



# INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES



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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v12-i10/13077> DOI:10.6007/IJARBSS/v12-i10/13077

Received: 10 August 2022, Revised: 17 September 2022, Accepted: 01 October 2022

Published Online: 14 October 2022

In-Text Citation: (Serrah & Maideen, 2022)

To Cite this Article: Serrah, E. A., & Maideen, M. B. H. (2022). E-Banking Services and Customer Satisfaction: Focus on A Private Bank in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 12(10), 1489 – 1499.

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Vol. 12, No. 10, 2022, Pg. 1489 – 1499

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[www.hrmars.com](http://www.hrmars.com)

ISSN: 2222-6990

## E-Banking Services and Customer Satisfaction: Focus on A Private Bank in Malaysia

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### Abstract

This study attempts to assess the quality of the service provided to E-banking customers of one of the private banks in Malaysia. The purpose of this study is to investigate the effect of security and privacy, reliability, system availability, and website design on customer satisfaction in E-banking services in Malaysia.

The research study adopted a descriptive research design that applies primary data where a structured questionnaire was used to collect data. The population of the study is 155 E-banking users in Malaysia, the data was analyzed using the Statistics Package for Social Sciences (SPSS 19), and was interpreted using Cronbach's Alpha reliability test, Pearson Correlation, and Multiple Linear Regression. The findings were presented in figures and tables with percentage scores, mean, and standard deviation.

The study concluded that website design had the strongest influence on customer satisfaction, followed by system availability, reliability, and security & privacy.

The study recommends future studies to use different methods on the same topic to get more variety and accurate results; in addition, more significant independent variables should be included to overcome the problem of factor constraint. Independent variables such as responsiveness and ease of use should be discussed to have a more general understanding of customers' satisfaction towards online banking. Hence, future researches should be encompassed with more reliable independent variables in order to generate more detailed results.

**Keywords:** E-banking, Customer Satisfaction, Security and Privacy, Reliability, System Availability, Website Design.

### Introduction

Technology and the internet have become more involved in our everyday lives and these things are becoming increasingly significant day after day. Online banking is already well-known and accepted worldwide and this gives banks across the world new opportunities and the challenges to succeed in the financial market and survive, most banking institutions are accessible with E-services. With these E-services, with one click with an internet connection, consumers can monitor their bank accounts or transactions.

E-banking can be described as the customer's usage of the technology and also it is a direct channel to consume banking services such as fund transfer, electronic alerts, phone banking, online banking, etc. This concept becomes common and obvious all over the world.

Expanding E-banking services and other service types such as mobile banking, internet banking, and Automated Teller Machines (ATMs) allows consumers to lower the cost of services and makes it possible for them to run their company individually and efficiently anywhere, at any time, through various channels regardless of the operating hours of their Banking Corporation's branches.

Online banking can be seen as one of the most important services that the banking sector has recently introduced to boost customer satisfaction by offering more effective and convenient services (Perera & Priyanath, 2018).

Furthermore, E-services quality means the basis for promoting the safe and reliable purchase, selling, and distribution of goods and services on the Website or online in general. The higher the reliability and safety the higher the quality of the E-service.

The service quality has been widely used to evaluate the performance of different services industries, including banks. Internet banking is one of the increasing services needed to provide better customer service by enhancing the quality of the online platform for greater customer loyalty and retention (Sindwani & Goel, 2012).

The electronic revolution in Malaysia's banking sector began in the 1970s. In the 1980s the Automated Teller Machines (ATMs) were introduced as a self-service technology and in the early 1990s telebanking has been introduced by banks in Malaysia.

In addition, PC banking or desktop banking was introduced as an extension of the existing distribution channel due to the growth of telecommunications and information technology. On the 1<sup>st</sup> of June 2000, Malaysia's central bank (BNM) allowed local banks to provide their customers with online banking services.

Moreover, customer satisfaction is seen as a key differentiation in a competitive environment where companies compete for customer satisfaction and it has rapidly become a core factor of the business strategy in any company.

Based on the scenario above, the research was conducted in Malaysia. It's important to note that Maybank is one of Malaysia's biggest commercial banks; it was the first bank in Malaysia to provide online banking services by establishing its platform at [www.maybank2U.com](http://www.maybank2U.com) and this service is still prominent and widespread used by Malaysians. The performance of the chosen bank is not at par with Maybank in a few areas of service which will be discussed in the following section.

### **Problem Statement**

Currently, banks are providing many online services for customers which are convenient for them, so naturally, these banks are going to face many problems due to these online services and the increasing number of customers using E-banking. Service quality is the most important dimension in the world of competition, which requires careful attention for companies to defeat their competitors; this is particularly true in the service sector, where there is regular contact with consumers who has the greatest interest in ensuring that the company beats its rivals and succeeds in the service it offers. Therefore, customer satisfaction is a critical issue, since it is strongly correlated with the quality of service offered by competitor companies.

Starting with Security and privacy, security and privacy are one of the big problems facing online banking users, a short story to explain that, if a thief wants to steal a person's money

from the bank in the past, he or she would have to break into the bank vault and make a brave escape with the money, and this was an exceedingly challenging prospect and required a lot of risk and threat. On the other hand, nowadays cybercriminals just need to search for any personal information with online banking to hack into a person's account and steal their money and it can be achieved privately with the less physical threat than in the past.

Furthermore, the technical Issues, since banks depend primarily on their internet platforms, mean that if there is a system failure, or if there are errors in their code, they may suffer large losses, if a single technical problem occurred and caused a bank to fall only for one day that could cost millions of losses for the bank, It may also affect bank's customers who may not be able to make payments or transact while the network is down. Lots of customers are using mobile banking apps today, so making the online platforms and mobile apps run smoothly is important not only for banks but for the customers as well.

In addition, traditional banking habits, the major barriers to adopting online banking were customer preference for traditional ATMs and a bank branch, as well as a lack of confidence or skills. Nevertheless, the number of online banking users has increased by around (54.2%) in 2018, compared to 41.7% in 2016 in Malaysia, even though, there are a lot of people who haven't enough confidence and knowledge to use online banking and still sticking to the traditional banking habits.

So based on the above, the security and privacy are the number one issues that the customers always face while using e-banking services and the feeling of insecure also contributes in making the problem, then there are some technical issues the study will focus on, on the top of that there are the traditional banking habits.

Last but not least, one of the key considerations for banks is customer satisfaction and they should take care of it in order to stay competitive among other banks in the industry, however, low customer satisfaction also contributes to a bank loss, which could have a significant effect on the reputation and image of the bank, it's not easy to meet the requirements or needs for the majority of the customers because some problems are limiting the banking sector development but the feeling of fulfillment is required at any point.

### Study Hypothesis

**Hypothesis 1:** There is a positive relationship between security & privacy and customer satisfaction

**Hypothesis 2:** There is a positive relationship between reliability and customer satisfaction.

**Hypothesis 3:** There is a positive relationship between system availability and customer satisfaction.

**Hypothesis 4:** There is a positive relationship between website design and customer satisfaction.

### Definition of Terms

#### *Definition of Security and Privacy*

Researcher	Definition
(Firdous & Farooqi, 2017)	The degree to which the site is protected and the level of customer information security
(Hammoud & Bittar, 2016)	Having no fear or doubt, that is, being calm about dealing with the bank physically and psychologically
(Aburoub et al., 2010)	It is related to the degree of safety and risk-free

*Definition of Reliability*

<b>Researcher</b>	<b>Definition</b>
(Aghdaie & Faghani, 2012)	The capability of the company to deliver the promised service with reliability and accuracy
(El Saghier & Nathan, 2013).	Reliability depends on the handling of customer service issues; first-time service delivery; service delivery at the promised time and error-free record keeping
(Hammoud & Bittar, 2016)	The dedication to success and the capacity of the bank to provide the promised service on time, in addition to the right performance for the first time and whenever
(Aburoub et al., 2010)	This refers to the capacity of service providers to correctly and efficiently achieve and execute service

*Definition of System Availability*

<b>Researcher</b>	<b>Definition</b>
(Firdous & Farooqi, 2017)	The proper operation of the platform
(Perera & Priyanath, 2018).	Website launches and works instantly
(Sriharan & Thusyanthy, 2017)	The bank's website is always available for business

*Definition of Website Design*

<b>Researcher</b>	<b>Definition</b>
(Firdous & Farooqi, 2017)	The degree of ease of website navigation and use. That platform makes it better for solving the problems for customers
(Linga et al., 2016)	Good screen layout and design, clear graphics, and vibrant color configuration should be the basic requirements for good web design
(AL-Hawary & Hussien, 2017)	The image showing where the bank website is in the minds of the customers and the purpose of the aesthetic website design is to make it visually appealing and enjoyable for the customer.

*Definition of Customer Satisfaction*

<b>Researcher</b>	<b>Definition</b>
(Hammoud & Bittar, 2016)	Customer satisfaction is the state of feeling that emerges from a rational comparison
(Lee & Moghavvemi, 2015).	Customer satisfaction is a result of the provision of services and goods that either meets or exceeds customer needs

### Conceptual Framework

The conceptual framework is created to identify the dependent variable and independent variables and shows the relationship between them, the dependent variable is the customer satisfaction which has located on the right-hand side of the framework; on the other hand, there are the independent variables which are (security& privacy, reliability, system availability, and website design), these variables are located on the left-hand side of the framework.

All these independent variables are essential in the E-banking services quality and it affects customer satisfaction with these services, so the framework model has been developed according to this concept.

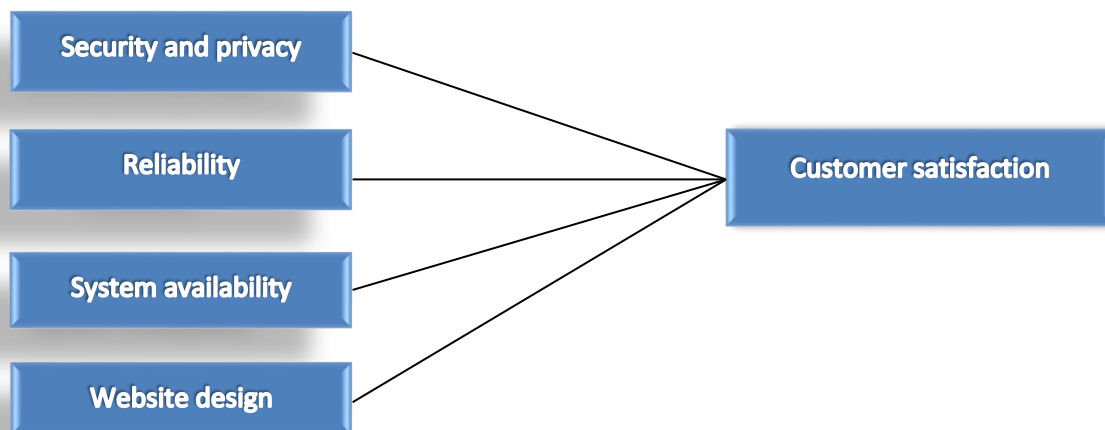


Figure 1: Conceptual Framework

### Literature Review

#### Customer Satisfaction

Customer satisfaction is considered by all industries as a major factor, especially in the service industries, customer satisfaction helps companies and businesses maximize their profits and gain competitive advantages, it also leads to customer loyalty which will reflect on the long term return, thus customer satisfaction comes from the understanding that businesses have to deal with changing environments along with consumer behavior in order to ensure the sustainability and longevity of businesses in competitive markets. In addition, the consumer's response to fulfilment is called satisfaction; it is the belief that a function of a good or service, or the good or service itself, offers (or is offering) an enjoyable level of consumption-related fulfilment, including the level of under- or over-performance.

Research also has been done by regarding customer satisfaction, the research stated that compared to dissatisfied customers, satisfied customers were much more likely to suggest their bank to their friends and consider utilizing their same bank in the future, and are more negatively sensitive to other bank deals.

#### Security & Privacy

Security and privacy are two of the main factors that affect the electronic service quality, besides, it contributes to increasing the trust of the customers to complete the transactions online.

(Sheng & Liu, 2010) defined privacy as how the customers feel secure and safe on their own while using the website, besides, the privacy refers to the degree of security on the customer's information and how the website is protected against an unauthorized log in that

could lead to loss or destroy the private information, system materials or software. Furthermore, privacy is the degree to which a user believes a website is secure against outside access and that their personal information is protected..

E-banking could suffer several types of attacks based on a study that has been done by (Lukic, 2015), some of the attacks are as follow:

- **Social Engineering:** social engineering is one of the most frequent attacks that do not include any knowledge of any kind of computer system. Social engineering is known as tricking consumers into revealing sensitive information by pretending to be system administrators or customer services representatives, they use the observation and limited user awareness of computer systems and collect information that would allow them to control secret data.
- **Port Scanners:** an attacker can use port scanners to determine device access points and use multiple strategies to steal data. This type of program sends signals to a computer or device and records the message that the system responds with to determine access and information points. A port scanner's main objective is to collect information relating to hardware and software that operates a network so that an attack strategy can be developed.
- **Packet Sniffers:** To gather a wealth of user data including credit card details and passwords, you can "sniff" the connection between the user's computer and the database server. A packet sniffer is used to obtain information that is transmitted over a network. Detecting packet sniffers is very hard, as their role is to capture network traffic and they do not manipulate the data stream. Secure Socket Layer connection usage is the ideal method to make sure the attackers who use packet sniffers cannot steal valuable information.
- **Password Cracking:** password cracking can involve various kinds of sensitive and decryption techniques; however, a brute force attempt is the most common type of password cracking. Brute force password attacks are used to crack a person's username and password on a particular website by searching thousands of popular phrases, terms, behaviors, and names before they are combined to provide access to a server, they target systems that do not require complicated passwords, so users will often use popular names and details which make the login to the device simpler for a password cracker. Many techniques for cracking passwords include the use of hash tables to decode password files and can reveal a full device user name and password list.

### **Reliability**

Reliability is a very important element affecting the intention of users to adopt e-banking services in a highly competitive financial industry. Moreover, it refers to the ability to always deliver the expected standard, how the company addresses customer service issues, performs the best services for the very first time, provides services within the promised time, and maintains error-free records. Accordingly, reliability is responsible for ensuring a positive and strong conviction among customers that the bank works to their advantage as any shortcomings in this belief will lead them to dissatisfaction with e-banking services (AlHaliq & AlMuhirat, 2016). Moreover, reliability consists of accurate order of operation, accurate documentation, accurate quotation, accurate billing, and accurate commission calculation to keep the service appealing to the Customer. Two significant factors impact the banking service; consistency and dependability.

- Consistency: it refers to uniformity or consistency between products or parts; this means that the level of service offered should always be the same, should do the same activities, and should have the same values. Service quality should provide service performance uniformity around an ideal target value set by customers. Banks must handle changing needs efficiently and regularly
- Dependability: dependability refers to guaranteeing that the provided services are as expected. Trust is also another main factor affecting the adoption of different types of e-banking services, that's why ATM safety was seen as one of the main issues for financial institutions. Though ATMs have taken charge of the connection between robot and customer, levels of errors can be greatly reduced during employee-customer interactions in bank branches, that's why ATMs should give reliable transactions including correct customer information, regular transaction records, and receipt printing. The accuracy of the data and order is another crucial element in providing online service quality.

Furthermore, (Ma, 2012) the author found in the research that privacy, security, and assurance are the most important factors influencing internet banking reliability. In conclusion, e-banking's reliability will have a relationship with customer satisfaction.

### **System Availability**

Operating in a 24/7 environment is needed nowadays in any financial institution, especially the services provided by these financial institutions such as E-banking in the banking industry, in other words, the services should be available to the customers whenever they want it, and wherever they are, and whatever channel they prefer to use to consume the services.

Regarding the customers, their day-to-day usage of the E-banking means that the cash and card interaction they use to make payments, the ATMs they use to access their money, and the online services used to control and do transfers, all these services should be available around the clock in order to maintain a bank's good reputation, gain a competitive advantage over other banks, and the most important thing is to earn customer loyalty and satisfaction. In case of the supporting system go down, the clients will not be able to do the daily online banking habits that they rely on, and in today's instant payment era, that's can quickly become a nightmare for any bank, therefore, it is not an option to let the system goes down.

According to (Firdous & Farooqi,

2017) the availability of the system refers to the appropriate technical operation of the site. In addition, (Perera & Priyanath, 2018) also claimed regarding the system availability that the bank's website should launch and runs right away. Moreover, (Sritharan & Thusyanthy, 2017) defined system availability as the bank's website should always be available for business.

In addition, another critical issue the banks' customers could face as a result of the unavailable system in ATMs is the disability to withdraw money when needed, even though everything could be handled online these days but the need for the physical money could be urgent sometimes.

### **Website Design**

(Ahmad & Al-Zu'bi, 2011) declared that web design is a significant factor in attracting the users of Internet banking, the value of web design would be reflected in the satisfaction level of the customers. Moreover, good screen layout and design should be part of effective web design, with simple graphics, and a lively colorful scheme (Rahi, 2017) claimed in her research that the bank website plays a significant role as a delivery channel with the customers, also, it is very important in terms of the ease of use; therefore, it should be understandable with a



simple design. Furthermore, since the website plays a salesperson role, it should contain all the necessary important information the customer could need. In addition, it's essential to have a smooth financial transaction on their website in order to attract more loyal customers and achieve a competitive advantage.

According to various researches and conceptual papers, the website design should be attractive, user-friendly style, offering language substitutes, consistent use of color, color combinations and backgrounds, and effective graphics, all in order to ensure the customers' re-visit and retention.

Furthermore, it is more important to understand the purpose of website design before we think about building it, the website should aim to meet the customer's desires, and should ensure regular consumer access to the website, An engaging and content-full website generates value and strongly motivates frequent visits to customers, the website that has an attractive design could help to retain customers in the long run, besides, it contributes to increasing the revenue, profit, and reduce customer support costs.

In addition, the increase in internet popularity helps companies in different business sectors to promote and sell their products and market their services using this new distribution channel. The banking sector is one of the sectors that have responded to this new channel, as the number of banks offering online services is rising day by day, therefore these banks should take into consideration the high quality of their website design.

### **Research Method**

In this study, the quantitative method was used and a questionnaire was developed according to the research variables and distributed, in addition, questionnaires are a perfect way to obtain data from a large group of people and/or individuals who do not have the time to participate in an interview or experiment, that let people take their time, think about it and answer the questionnaire later. Participants may state their thoughts or perspectives in private, without worrying about the potential reaction of the researcher.

This study used primary data as the data collection source and was achieved by distributing questionnaires to the respondents. The questionnaires were adapted from previous studies and were conducted as self-administered questionnaires, later the questionnaire was distributed online using a Google form link to the respondents, the link was mainly sent using social media such as WhatsApp, Facebook, and others, getting in touch with the e-banking users was through talking to them individually in front of the bank's branches. Primary data has been chosen because it is more accurate and accessible and provides honest information. Furthermore, primary data gives more flexible control on how to collect the data.

The data collected were analyzed using SPSS. First of all, the Cronbach Alpha test was conducted to confirm the reliability of the variables. Secondly, a Pearson correlation was conducted also to determine the relationship between the independent variables and dependent variables. Finally, some linear regressions such as model summary, analysis of variance (ANOVA), and regression coefficient were used to determine whether the variables were significant or not.

### **Findings and Summary**

The finding of the research showed that all the hypotheses developed are accepted and all the independent variables (security and privacy, reliability, system availability, and website design) have a significant positive relationship with the dependents variable (customer satisfaction), moreover, the results of the research showed that the website design has the

greatest impact on customer satisfaction in the bank followed by system availability and reliability and lastly the lowest factor influence customer satisfaction is the security and privacy.

### **Implications of Study**

In order to improve the service quality of online banking, the bank should consistently measure and update their online banking customer experience.

This study can greatly benefit the Malaysian banking sector, particularly private banks, as it helps to identify restrictions and barriers when the bank wants to develop an efficient and supportive online platform, in addition, it also encourages the bank to efficiently understand what is the weakness in their online platform and what makes the customers not satisfied with the E-banking which will reflect positively on them if they want to develop their business. Furthermore, Technologies related to the security & privacy of online banking services should be improved in order to avoid any cyber-attacks in the future, in addition, banks should invest more in hardware and software systems that can provide the latest security encryption for customers. By taking the data from this research, the bank can estimate the shortage in its security and privacy system and work on improving it.

The findings of the research could be important for other researchers; they can use it as a literature review or can equally be utilized as a secondary source of research data, especially researchers who are doing similar topics or studies.

Overall, this paper benefits the bank by knowing what the weaknesses parts are and working on improving them, such as the security and privacy, reliability, system availability, and website design of the online banking platform.

### **Conclusion**

Customer satisfaction has been always a concerning issue not only in the banking sector but in all the other industries. In this study, the factors that have been influencing customer satisfaction were security and privacy, reliability, system availability, and website design. The sample that the study conducted on is one of the private banks in Malaysia, the study only focused on the E-banking services quality not on all banking services in order to get more specific results.

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