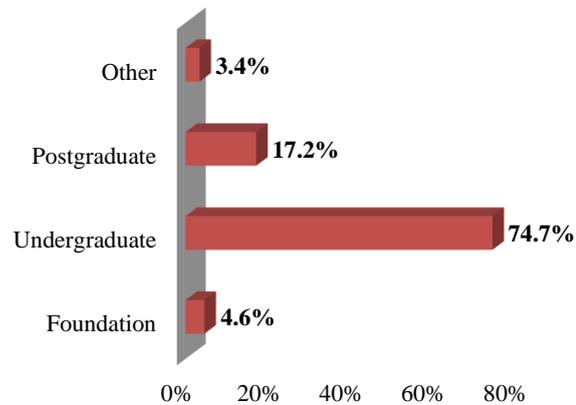


Figure 2d: Respondents' Highest Education

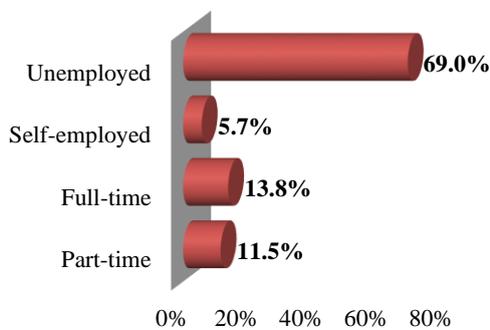


Figure 2e: Respondents' Employment Status

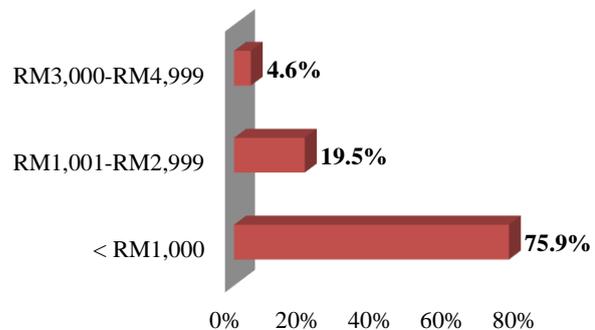


Figure 2f: Respondents' Monthly Income

Figure 2e reveals that there are 11.5% of respondents who are students but doing part-time job. Since this study includes students at the postgraduate level, there are 13.8% of them are worked as full-time employees. On the other hand, majority of the respondents (69%) are unemployed. Finally, monthly income received by the respondents are shown in Figure 2f where majority of them received less than RM1,000 per month, perhaps from their parents. There are four respondents (4.6%) are having a monthly income between RM3,000 to RM4,999, indicating that most of the respondents belonged to the middle-to-low income category.

The Extent of Customer Satisfaction towards E-banking Services

This section reports the finding which relate to the extent of customer satisfaction towards e-banking services among university students in Malaysia. One sample t-test was conducted to test whether the mean of overall customer satisfaction is significantly equal to or different from a specified constant. Table 3 shows the mean result of 4.1356 for customer satisfaction which indicates that respondents have higher satisfaction in using e-banking service while managing their financial affairs, and it is statistically significant at 1% level. Overall, significant number of the respondents agreed that they have positive intention to continue using the online banking in future. Besides, respondents also revealed that by using e-banking service, they can complete a transaction quickly on the website of online banks. This result is consistent with a finding by Asiyambi and Ishola (2018) as they found that customers were satisfied with e-banking due to its cashless nature,

cash accessibility, saves time from bank visitation, and seamless transactions.

Table 3. The Extent of Customer Satisfaction Perceived by Respondents

	n	Mean	One Sample T-Test	
			t-statistic	p value
Customer Satisfaction	87	4.1356	57.683	.000***

Note: Result is significantly different at *** 1% level and ** 5% level, respectively, using two-tailed tests.

An independent sample t-test was conducted to compare the extent of customer satisfaction towards e-banking services among respondents based on their gender. The result in Table 4 shows that there is insignificant difference in the scores of customer satisfaction among respondents based on different gender (t-statistic = 0.832^{NS}). This finding is in tandem with Njuguna et al. (2012) that suggested gender did not correlate with e-banking adoption, meaning males and females perceived characteristics of e-banking in a similar way.

Table 4. The Extent of Customer Satisfaction Perceived by Respondents based on Gender

Gender	n	Customer Satisfaction		Independent Sample t-Test	
		Mean	SD	t-statistic	p value
Male	42	4.0738	0.7506	0.832	.408 ^{NS}
Female	45	4.1933	0.5848		

Note: Results significantly different at the *** 1 percent level and ** 5 percent level, respectively, using two-tailed tests

Factors Influencing Customer Satisfaction

This section will discuss the results for the objective to examine the factors influencing customer’s satisfaction towards e-banking service among university students in Malaysia. The summary results of the standard multiple regression analysis on the factors influencing customer satisfaction are presented in Table 5. The regression of model ($F(3, 87) = 50.972$, p value = .000***) is significant at the 1%, and the overall fit of the model is moderate with R^2 value is 64.8% of the variation in the customer satisfaction. This indicates that the predictor variables in the model explained for approximately 64.8% of the total variability in the customer satisfaction.

Table 5. Standard Multiple Regression Results on the Factors Influencing Customer Satisfaction on E-banking Service

	Hyp.	Std. Beta Coefficient	t-statistic	p value
Intercept			3.233	.002***
Reliability	H ₁	0.297	2.514	.014**
Security	H ₂	0.288	2.683	.009***
Perceived Usefulness	H ₃	0.289	2.443	.017**
Model Summary:				
R ² value				64.8%
Anova Results:				
F-value (sig.)				50.972***
Obs.				87

Note: Association is significant at *** 1% level, ** 5% level, respectively, using two-tailed tests.

Results in Table 5 show that reliability has a positive and significant association with customer satisfaction on e-banking services ($\beta = 0.297$, $p < .05^{**}$), hence, hypothesis H₁ is supported. This finding is in line with the studies of Ayo et al. (2016), Hammoud et al. (2018), Hussien and Abd El Aziz (2013), Raza et al. (2020), as well as Ul Haq and Awan (2020). This outcome indicates that by maintaining the reliability, e-banking services offered by the banking institutions can elevate the satisfaction level of customers as the most accurate and reliable is the information, the greater are the clients satisfied with the e-banking service. Further, hypothesis H₂ was also supported as security of e-banking services does significantly influence ($\beta = 0.288$, $p < .05^{***}$) customer satisfaction. Therefore, hypothesis H₂ is supported as it is in tandem with previous studies such as Belás et al. (2016), Chen et al. (2012), Farzianpour et al. (2014), Novickytė and Pedroja (2015), as well as Ul Haq and Awan (2020). This finding illustrates that as more e-banking system is equipped with latest security of electronic networks, customers’ secure access to e-banking services will be enhanced, and the use of these services will be expanded. Confidentiality of data and private information is necessary to protect them against abuse. Using important security practices to protect critical customer information using modern banking methods can help the bank maintain confidential customer information. Thus, the outcome proves that security difficulties presently impacting customer satisfaction have turned to a critical part of bank activities.

Finally, the association of user’s perceived usefulness and customer satisfaction shown by hypothesis H₃ is positive and significant ($\beta = 0.289$, $p < .05^{***}$), and so the hypothesis is supported. This finding is aligned with Abu-Assi et al.’s (2014), Andrea et al.’s (2021), Liébana-Cabanillas et al.’s (2013), Rawwash et al.’s (2020) and Ugwuanyi et al.’s (2021)

study. This finding proves that if the e-banking system is useful and easy to use, and is able to help customers in achieving their banking objectives, customers' satisfaction of the bank's service would be invariably enhanced. A friendly user interface would help the bank achieve this because customers would prefer a system that is less complex and would not overload them with information that would stretch their cognitive state and disrupt their affective state.

CONCLUSIONS

This study contributes to the growing empirical literature on the determinants of consumer satisfaction in the context of e-banking services by exploring the influence of reliability, security, and perceived usefulness on consumer satisfaction. Using an empirical data among university students in Malaysia, it can be concluded that the student segment of banking institutions' customers in Malaysia build their satisfaction based on the reliability, security, and dan perceived usefulness. These quality plays a very important role, as it has become the basis for how customers view e-banking and, eventually, how it interacts and behaves with online services. The determinants of e-banking service quality associated with the banking industry is found to be essential hence, banks should take care of all three factor in regard to sustain an elevated level of customer satisfaction. This shows that customers are more attracted to banks that allow faster transactions via online portals, which are easily available. In addition, customers lay more stress in the effectiveness of the website security system as they are concerned with the privacy of their personal information and the safety of their financial transactions while using e-banking. Therefore, banks should ensure that customer's personal information shared over e-banking platforms is not accessible to any third party. To enhance the security of the financial transactions, banks should provide secure and unique personal identification numbers and always send login and transaction alerts to registered contact numbers and e-mail addresses. Banks should also send onetime usable passwords to customers via registered phone/e-mail to complete each transaction, thus preventing suspicious transactions.

Furthermore, greater emphasis should be placed on the physical (system, functions and interface) and psychological attributes (services, information, attitudes) in comprehending the changing aspects of virtual clients' behavior as the finding suggests that customers perceived the usefulness of the system in continue their usage. This result is significant for the banking institution so that they should deliver their customers an effective website with an appropriate setting and upgraded technological development in order to deliver first-class condition of services. Today, clients are provided with numerous different banking portals which can make them switch to other banks. Hence, bank's websites should focus more on improving their functionality and user interface and also make their online portals attractive. Additionally, competition is high, their e-banking system should be designed with a fast-processing time for customer requests and issues in order to attract and retain customers of banks. It is recommended to make the app simple to use and user friendly while the services should be reliable and secure.

Even though this research provides fruitful insights, it faces some constraints as well. First, the data collected is from the university's students only that showing similar lifestyles and more or less similar preferences. Hence, future research is expected to expand the banking institutions' customer segments as people belonging to different backgrounds, geographic regions, and demographics might exhibit variant stance and viewpoint towards e-banking service. Additionally, future research is suggested to increase the number of variables to be studied because the three variables covered in study only contributes about 64.8% of the total variability in the customer satisfaction. Perhaps, there are other variables that might influence customer satisfaction such as trust, technological speediness, compatibility, and any others. Next, the self-reported behavior on which this study relied are vulnerable to response bias. There is an uncertainty regarding the accuracy of responses because self-reports of customer satisfaction may be less accurate. To reduce response bias, it is suggested for future research to use in-depth techniques applied to primary data sources such as interviews or observations. This might help researcher to explore certain aspects that cannot be discover using survey questionnaire.

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Conflicts of Interest: The authors declare no conflict of interest.

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