

# THE MEDIATING EFFECT OF CUSTOMER SATISFACTION ON THE RELATIONSHIP BETWEEN DIGITAL BANKING SERVICE QUALITY AND CUSTOMER LOYALTY

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## Abstract

These banks are being forced to concentrate on digitization in order to enhance their services and product delivery and meet the new demands and expectations of their customers as a result of the widespread rapid changes in the financial service environment, which are extremely competitive. This study has been conducted to ascertain the impact of customer satisfaction on the link between the quality of digital banking service and customer loyalty in order to meet these new demands and expectations. The research employed a stratified sample method and generated its data using the quantitative approach. The data were collected via the acquired, developed, and validated questionnaire. A total of 384 customers from five major commercial banks in Malaysia responded to the survey. The data were then analyzed using the Partial Least Square Structural Equation Modelling (PLS-SEM) SmartPLS software. Measurement and structural models were assessed for adequate validity and reliability. The findings revealed that digital banking service quality factors comprising reliability, tangibility, responsiveness assurance, and empathy are all positively related to customer loyalty ( $p < 0.05$ ), with the exception of empathy; and to customer satisfaction at  $p < 0.05$  with the exception of responsiveness. Meanwhile, customer satisfaction shows a mediating effect on the relationship between reliability, tangibility, empathy, responsiveness assurance, and customer loyalty. The study concluded that digital banking service quality positively and significantly affects customer satisfaction and loyalty in the commercial banking sector. It implies that digital banking services must have modern and effective equipment for processing data and transactions, and the ease of use needs to be designed and built into the digital banking services systems platforms. In addition, an effective digital banking operations tool in the infrastructure platform for digital banking services is essential to ensure that customers can access them quickly and safely.

**Keywords:** Customer Satisfaction, Customer Loyalty, Digital Banking, Service Quality.

## I. INTRODUCTION

The bank management team must plan, implement, and monitor proactive marketing strategies based on ongoing evaluations of the quality of its services due to the increasingly competitive business climate and changes in client preferences. This is encouraged at all levels of an organization inside a bank, making it essential for better service quality and banks' survival in the fintech markets (Tadic et al.,

2018). Commercial banks still need to have a good service culture by raising employee performance via various initiatives that increase their customer service skills and knowledge of banking goods and systems. To thrive in the modern world, commercial banks must build strong foundations for their buildings. To enable operational and administrative performance and congenial customer connections, this comprises creating a

favorable work atmosphere, programming machine lines with computerized data frameworks, advanced programming and equipment, etc (Amin, 2016).

Commercial banks ought to progressively take measures that ensure the utilisation of the most recent banking innovative advancements, such as enabling customers to apply banking services via web banking mode, a routine for the customers. Although some of the previously mentioned practices have been put in place by several banks, they should be thoroughly utilised by the banks to encourage increased customer adoption of technology and improve their judgment (Magotra, 2018). In fact, in contrast to other budgetary organisations, commercial banks should completely agree to the enactment of these practices (Aisyah, 2018). The quality of services offered by commercial banks should likewise be parallel to commercial standards and qualities. Thus, contrary to the regular estimation of service quality, this study gives insights into the quality service of banks.

Customer loyalty in the financial sector is important because it enables better economic and financial returns to institutions. Given its relevance, this phenomenon should be well understood (Lewis & Soureli, 2006; Baumann et al., 2011). Loyalty can be defined as a form of customer commitment to buying or using a particular product or service which results in the repetitive purchase and maintenance preference for a specific supplier or service provider through time despite the prevalence of situational influences and competitive efforts that have potential to cause a change or switch in behaviour (Oliver, 2010; Yin & Matthews, 2016). Thus, it is relevant for companies to discriminate loyal customers from unreliable ones to identify strategies and services to be rendered to them (Liang et al., 2009).

The banking industry in Malaysia has demonstrated strong foundations as the government reinforces strict controls through the central bank. The development is seen in the banking industry from the last few decades, regardless of the financial variations in the economic world. No doubt, the banking

industry is the most strenuous and thriving segment of the economy. In Malaysia, there are 27 commercial banks (8 local and 19 foreign banks), 18 Islamic and 11 conventional banks (Bank Negara Malaysia, 2017). The 2008 global financial crisis had little effect on the financial sector because of strict administrative prerequisites and banking reforms implemented in the last two decades (Nazir et al., 2012; Phulpoto et al., 2012). Malaysia has been viewed as a leader and trailblazer in the banking industry (Khan & Bhatti, 2008). It is regarded as one of the best economies in terms of advancement as acknowledged based on the budgetary framework and regular banking (Haneef, 2001; Haniffa & Hudaib, 2010; Zaher & Hassan, 2001). The Malaysian banking framework is chiefly determined by a solid capital base and government support which has helped the commercial banks to withstand the financial crisis of 2008 (Abdulle & Kassim, 2012).

The banking sector devoted efforts to enhance service quality and approaches to satisfy existing customers while targeting new ones and ensuring improved service quality, customer satisfaction, and customer loyalty (Pakurár et al., 2019). In addition, it has been identified that particular areas of increased research attention are customer conduct, service quality, and some aspects of performance. Likewise, some areas have witnessed little or no research attention. Examples of such include consequences of digital banking on customer satisfaction and dependability and customer satisfaction and reliability. Satisfaction entails an innovative approach to achieving improved service quality in banks to advance a genuinely customer-centred service and culture. Measuring customer satisfaction offers a quick and vital way to understand customers' inclinations and desires. Thus, a bank's performance might be assessed in relation to its satisfaction and loyalty measurements as this demonstrates how reliable or feeble the banking service is (Mihelis et al., 2001).

The monumental transformation brought by emerging technologies has put the banking sector in the difficulty of adapting to the new

and emerging changes while at the same time satisfying their clients without losing their loyalty. In Malaysia, the challenges faced by financial institutions, especially in the banking sector, have resulted in the additional burden of developing various strategies to attract customers and also under increasing pressure to keep their customers (Ibrahim et al., 2019). At the Asian Banking and Finance Retail Banking Forum 2017, it was reported that customers preferred flexible trendy digital platforms where transactions are easily performed between the different banking institutions to give a good return of investment. Concerning this, Malaysian banks' digital platform has identified customer loyalty as a matter of concern as the yield is still not far from the expected return (Haron, Abdul Subar & Ibrahim, 2019).

Muthonia and Otieno (2014) advocated that banking services and products differentiation are crucial to gaining competitive advantage and sustaining customer loyalty. This is essentially by offering unique, suitable goods and services that meet customers' expectations and desires. Few studies have researched the different perceptions of customers on service quality, especially on the delivery of digital banking service quality among Malaysia Commercial Bank (Ali & Naeem, 2019; Amin, 2016; Ariff et al., 2013). A critical review of related literature by Amin (2016) and Krisnanto, (2018) iterated the need to investigate further and assess service quality, including reliability, assurance, tangibles, empathy and responsiveness, and type of service delivery would lead to higher customer satisfaction in the banking service sector. This it is important for commercial banks to improve service quality in order to generate competitive advantage and to be able to maintain it over time (Shankar & Jebarajakirthy, 2019).

Studies on the relationship between service quality and customer satisfaction concentrated on countries like the USA, England, India, United Arab Emirates (Angur et al., 1999; Jamal & Nasser, 2002; Yavas et al., 1997). Thus, there is a scarcity of research on managing digital banking service quality issues on Malaysia commercial banks. The financial

institutions would finally be able to efficiently construct the service delivery process by evaluating the service quality level and comprehending how different dimensions affect overall service quality. While several aspects of service quality may somewhat affect a customer's perspective (Ashfaq & Irum, 2020). Therefore, this study fills this void and summarises the relationship between digital banking, service quality, satisfaction and loyalty in Malaysian banks. In the present Malaysian banking domain, banks are considered one of the top delivers of quality service to customers and a key to progress and survival. This study's findings will form an essential knowledge-base on methods for improving service quality for improved customer satisfaction and loyalty.

## **2. LITERATURE REVIEW**

### **2.1 Customer loyalty**

Customer loyalty is characterized as a deeply held devotion to a product or brand in such a way that the customer intends to use the product regularly going forward without turning to switching considerations and marketing appeals (Oliver, 1997). Oliver (1997) Claims that there are four phases to loyalty and that there are two key parts, behavioural and attitudinal, to the idea of consumer loyalty. customer loyalty is crucial to the existence of a business. The only way a company can grow is through the satisfaction of their customers. It determines the integrity and honesty of a business in ensuring customers feel confident to deal with them on a daily or weekly basis. Customers are willing to return because they have been treated fairly with respect and decency remain loyal to the company, as long as the company treats the customer with respect (Toelle, 2006). Without loyal customers, it is hard to grow a business and thus, costly to provide services to the customers because the best sources of new customers are through referrals and positive feedbacks from existing customers. If these sources of new customers are not forthcoming, the company either ceases growing or must

attract new customers in a more costly fashion such as expensive advertising, larger sales force (Kim & Leslie, 2005). In e-commerce context, customer loyalty is defined as customer's good behavior toward e-commerce which results in repeated purchase behavior (Chen, 2012).

Customer loyalty achieves by customer satisfaction (Herhausen et al., 2019). The loyalty of customers suggests when a customer buys the product from the same organisation repeatedly in the hesitation of buying or change the brand on which he relies upon for a longer period of time (Shamsudin et al., 2015). For achieving customer loyalty, one has to act responsibly and trusted the customer (Herhausen et al., 2019; Lommerud & Sjørgard, 2003). Naturally, customers always select a particular organisation on whom he has trust. Obviously, one has to carry out business deals with responsible and trusted people by avoiding irresponsible individuals and organisations (Shamsudin et al., 2019). On the other hand, organisations should provide assurance by their trustworthiness and responsible behavior towards customers in the provision of all services as promised and show the implementation of their requirements with actions (Hassan & Shamsudin, 2019).

## 2.2 Customer Satisfaction

Customer satisfaction is one of the most essential ideas in the field of advertising in recent times (Jamal, 2004). Oliver (1980) clarified that the feelings of satisfaction begin to emerge when customers compare their impression of real product or service with their expectation or desires. Although different definitions customer satisfaction can be found in the literature, the idea of comparing post product service performance with pre-framed requirements remains common to all definitions. Understanding how much the electronic services provided by banks would affect consumer satisfaction in the Malaysian banking industry is one of the main goals of this investigation. To appreciate this connection, it is crucial to understand that really exceptional client satisfaction strongly depends on consenting to greater and higher-quality service (Jain & Gupta, 2004).

According to a research by Asiyanbi and Ishola (2018), using e-banking services raises consumer satisfaction levels in the banking industry. Thus, Ranaweera and Neely (2003) checked that the nature of e-service is the initial step of customers' satisfaction. Several studies have demonstrated that customers who are happy with the type of services rendered are generally faithful to their banks and more averse to change to another bank (Blocker, 2012). From one point of view, customers need to be sure that the bank they have chosen is the best manager of their cash while additionally anticipating great customer services and good financial transactions. It is clear that service quality impacts customers' esteem, satisfaction, and loyalty (Melovic et al., 2015). Social dependability mirrors customer's reaction or opinion on buying a specific product or service (Amin et al., 2013; Rahi, 2015; Rahi, 2016; Rahi & Ghani, 2016). Customers who are loyal to specific banks spend substantially more compared to other customers (Amin et al., 2013).

## 2.3 Relationship between Reliability and Customer Loyalty (R, CL)

The survival of a bank is dependent on the customer's dependability and service quality. The quality of service has an influence on the bank's performance that leads to the up-gradation of customer reliability such that provided services exceed the service level by customers (Caruana, 2002). This supports the recommendation that service quality recognitions are the main influential factors of customer loyalty (Beerli et al., 2004; Lam & Burton, 2006). The study suggests that bank services have an influence on the judgment of the customer. Generally, it is seen that a bank with a better continuous provision of services has long-term particular customer association in comparison to those banks that offer second rate service and probably remain unsuccessful in sustaining the customers (Ennew & Binks, 1996).

H1a: Reliability in the commercial banking sector has a positive impact on the loyalty of customers.

#### 2.4 Relationship between Tangibility and Customer Loyalty (T, CL)

The digital banking services provides an upper hand over the competitors by focusing and designing services continuously. It could be concluded that by altering digital banking services shows that banks are very much considerate in solving the needs of its customers by the provision of personalized services. Banks are dependable due to the competition in the market. Banks are always eager to deal with their customers with the attention to their requirements, rendering services correctly, and giving quick responses. Due to the reason that sympathy, communication quality, and dependability influence on the loyalty of the customer. This suggests that customer faithfulness is not the outcome of the expansion of utilization measurements taken by banks. It suggests further that the influence on customer loyalty by service quality separation measurements is often wrongly presumed. The different elements like area impact customer faithfulness that enforces to examine (Kibithe & Chebii, 2018).

H1b: Tangibility in the commercial banking sector has a positive influence on the loyalty of customers.

#### 2.5 Relationship between Empathy and Customer Loyalty (E, CL)

The quality of service by the bank is considered as a basic achievement as a rule. The relationship exists between the quality service and the utilization of digital services of banks for the improvement of customer faithfulness. The studies on the relationship between quality service and individual faithfulness measurements have been studied by focusing on repurchasing expectations (Boulding et al., 1993; Cronin & Taylor, 1992). While the study of Boulding et al. (1993) focusing on the objectives of repurchasing and willingness to prescribe. The observation of Cronin and Taylor (1992) leads to suggest that the quality of service does not have a positive influence on repurchasing expectations. In comparison, Boulding et al. (1993) found a positive

relationship between quality service and repurchasing expectations. Loyalty refers to show willingness for paying the excellent cost and stay loyal with the brand or service on the quality services without considering the increased cost in any circumstances. A worthwhile positive relationship between quality service and dependability measurements that two have been discussed earlier are announced by Zeithaml et al. (1990).

H1c: Empathy in the commercial banking sector influences positively on the loyalty of customers.

#### 2.6 Relationship between Responsiveness and Customer Loyalty (Re, CL)

The switching of services is dependent on two determinants that are quality of service and customer loyalty (Ennew & Binks, 1996). Therefore, there are calls for resolving the issues like the establishment of discriminant validity between satisfaction and quality service, in addition to it, for examining also the interactive relationships and casual ordering in predicting the intentions of customer's switching of services. The study results indicated that satisfaction and quality services are prominent constructs and quality is satisfaction's antecedent (Bansal & Taylor, 2015).

H1d: Responsiveness in the commercial banking sector has a positive worthwhile impact on the loyalty of customers.

#### 2.7 Relationship between Assurance and Customer Loyalty (A, CL)

The fulfilment of the necessities of customers is the basic service from the organization of the common bank. It is presumed often that banks are placing great trust in the representatives of them for guaranteeing their providing services. They make sure that the customers are being handled with warmth, respectfully, considerably and the requests are being managed rapidly.

H1e: Assurance in the commercial banking sector has a positive impact on the loyalty of customers.

## 2.8 Relationship between Reliability and Customer Satisfaction (R, CS)

Customer reliability can positively contribute to the main essence of the bank as well as a powerful instrument for creating rehash deals from the customers (Hayes, 2008; Chu, 2009). Moreover, dependable customers can serve as powerful advertising instruments when they introduce their bank to more individuals. Accordingly, these current customers contribute towards expanding their bank's customer base and the overall industry. The financial base of any bank is to a great extent subject to this phenomenon. It realises customer dependability and foster a long-term relationship between the two sides (Khan & Fasih, 2014).

H2a: Reliability has a positive influence on customer satisfaction in commercial banking sector.

## 2.9 Relationship between Tangibility and Customer Satisfaction (T, CS)

The provision of services is a continuous process in developing a relationship between the service provider and customers that comprises of several invisible services as premium solutions to the customers' problems. The other useful elements of the system and physical financial assets are involved in the provision of the services (Grönroos, 2004; Ismail et al., 2006). The provision of premium service quality gives a boost to the bank in gaining a competitive advantage in the services industry. In this way, the perception of quality service and faith in the service provider leads to customer satisfaction.

H2b: Tangibility in the commercial banking sector has a positive worthwhile impact on the satisfaction of customers.

## 2.10 Relationship between Empathy and Customer Satisfaction (E, CS)

Wu (2011) examined the relationship between electronic service quality and customer satisfaction and found that electronic service quality affects customer satisfaction. With regards to hardware e-retailers, Bogicevic et al., (2017) and Demir et al., (2015) indicate that

self-checkout service quality emphatically impacts customer faithfulness and satisfaction. Meanwhile, Iqbal et al. (2017) mentioned that the positive and noteworthy relationship between intervention of customer satisfaction is among the relationship of service quality and customer dependability.

H2c: Empathy has a positive influence on customer satisfaction in commercial banking sector.

## 2.11 Relationship between Responsiveness and Customer Satisfaction (Re, CS)

Satisfaction could be thought of as the degree to which a buyer radiates positive assessments to a service experience (Lin & Hsieh, 2006). Satisfaction is seen satisfactory when the study is made between past purchasing and utilisation rehearses with that of expected profit by a product or service mark in regards to its normal potential to satisfy customer's goals (Taylor & Baker, 2014; Cronin et al., 2000; Loudon & Della Bitta, 1993). As per the perspectives of Oliver (1997), satisfaction is viewed as the "customer's satisfying response". It is basically an evaluation of the quality of product or services following a pleasing level of utilisation. In percept theory, satisfaction is viewed as a passionate reaction which passes through the process of intellectual assessment (Parker & Mathews, 2001). Swan and Combs (1976) were first to demonstrate that satisfaction is related to the methods for performance satisfaction prospects. Alternatively, disappointment occurs when performance identified with some products or services fall below expectation.

H2d: Responsiveness has a positive influence on customer satisfaction in commercial banking sector.

## 2.12 Relationship between Assurance and Customer Satisfaction (A, CS)

Relationships between service quality and customer satisfaction by utilising retail banking. Findings from relevant studies have shown that service quality is at the base of customer satisfaction and connected to practical quality, customisation, suggestion and

exchange. Nevertheless, many aspects of service quality and diverse shopper attributes appear to be related with various results. For example, the findings propose that unmistakable components of service quality are more intently connected with positive responsibility. Likewise, "convenience" of service quality is strongly connecting with customer satisfaction, grumbling and exchange practices. The consequences of these outcomes encourage more significant customer satisfaction to be achieved and mitigate negative reactions (Yavas et al, 2004).

H2e: Assurance has a positive influence on customer satisfaction in commercial banking sector.

#### 2.13 Relationship between Customer Satisfaction and Customer Loyalty (CS, CL)

Loyalty is an inclination that surfaces from an assessment procedure. For instance, at the point when the user of service analyses what is obtained compared to what is normal from the use of that service (Kotler et al., 2009). To estimate the satisfaction dimension of customers with respect to purchase and consequent utilisation of a merchandise or services, satisfaction is the realization by the customers that the products or services are satisfactory or mediocre. Furthermore, contemplating on the diverse periods of the customer's relationship is a cycle that features vital issues and delineates the dimension of customer satisfaction at each stage. Additionally, explicit customer needs and desires at each phase of the relationship are stressed (Ravald & Grönroos, 1996). Customer satisfaction connotes the relationship between customer and specialist organisation. Heskett et al. (1994) proposed that customer loyalty encourage customers to rehash buys and induce them to recommend those products or services to other people. Duffy (2003) recommended that customer loyalty is a sentiment of affiliation which a customer has towards a brand. This inclination impels customer to use the service more than once. Thus, this produces sizeable and better financial results for the banks.

H3: Customer satisfaction has a positive influence on customer loyalty in commercial banking sector.

#### 2.14 Customer Satisfaction Mediates the Relationship between Reliability and Customer Loyalty (CS, R, CL)

Masood Ul Hassan et al. (2013) showed that customer satisfaction mediates the relationship between reliability and customer loyalty. Reliability means what the services that has been promised to the customers are being delivered with standard. It also means customer is delivered with the needed service. Customer believes that banks provide service that matches their interest and standards.

H4a: Customer satisfaction mediates the relationship between reliability and customer loyalty in commercial banking sector.

#### 2.15 Customer Satisfaction Mediates the Relationship between Tangibility and Customer Loyalty (CS,T,CL)

Tangibility and customer satisfaction are positively influenced and have direct positive impact on customer loyalty (Masood Ul Hassan, 2013). Customers prefer banks that are on par with the latest technology and tangible facilities related to service quality.

H4b: Customer satisfaction mediates the relationship between tangibility and customer loyalty in commercial banking sector.

#### 2.16 Customer Satisfaction Mediates the Relationship between Empathy and Customer Loyalty (CS, E, CL)

Empathy is defined as a generalised expectation held by an individual that the word of another can be relied upon (Rotter, 1967). Patrick (2002) viewed customer trust as thoughts, feelings, emotions, or behaviours manifested when customers feel that a provider can be relied upon to act in their best interest when they provide direct control. Fornell (1992) described customer satisfaction as an attitude shaped on the basis of experience after clients acquire a service and uses them. Similarly, Ningsih and Segoro (2014) defined satisfaction as an attitude, assessment and

emotional response shown by the customer after the usage of the service. It is an indication of being pleased with a service.

H4c: Customer satisfaction mediates the relationship between empathy and customer loyalty in commercial banking sector.

#### 2.17 Customer Satisfaction Mediates the Relationship between Responsiveness and Customer Loyalty (CS, Re, CL)

Customer expectations are pre-trial beliefs about a service (Olson & Dover, 1979). In the absence of any information, prior expectation of service will be completely diffused. However, customers have many sources of information that lead to expectation on an upcoming service from a particular sector. On-time response to needs/requests are better sources of customer satisfaction and loyalty to service providers. A positive correlation between customer responsiveness and customer satisfaction informs that customers prefer banks that provide services according to the needs of the customers (Masood Ul Hassan et al., 2013).

H4d: Customer satisfaction mediates the relationship between responsiveness and customer loyalty in commercial banking sector.

#### 2.18 Customer Satisfaction Mediates the Relationship between Assurance and Customer Loyalty (CS, A, CL)

Assurance shows a positive effect on customer satisfaction and customer loyalty. Customer satisfaction fully mediates the relationship among assurance and customer loyalty. Assurance means the ability of the service provider in which customers confide to provide the needed service (Masood Ul Hassan et al., 2013). A positive relationship between assurance and customer satisfaction shows that customers recognise banks provide services in professional a manner.

H4e: Customer satisfaction mediates the relationship between assurance and customer loyalty in commercial banking sector.

Figure 1 shows the conceptual framework of the study.

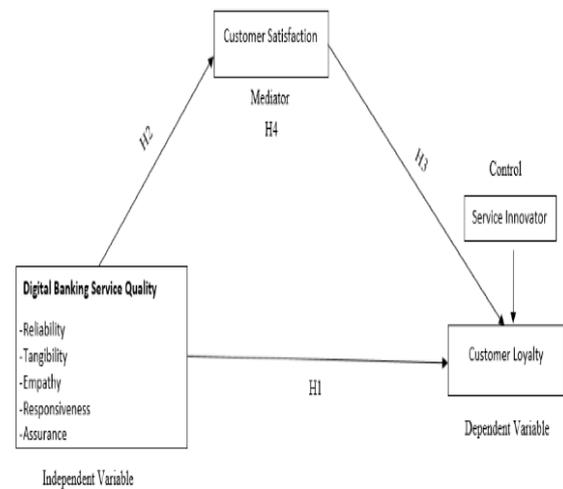


Figure 1 Research Framework

### 3. METHODS

The method adopted in this study for data collection and analysis is survey design quantitative data collection which is a systematic and coordinated way to collect and analyse data from different sources. The sample size determination in this study is based on the Research Advisor (2006) guidelines of determining sample size. According to these procedures the number of users from all bank branches i.e. 201,000 respondents. 384 participants should be selected to participate in this study; however, 40 customers will be selected to participate in the pilot study. The 450 customers were used because of the expected sample misfit and short fall in the return of the questionnaire by the respondents (Adam, 2020). This sample size from the population was determined based on Krejcie and Morgan table (Krejcie & Morgan, 1970). This study employed stratified random sampling procedure to select the required sample for the study. Since the entire population varied, therefore the need to divide them into different sub-groups (banks) to ensure fairness in the distribution of sample.

In this research, questionnaires were designed to obtain primer data from the respondents. This exploration utilised a self-controlled mail

survey where the poll is sent to an extensive number of individuals, and willing respondents can complete the questionnaire at their very own comfort and return it. Five-point Likert scale was utilised on the grounds that it is capable of striking a trade-off between clashing objectives by offering enough decision and making things reasonable for respondents. Respondents were requested to react to the items or constructs by demonstrating their significance through the use of a five-point Likert scale ranging from 'strongly agree' to 'strongly disagree'. The instrument for this study was constructed and validated. Accordingly, the instrument titled 'Digital Service Quality, Customer Satisfaction and Customer Loyalty in Johor Bahru Banks Questionnaire is divided into (5) sections; A-E. Section {A} contains information about the respondents demographic Information, Section {B} contains items to measure Digital Service Quality Sub-scale, section {C} contains items to measure Customer Satisfaction Subscale, Section {D} comprises of items to measure Customer Loyalty and Section {E} includes items to measure service innovator. All the four (4) scales were adapted. The reliability analysis has been used in this study to ensure the results were valid and research findings were consistent to describe the reliability of measurement. In the preliminary survey, questionnaire was distributed to 40 customers from of the customers of the following banks (RHB, Maybank, CIMB, Hong Leong and Muamalat). The data collected through survey were entered into SPSS manually to check the Cronbach's alpha of each factor.

#### 4. RESULTS

To analyse the data collected in this study, the descriptive and inferential statistical methods were used. The statistical program SmartPLS 3.0 software was utilised. Out of 384 respondents, an overall of 196 males and 188 females are involved in the survey mentioned in table 1. Seventy-five respondents are between 18-25 years, 156 respondents are between 26-35 years, 128 respondents are between 36-45 years, 15 respondents are

between 46-55 years, 10 respondents are above 55 years. Meanwhile, as for the race determinants, 199 respondents are Malay, 77 respondents are Chinese, 56 respondents are Indians and 52 are from other races next, as for educational level, 129 respondents completed secondary education, 193 respondents are either diploma holders or have a bachelor's degree, 48 respondents are Masters/ PHD graduates, and the remaining 14 in table 1 respondents have different qualification levels.

Table 1: Demographic Characteristics

No	Description	Percentage %
1	Yes	384
2	No	0
3	Male	196
4	Female	188
5	18 - 25 years	75
6	26 - 35 Years	156
7	36 - 45 Years	128
8	46 - 55 Years	15
9	Above 55 Years	10
10	Malay	199
11	Chinese	77
12	Indian	56
13	Others	52
14	Secondary Education	129
15	Degree/Diploma	193
16	Masters/PHD	48
17	Other	14

The types of services used in the banking are individual banking, business banking, digital banking and also for loan purposes. Based on the types of services employed, 301 respondents are using Digital Banking. The types of digital banking services available are tax alerts, electronic statements, "need help" service, online mobile and tablet banking, checking accounts, treasury services (payroll services, deposit service), discover cent, the quick money transfer tool, mobile check deposit (online pay), debit and credit cards. From the above, online mobile and table banking (193) and the account checking services (93) are the often-used services on digital banking by the respondents and the treasury services like payroll services and deposit services are the minimum used services (27) by the digital banking customers. Figure 2 shows the measurement model with Items Loading, Path Coefficient and R2 Value.

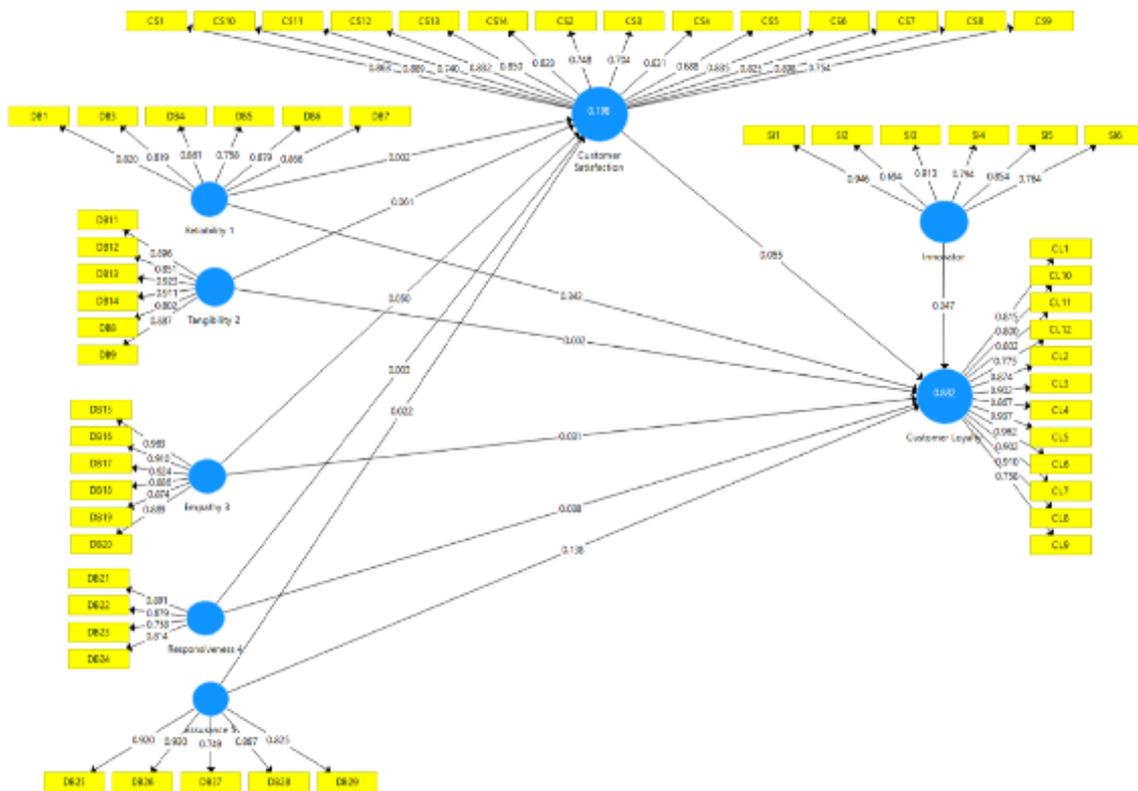


Figure 2: Items Loading, Path Coefficient and R2 Value

According to Chin (1998), indicator loadings should be greater than the cross loadings. The loadings suggested adequate discriminant validity for further analysis. After evaluating and analysing the measurement model, the next step in the PLS path modelling analysis was to test the structural model (inner model). To do so, there are several requirements, including

(R<sup>2</sup>) values, effect size (f<sup>2</sup>) and the predictive relevance of the model recommended by Chin (2010), Hair et al. (2012, 2013) and Valerie (2012). Finally, the bootstrapping was run to test the significance level of the hypothesized relationships in the study model. Table 2 shows a summary of the results related to all hypotheses tested.

Table 2: Summary of the Findings

No.	Path	Beta (β)	T-Value	p-value	Decision
H1a	Re -> CL	0.486	6.681	0.000	Supported
H1b	Ta -> CL	0.197	2.505	0.012	Supported
H1c	Em -> CL	0.062	1.049	0.294	Not Supported
H1d	Res -> CL	-0.262	3.846	0.000	Supported
H1e	As -> CL	0.460	7.901	0.000	Supported
H2a	Re ->CS	-0.212	1.548	0.122	Not Supported
H2b	Ta-> CS	0.796	5.568	0.000	Supported
H2c	Em -> CS	0.473	5.633	0.000	Supported
H2d	Res -> CS	-0.183	1.414	0.157	Not Supported
H2e	As -> CS	0.433	4.005	0.000	Supported
H3	C S -> CL	0.100	5.982	0.000	Supported
H4a	Re -> CS -> CL	-0.030	2.329	0.001	Supported
H4b	Ta -> CS -> CL	0.079	4.373	0.000	Supported
H4c	Em -> CS -> CL	0.188	2.410	0.016	Supported
H4d	Res -> CS -> CL	-0.047	4.972	0.000	Supported
H4e	As -> CS ->CL	0.043	3.203	0.00	Supported

## 5. DISCUSSION

The first objective of this study was to examine what are digital service quality factors that positively affects customer loyalty in commercial banking sector. The findings using five hypotheses revealed that, reliability, tangibility, responsiveness and assurance have a positive influence on customer loyalty in commercial banking sector.

However, empathy has positive but insignificant relationship with the customer loyalty in commercial banking sector in Malaysia. This study highlighted an important trend in banking services provision, the findings is consistent with many similar studies. In order to upgrade profitability and enhance customer satisfaction and loyalty, the digital quality services are important and necessary (Demoulin & Djelassi, 2016). Some other studies found that, digital services quality enhanced customers satisfaction and bring them closer to the institution. Wolfenbarger and Gilly (2003) found out that there is a vital relationship among customer satisfaction, loyalty and service quality. Another study, found solid relationship among service quality and customer loyalty in web retailing setting (Ribbink et al., 2004). Also, online commercial industry perceived positive relationship among electronic service quality and customer satisfaction (Ribbink et al., 2004). Similarly, the finding of this study coincided with the other findings where provision of convenience services improves customer loyalty (i.e Lin & Hsieh, 2006, Al-Alak, 2009; Jeong & Huh, 2016) whereby those studies indicate that quality services is seen as a satisfactory factor that enhances customer acceptance and loyalty to the particular organisation and the product because of its normal potential to satisfy customer's goals (Taylor & Barrett, 2014; Cronin et al., 2000; Loudon & Della Bitta, 1993).

Looking at the characteristics of the sample members, it becomes clear that most of them were not from the category of adolescents, in addition to that they belong to different ethnicities (Malay, Chinese, Indians, and internationals), so their interests will certainly

differ in evaluating digital banking services, as well as based on the age group to which they belong the majority of respondents thus their decisions will be more rational and not linked to emotion. Hence, this justifies why empathy does not have a significant effect on their loyalty. Loyalty refers to show willingness for paying the excellent cost and stay loyal with the brand or service on the quality services without considering the increased cost in any circumstances. In addition, as per the perspectives of Oliver (1997), satisfaction is viewed as the "customer's satisfying response". Thus, it is logical that the customer will not reach the loyalty stage until the customer feels satisfied, and this shows that empathy affects loyalty through satisfaction, and this reinforces the importance of the existence of customer satisfaction as a mediating variable in the relationship between empathy and customer loyalty in this study. This is consistent with the study of Demoulin and Djelassi (2016).

The second objective of this study was to determine what are digital service quality factors that positively affects customer satisfaction in commercial banking sector. In attempt to address the research objective, one corresponding question and five hypotheses were raised and tested as presented in the proceeding chapter. The results revealed that, reliability, tangibility, empathy and assurance have a positive influence on customer satisfaction in commercial banking sector. However, responsiveness has insignificant relationship with the customer satisfaction in commercial banking sector in Malaysia.

This study is consistent with many other related studies. Wu (2011) additionally examined the relationship among electronic service quality and customer satisfaction and found that electronic service quality is identified with customer satisfaction. With regards to hardware e-retailers (Bogicevic et al., 2017), Demir et al., (2015) indicate that self-checkout service quality emphatically impacts faithfulness through the circuitous impact of customer satisfaction (Iqbal et al., 2017). The positive and noteworthy relationship is between intervention of customer satisfaction among the

relationship of service quality and customer dependability.

Similarly, Komulainen et al., (2018) found that mobile banking is a big part of customers' daily activities. As it is a valuable service to complete the activities, the mobile banking app was employed because it is so fast, It is simple to understand and use, and it has a real impact on behavior and daily life. In another development, a research found that the most crucial quality factors behind perceived usefulness, which represents consumer happiness, were expectations of accuracy, security, network speed, user friendliness, user engagement, and convenience. (Mutahar et al., 2018).

Given the characteristics of the sample members, the type of digital banking services most used and the frequency of using those services, it becomes clear that it is difficult for the customer to reach full reliability in the dealings with digital banking services, as most of the respondents used the online mobile and tablet banking, and the majority of respondents were frequency to use those services. Twice a month. Hence, this justifies why reliability and responsiveness do not have a significant effect on their satisfaction. As per the perspectives of Oliver (1997), satisfaction is viewed as the "customer's satisfying response". Due to the nature of digital banking services, in which information security is one of the most important criteria for evaluating service quality, reliability can only be obtained after a long and continuous period of interaction, thus, customer satisfaction cannot be obtained easily, and the responsiveness is also related to the reliability in this type of service, this is consistent with the results of some previous studies such as Mutahar et al. (2018); Kim and Park (2019).

The third research question is aimed at addressing the objective to investigate what are the customer satisfaction factors that positively affect customer loyalty commercial banking sector. The finding revealed that customer satisfaction has a positive influence on customer loyalty in commercial banking sector. This result suggested that a customer satisfaction or perceived utility of the banking

services influences their loyalty to particular products. The finding of this study is in line with several others. A study on critical factors affecting customer acceptance of online banking by Maditinos et al. (2013) suggested the important aspect of perceived usefulness, security risk and performance risk on the intention to use internet banking. The adoption of online banking, on the other hand, appeared to be only little impacted by perceived ease of use and the quality of the internet connection.

The fourth research question was aimed at exploring what are the customer satisfaction factors that mediate the relationship between digital banking service quality and customer loyalty commercial banking sector. To address this objective, five hypotheses were raised and tested. The findings revealed that, customer satisfaction mediates the relationship between reliability, tangibility, empathy, responsiveness, assurance and customer loyalty in commercial banking sector in Malaysia. The finding shows that customer satisfaction plays an important role in facilitating the customer loyalty to the bank and its products. The finding of this study agrees with Masood UI Hassan et al. (2013) whose findings indicate that customer satisfaction mediates relationship among reliability and customer loyalty. The findings of additional studies pointed in the same direction, showing that service quality and satisfaction are in fact separate variables and that quality is a prerequisite to fulfilment (Bansal & Taylor, 2015). This indicates that when there are enough services, contentment will be assured, and hence, consumer loyalty to the services would be attained. Al-Hawary and Al-Smeran, (2017) Outcome Customers of Islamic banks are more satisfied when they receive high-quality electronic services, which indicates a significant mediating role in the customers' complete acceptance of and allegiance to a specific bank's services.

## 6. Implications in Malaysian Context

The research findings from the study highlight some important implications that are specific to the Malaysian context. Customers are serving

more flexibly and the preferred method in for when transactions are easily performed with another bank or another provider rather than the Malaysian banks. To improve this, the above study was done. The banks in Malaysia have been business for integrating the mobile banking, internet banking and automated digital banking to satisfy the client's needs. Results indicate that the aim of the quality of the digital banking service varies depending on client loyalty and satisfaction. However, in Malaysia, consumer loyalty and satisfaction are affected separately by service quality. Based on the findings and discussions, the study recommends among others that the tool used for measuring digital quality services, customer satisfaction and loyalty used in this study is a reliable and valid instrument. The researcher suggests that banks in Malaysia adapt this model to enhance its digital quality services and improve customer satisfaction and banks services delivery and performances. The bank should provide services that are superior to those of other banks to customers since customers are the only means of recommending the digital banking service provided by the current bank to others. This study also recommends that tertiary institutions managers be enlightened on the importance of digital services quality of banks to improve performance and enhance the level of services delivery as well as expand marketing portfolio for attainment of leadership position in the banking industry.

### **7. Limitations of the study**

The relationship between digital banking service quality, customer satisfaction and loyalty in Malaysian banks has been investigated in this study. The study was successfully conducted with sound result that has important implication for policy making, theory and practices. However, study of this nature could not have been successfully conducted without any challenges which may affect the generalization of its findings. This study was conducted with a sample size of only 384 participants that involved the customers using digital banking services in Taman

University of Johor Bahru which can be considered moderately adequate looking at the nature of banking sector and the users in Malaysia. Thus, the findings of this study might be generalised to the entire bank customers in Malaysia. The limited duration of this study implies that it is restricted to the utilisation of only one tool (questionnaires) for the data collections. It was burdensome as majority of the customers have very busy schedules and the researcher's objectives are time-bound; leading to the adoption of more simple methodology to collect data and generate the research findings. Lastly, the quantitative technique employed, survey questionnaire, was not able to capture how respondents responded while answering the questionnaire; possibly the respondents were influenced by environment. It was also not able to identify whether participant fully understands the questions.

### **8. Conclusion**

This study examined the relationship between digital banking service quality, customer satisfaction and loyalty in Malaysia. The study is based on the quantitative questionnaire survey presented to the bank customers from Maybank, CIMB Bank, Muamalat Bank, RHB Bank, and Hong Leong Bank. The study concluded that digital banking service quality positively and significantly affects customer satisfaction and loyalty in the commercial banking sector. It implies that digital banking services must have modern and effective equipment for processing data and transactions, and the ease of use needs to be designed and built into the digital banking services systems platforms. In addition, an effective digital banking operations tool in the infrastructure platform for digital banking services is essential to ensure that customers can access them quickly and safely.

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## References

- [1] Abdulle, M. Y., and Kassim, S. H. (2012). Impact of global financial crisis on the performance of Islamic and conventional banks: Empirical evidence from Malaysia. *Journal of Islamic Economics, Banking and Finance*, 8(4), 9–20.
- [2] Adam, A. M. (2020). Sample size determination in survey research. *Journal of Scientific Research and Reports*, 90-97.
- [3] Aisyah, M. (2018). Islamic Bank Service Quality and Its Impact on Indonesian Customers' Satisfaction and Loyalty. *Al-Iqtishad Journal of Islamic Economics*, 10(2), 367-388.
- [4] Al-Alak, B. A. (2009). Measuring and evaluating business students satisfaction perceptions at public and private universities in Jordan. *Asian Journal of Marketing*, 3(2), 33-51.
- [5] Ali, S. F., and Naeem, M. (2019). Does service quality increase the level of banks performance. *Journal of Management Development*.
- [6] Al-Hawary, S., and Al-Smeran, W. (2017). Impact of electronic service quality on customers satisfaction of Islamic banks in Jordan. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 7(1), 170-188. <http://dx.doi.org/10.6007/IJARAFMS/v7-i1/2613>.
- [7] Ashfaq, M., and Irum, S. (2020). Career Management and Work Behavior in Malaysian Banking Sector Perspective. *European Journal of Molecular & Clinical Medicine*, 7(3), 116-132.
- [8] Amin, M. (2016). Internet banking service quality and its implication on e-customer satisfaction and e-customer satisfaction. *International journal of bank marketing*, 34(3), 280-306.
- [9] Amin, M., Isa, Z., and Fontaine, R. (2013). Islamic banks: Contrasting the drivers of customer satisfaction on image, trust, and loyalty of Muslim and non-Muslim customers in Malaysia. *International Journal of Bank Marketing*, 31(2), 79-97.
- [10] Angur, M. G., Natarajan, R. and Jahera Jr, J. S. (1999). Service quality in the banking industry: An assessment in a developing economy. *International Journal of Bank Marketing*, 17(3), 116–125.
- [11] Ariff, M. S. M., Yun, L. O., Zakuan, N., and Ismail, K. (2013). The Impacts of Service Quality and Customer Satisfaction on Customer Loyalty in Internet Banking. *Procedia - Social and Behavioral Sciences*, 81, 469–473.
- [12] Asiyani, H., and Ishola, A. (2018). E-banking services impact and customer satisfaction in selected bank branches in Ibadan metropolis, Oyo state, Nigeria. *Accounting*, 4(4), 153-160.
- [13] Bank Negara Malaysia Annual Report 2017. (2018, March 28). Bank Negara Malaysia, Central Bank of Malaysia. <https://www.bnm.gov.my/-/bank-negara-malaysia-annual-report>
- [14] Bansal, H. S., and Taylor, S. (2015). Investigating the relationship between service quality, satisfaction and switching intentions. In *Proceedings of the 1997 Academy of Marketing Science (AMS) Annual Conference* (pp. 304-313). Springer, Cham.
- [15] Baumann, C., Elliott, G., and Hamin, H. (2011). Modelling customer loyalty in financial services: a hybrid of formative and reflective constructs. *International Journal of Bank Marketing*, 29(3), 247-267.
- [16] Beerli, A., Martin, J.D. and Quintana, A. (2004), “A model of customer loyalty in the retail banking market”, *European Journal of Marketing*, Vol. 38 Nos 1/2, pp. 253-275. 121
- [17] Blocker, P. C. (2012). The dynamic of satisfaction and loyalty after transgressions. *Journal of Service Marketing*, 26(2), 94–101.
- [18] Bogicevic, V., Bujisic, M., Bilgihan, A., Yang, W., and Cobanoglu, C. (2017). The impact of traveler-focused airport technology on traveler satisfaction. *Technological Forecasting and Social Change*, 123, 351-361.
- [19] Boulding, W., Kalra, A., Staelin, R., and Zeithaml, V. A. (1993). A dynamic process model of service quality: from expectations to behavioral intentions. *Journal of Marketing Research*, 30(1), 7-27.
- [20] Chen, R.-F., Hsiao, J.-L. and Hwang, H.-G. (2012), “Measuring customer satisfaction of Internet banking in Taiwan: scale development and validation”, *Total*

- Quality Management and Business Excellence, Vol. 23 Nos 7/8, pp. 749-767.
- [21] Chin, W. W. (1998). Commentary: Issues and opinion on structural equation modeling.
- [22] Chu, Kuo-Ming. (2009). The construction model of customer trust, perceived value and customer loyalty. *The Journal of American Academy of Business*, Cambridge, 14(2), 98-103.
- [23] Cronin Jr, J., Taylor, S.A. (1992). Measuring Service Quality: A re-examination and extension. *J. Mark.*, 55-68.
- [24] Demir, A., Eray, O., and Erguvan, M. M. (2015). How non-technical dimensions of service quality effects satisfaction and loyalty of costumers at gsm service sector in Georgia. *International Journal of Engineering Technology and Scientific Innovation*, 1(02), 150-162.
- [25] Demoulin, N. T., and Djelassi, S. (2016). An integrated model of self-service technology (SST) usage in a retail context. *International Journal of Retail & Distribution Management*, 44(5), 540-559.
- [26] Duffy, D. L. (2003). Internal and external factors which affect customer loyalty. *Journal of Consumer Marketing*, 20(5), 480-485.
- [27] Ennew, C.T., and Binks, M.R., (1996). The impact of service quality and service characteristics on customer retention: small businesses and banks in the UK. *Br. J. Manag.* 7, 219-230.
- [28] Fornell, C. (1992), "A National Customer Satisfaction Barometer: The Swedish Experience," *Journal of Marketing*, Vol. 56, No.1, 6-21.
- [29] Grönroos, C. (2004). The relationship marketing process: communication, interaction, dialogue, value. *Journal of Business and Industrial Marketing*, 19(2), 99-113.
- [30] Hair, J. F., Ringle, C. M., and Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long range planning*, 46(1-2), 1-12.
- [31] Hair, J. F., Sarstedt, M., Pieper, T. M., and Ringle, C. M. (2012). The use of partial least squares structural equation modeling in strategic management research: a review of past practices and recommendations for future applications. *Long range planning*, 45(5-6), 320-340.
- [32] Haneef, M. A. (2001). Islam and economic development in Malaysia—A reappraisal. *Journal of Islamic Studies*, 12(3), 269-290.
- [33] Haniffa, R., and Hudaib, M. (2010). Islamic finance: From sacred intentions to secular goals? *Journal of Islamic Accounting and Business Research*, 1(2), 85-9.
- [34] Haron, R., Abdul Subar, N., and Ibrahim, K. (2020). Service quality of Islamic banks: satisfaction, loyalty and the mediating role of trust. *Islamic Economic Studies*, 28-1(1), 3-23.
- [35] Hayes, B. E. (2008). The true test of loyalty. *Quality Progress*, 41(6), 20-26.
- [36] Herhausen, D., Kleinlercher, K., Verhoef, P. C., Emrich, O., and Rudolph, T. (2019). Loyalty Formation for Different Customer Journey Segments. *Journal of Retailing*, 95(3), 9-29. <https://doi.org/10.1016/j.jretai.2019.05.001>.
- [37] Heskett, J.L., Jones, T.O., Loveman, G.W., Sasser Jr., W.E. Schlesinger, L.A., (1994). Putting the service profit chain to work. *Harvard Business Review*, 105-111.
- [38] Ibrahim, M. H., Salim, K., Abojeib, M., and Yeap, L. W. (2019). Structural changes, competition and bank stability in Malaysia's dual banking system. *Economic Systems*, 43(1), 111-129.
- [39] Iqbal, M. S., Hassan, M. U., Sharif, S., and Habibah, U. (2017). Interrelationship among corporate image, service quality, customer satisfaction, and customer loyalty: Testing the moderating impact of complaint handling. *International Journal of Academic Research in Business and Social Sciences*, 7(11), 667-688. 129
- [40] Ismail, I., Haron, H., Ibrahim, D. N., and Isa, S. M. (2006). Service quality, client satisfaction and loyalty towards audit firms: Perceptions of Malaysian public listed companies. *Managerial Auditing Journal*, 21(7), 738-756.
- [41] Jain, S., and Gupta, G., (2004). Measuring service quality versus SERVPERF scales. *Vikalpa* 29 (2), 2537.
- [42] Jamal A, Naser K (2002). Customer satisfaction and retail banking: an assessment of some of the key antecedents

- of customer satisfaction in retail banking, *International Journal of Bank Marketing*; 20(4):146-160.
- [43] Jamal, A. (2004). Retail banking and customer behaviour: a study of self concept, satisfaction and technology usage. *The International Review of Retail, Distribution and Consumer Research*, 14(3), 357-379.
- [44] Khan, M. M., and Fasih, M. (2014). Impact of service quality on customer satisfaction and customer satisfaction: Evidence from banking sector. *Pakistan Journal of Commerce and Social Sciences*, 8(2), 331.
- [45] Kibithe, T. W., and Chebii, W. C. (2018). Influence of Service Quality Differentiation Strategy on Customer Satisfaction in Commercial Banks within Nakuru Municipality. *Journal of Strategic Management*, 2(2), 62-82.
- [46] Kim, M. J., and Park, C. J. (2019). Does customer delight matter in the customer satisfaction-loyalty linkage. *Journal of Asian Finance, Economics and Business*, 6(3), 235-245.
- [47] Kim, Minjeong, and Leslie Stoel. "Salesperson roles: are online retailers meeting customer expectations?." *International Journal of Retail & Distribution Management* (2005).
- [48] Komulainen, H., Saraniemi, S., Ulkuniemi, P., and Ylilehto, M. (2018). End-customer value restructuring the financial service supply chain. *Marketing Intelligence and Planning*, 36(6), 709-720.
- [49] Kotler, P., Keller, K. L., Koshy, A., and Jha, M. (2009). *Marketing management: A South Asian perspective* (13th ed.). New Delhi, DL: Pearson Prentice Hall.
- [50] Krejcie, R.V. and Morgan, D.W. (1970). Determining Sample Size for Research Activities. *Education and Psychological measurement*.
- [51] Krisnanto, U. (2018). Digital banking Made Transaction More Trusted And Secured. *International Journal of Civil Engineering and Technology*, 9(11), 395-407.
- [52] Lam, R. and Burton, S. (2006), "SME banking loyalty (and disloyalty): a qualitative study in Hong Kong", *International Journal of Bank Marketing*, Vol.24 No.1, pp.37-52.
- [53] Lewis, B.R. and Soureli, M. (2006). The antecedents of consumer loyalty in retail banking, *Journal of Consumer Behaviour*, 5, 15-31.
- [54] Liang, C.-J., Wang, W.-H. and Farquhar, J.D. (2009), "The influence of customer perceptions on financial performance in financial services", *International Journal of Bank Marketing*, Vol. 27 No. 2, pp. 129-149.
- [55] Lin, J. S. C., and Hsieh, P. L. (2006). The role of technology readiness in customers' perception and adoption of self-service technologies. *International Journal of Service Industry Management*.
- [56] Lommerud, K. E., and Sjørgard, L. (2003). Entry in telecommunication: Customer loyalty, price sensitivity and access prices. *Information Economics and Policy*, 15(1), 55-72. [https://doi.org/10.1016/S0167-6245\(02\)00086-0](https://doi.org/10.1016/S0167-6245(02)00086-0).
- [57] Loudon, L. D., and Bitta, D. E. L. L. A. AJ (1993). *Consumer behavior. Concepts and applications.* (4th Ed.): McGraw Hill.
- [58] Maditinos, D., Chatzoudes, D., and Sarigiannidis, L. (2013) "An examination of the critical factors affecting consumer acceptance of online banking: A focus on the dimensions of risk", *Journal of Systems and Information Technology*, Vol. 15 Iss: 1, pp.97 - 116.
- [59] Magotra, I., Sharma, J., and Sharma, S. K. (2018). Investigating linkage between customer value and technology adoption behaviour: A study of banking sector in India. *European Research on Management and Commercial Economics*, 24(1), 17-26.
- [60] Masood UI Hassan, M. U., Malik, A. A., Imran, M., Hasnain, A., and Abbas, J. (2013). Relationships among customers' perceived service quality, satisfaction and loyalty in the retail banking sector of Pakistan'. *World Applied Sciences Journal*, 24(8), 1020-1030.
- [61] Melovic, B., Mitrovic, S., Markovic, T., Nestic, A., and Vajnerová, I. (2015). Satisfaction as a determinant of customer loyalty towards mobile communication. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 62(6), 1363-1371.
- [62] Mihelis, G., Grigoroudis, E., Siskos, Y., Politis, Y., and Malandrakis, Y. (2001). Customer satisfaction measurement in the

- private bank sector. *European Journal of Operational Research*, 130(2), 347–360.
- [63] Mutahar, A. M., Daud, N. M., Thurasamy, R., Isaac, O., and Abdulsalam, R. (2018). The Mediating of Perceived Usefulness and Perceived Ease of Use: The Case of Mobile Banking in Yemen. *International Journal of Technology Diffusion (IJTD)*, 9(2), 21-40.
- [64] Muthonia, W. W., and Otieno, D. M. (2014). Effects of Service Quality Gaps on Customer Satisfaction of Commercial Bank Mombasa. *International Journal of Sciences: Basic and Applied Research (IJSBAR)*, 15(2), 272-288.
- [65] Nazir, M. S., Safdar, R., and Akram, M. I. (2012). Impact of global financial crisis on bank's financial performance in Pakistan. *American Journal of Scientific Research*, 78(October), 101–110.
- [66] Ningsih, S. M., and Segoro, W. (2014). The influence of customer satisfaction, switching cost and trusts in a brand on customer loyalty-the survey on student as IM3 users in Depok, Indonesia. *Procedia-Social And Behavioral Sciences*, 1015-1019.
- [67] Oliver, R. L. (2010). *Satisfaction: A Behavioral Perspective on the Consumer*. Armonk, NY: M. E. Sharpe.
- [68] Olson, J. C., and Dover, P. A. (1979). Disconfirmation of consumer expectations through product trial. *Journal of Applied Psychology*, 64(2), 179.
- [69] Pakurár, M., Haddad, H., Nagy, J., Popp, J., and Oláh, J. (2019). The Service Quality Dimensions that Affect Customer Satisfaction in the Jordanian Banking Sector. *Sustainability*, 11(4), 1113.
- [70] Parker, C., and Mathews, B. P. (2001). Customer satisfaction: contrasting academic and consumers' interpretations. *Marketing Intelligence & Planning*, 19(1), 38-44.
- [71] Phulpoto, L. A., Shah, A. B., and Shaikh, F. M. (2012). Global financial crises and its impact on banking sector in Pakistan. *Journal of Asian Business Strategy*, 2(6), 142.
- [72] Rahi, S. (2015). Moderating Role of Brand Image With Relation to Internet Banking and Customer Loyalty: A Case of Branchless Banking. *The Journal of Internet Banking and Commerce*, 2015.
- [73] Rahi, S. (2016). Impact of Customer Perceived Value and Customer's Perception of Public Relation on Customer Loyalty with Moderating Role of Brand Image. *Journal of Internet Banking and Commerce*, 21(2).
- [74] Rahi, S., and Ghani, M. (2016). Internet Banking, Customer Perceived Value and Loyalty: The Role of Switching Costs. *J Account Mark*, 5(188), 2.
- [75] Ranaweera, C., and Neely, A. (2003). Some moderating effects on the service quality-customer retention link. *International journal of operations & Production management*, 23(2), 230-248.
- [76] Ravald, A., and Grönroos, C. (1996). The value concept and relationship marketing. *European Journal of Marketing*, 30(2), 19-30.
- [77] Research Advisor (2006). Sample size table. Retrieved from <http://WWW.research-advisors.com>
- [78] Ribbink, D., Riel, A. C. R., Liljander, V., and Streukens, S. (2004). Comfort your online customer: quality, trust, and loyalty on the internet. *Managing Service Quality*, 14 ( 6), 446-56.
- [79] Rotter, J. B. (1967) A new scale for the measurement of interpersonal trust. *Journal of Personality*, 35, 651, 665.
- [80] Shamsudin, M. F. M. F., Esa, S. A. S. A., and Ali, A. M. A. M. (2019). Determinants of customer loyalty towards the hotel industry in Malaysia. *International Journal of Innovation, Creativity and Change*, 6(9), 21–29.
- [81] Shamsudin, Mohd Farid, and Razali, N. A. M. (2015). Factors Influencing Customer Loyalty In Private Healthcare Services. *The International Journal of Social Sciences and Humanities Invention*, (October). <https://doi.org/10.18535/ijsshi/v2i110.03>. 142
- [82] Shankar, A., and Jebarajakirthy, C. (2019). The influence of e-banking service quality on customer loyalty. *International Journal of Bank Marketing*.
- [83] Swan, J. E., and Combs, L. J. (1976). Product Performance and Consumer Satisfaction: A New Concept: An Empirical Study Examines the Influence of Physical and Psychological Dimensions of Product Performance on Consumer

- Satisfaction. *Journal of marketing*, 40(2), 25-33.
- [84] Tadic, D., Aleksic, A., Mimovic, P., Puskaric, H., and Misita, M. (2018). A model for evaluation of customer satisfaction with banking service quality in an uncertain environment. *Total Quality Management and Business Excellence*, 29(11-12), 1342-1361.
- [85] Taylor, S. A., and Baker, T. L. (1994). An assessment of the relationship between service quality and customer satisfaction in the formation of consumers' purchase intentions. *Journal of retailing*, 70(2), 163-178.
- [86] Toelle, S. (2006). The linkages among service quality attributes, customer value, customer satisfaction, and customer loyalty in Indonesian retail banking settings. Nova Southeastern University.
- [87] Wolfinbarger, M., and Gilly, M. C. (2003). eTailQ: dimensionalizing, measuring and predicting etail quality. *Journal of retailing*, 79(3), 183-198.
- [88] Wu, L.W. (2011), "Beyond Satisfaction: The Relative Importance of Locational Convenience, Interpersonal Relationships, and Commitment across Service Types", *Managing Service Quality*, Vol.21 No.3, pp.240-263.
- [89] Yavas, U., Bilgin, Z. and Shemwell, D.J., (1997). Service quality in the banking sector in an emerging economy: a consumer survey. *International Journal of Bank Marketing*, 15(6), 217-223.
- [90] Yin, W., and Matthews, K. (2016). The determinants and profitability of switching costs in Chinese banking. *Applied economics*, 48(43), 4156-4166.
- [91] Zaher, T. S., and Hassan, M. K. (2001). A comparative literature survey of Islamic finance and banking *Financial Markets. Institutions and Instruments*, 10(4), 155–199. 145
- [92] Zeithaml, V.A., Parasuraman, A., and Berry, L.L. (1990). *Delivering Quality Service – Balancing Customer Perception and Expectations*. New York: The Free Press.