COVID-19: IMPLICATIONS FOR E-SERVICE QUALITY ATTRIBUTES AND OUTCOMES OF E-BANKING

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Abstract
The emergence of COVID-19 pandemic has brought about several challenges to the banking industry. One of the challenges is the quality of e-banking services, which has been critical for bank customers. The purpose of the study is to ascertain the e-service quality attributes that affect perceived e-banking quality and examine the relationships between e-banking perceived quality, perceived e-value, e-satisfaction and e-loyalty from e-banking users perspectives. The study adopted a cross-sectional research design and a quantitative approach. The researchers collected the data using a standardized questionnaire. A total of 384 questionnaires were administered via Google Form to e-banking users in Osun State, Nigeria, however, 171 responded to the survey. The data were analyzed using Structural Equation Modeling. The findings revealed that convenience, security, personalization and responsiveness best explain perceived e-banking quality during COVID-19. The results further indicated that the outcome categories (perceived e-value, e-satisfaction and e-loyalty) have strong associations with perceived e-banking quality. The route co-efficient between perceived e-value and e-satisfaction, as well as e-satisfaction and e-loyalty, were significant. The study's findings will provide a framework for bank executives to evaluate their e-banking performance and identify areas of e-service delivery that they need to work on to improve customer perceptions of e-banking quality, e-value, e-satisfaction, and e-loyalty.

Keywords: E-banking quality, Corona Virus, perceived e-value, e-satisfaction, e-loyalty, Nigeria

JEL Classification: G21, M30, M31

INTRODUCTION

The global COVID-19 pandemic has led to alterations in the operations of banks and the way banks render services to their customers across the world (Naveon & Anders, 2020; KPMG, 2020). The COVID-19 experience confirms the assertion of Yousif (2015:874) that "all businesses compete in two worlds, the physical or tangible world and the electronic world". Banks have been operating in these two environments, but with the emergence of COVID-19 and its attendant Protocols, there is more emphasis on the use of e-channels (Vatolkina, Gorbashko, Kamynina & Fedotkina, 2020). This fundamental change has raised several e-service quality issues, so interest in managing services from customers' perspectives is considerably high. Scholars have noted that providing exceptional customer service is essential for business success and survival in a competitive climate (Sadaf & Rahela, 2019; Shankar & Datta, 2020). According to Aaker (2011) a high measure of service quality affects the perception of a service's superiority over its alternatives. When banks provide high-quality service, they raise service delivery efficiency and effectiveness, thus, boosting performance (Iham, Ahmad, Low & Hamid, 2013). On the part of the customer, the convenience of being able to receive the service at one's leisure and accessing it whenever one desires, according to Poon and Lee (2012), is the primary reason for adopting e-service rather than traditional service.

As noted by Mohammad, Rushami, Rabiul, and Abdullah (2013) managers must understand customers' opinions of the quality of their services and how they evaluate them online to provide high-quality services. Mohammad, Mohsen, and Roza (2013) also mentioned that assessing the degree of service quality is vital to ensure good perceived service quality in electronic markets. Due to COVID-19 protocols, more customers are opting for e-banking. So, the issue of e-banking quality is becoming recognized as strategically significant for bank executives. It will be appropriate for banks to take the required strategies to improve overall service delivery if they are aware of the quality attributes they can use to gauge the quality of their e-banking service. Moreover, it is vital to recognize how this affects perceived e-value, e-satisfaction, and e-loyalty. This study clarifies the associations among the conceptions. Consequently, the purpose of the paper is to emphasize the need for e-service quality delivery in banks as a response to the COVID-19 pandemic. The objective is to identify the critical e-service quality attributes that banks can focus on to improve the quality of e-banking and determine the relationship between perceived e-banking quality and perceived e-value, e-satisfaction and e-loyalty.

LITERATURE REVIEW

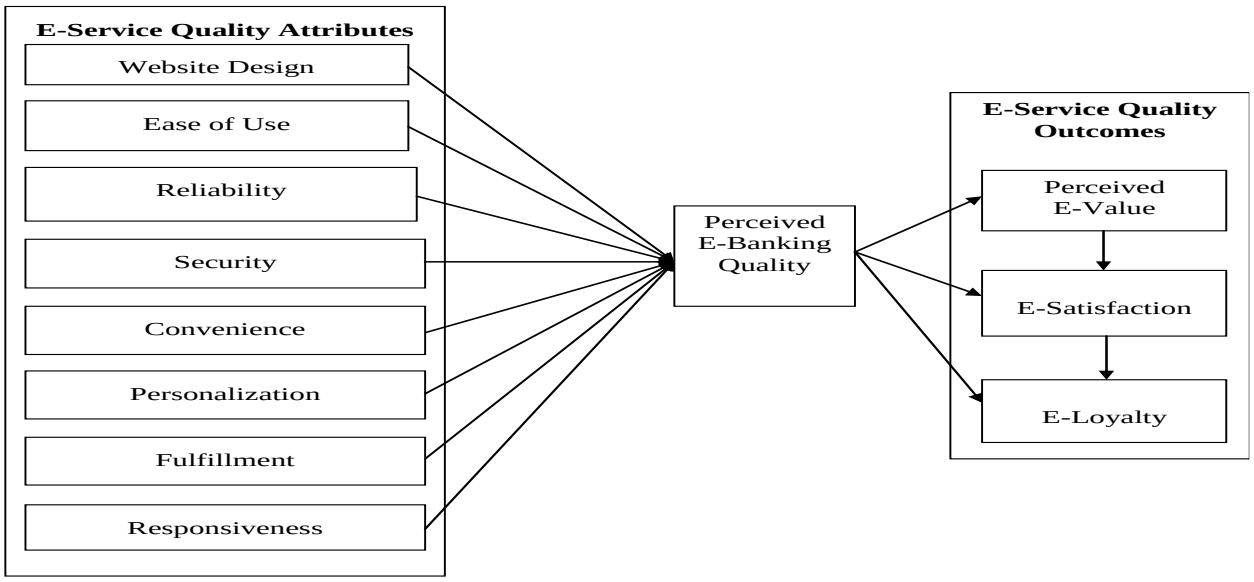
The concept of e-service emanated from the popularity of the internet and its application in business. Since 2000, e-service practices have been on the increase, and e-service quality models have been evolving. This development gave rise to the issue of e-service quality. Several authors have offered a variety of definitions. According to Zeithaml, Parasuraman, and Malhotra (2000:11) it is "the amount to which a website supports efficient and effective shopping, purchase, and delivery of items and services." In the view of Parasuraman, Zeithaml, and Malhotra (2005:217) "e-service quality comprises all phases of a customer's interactions with a website, including the amount to which a website allows efficient and effective shopping, purchase, and delivery". The definitions of e-service quality presented by Zeithaml *et al*. (2000, 2002) and Parasuraman *et al*. (2005) tend to confine e-service quality to web-based services, hence, they may not be fully compatible with other e-services like ATMs, POS, and mobile banking. Al-Hawari, Hartley, and Ward (2005) opined that a broadly defined automated service

quality is the most appropriate. Some authors have sought to include all electronic channels in defining the concept. E-service quality, for example, is described by Santos (2003) as "the excellence of electronic service offerings in the virtual marketplace". This definition accommodates all electronic services.

Several studies (Zeithaml *et al*., 2000; Santos, 2003; Parasuraman *et al*., 2005; Sadaf & Rahela, 2019; Shankar & Datta, 2020) have concentrated on conceptualizing and measuring e-service quality, in addition to investigating its implications in the electronic market space. It was noted that pre-service expectations influence customers' perceptions of service quality. Customer expectations are beliefs that a customer has about a service that are used as benchmarks for measuring service quality. As a result, perceived service quality is mainly determined by what the customer says. Therefore, it is critical to ask questions, observe, and investigate the customers. The standard method for assessing service quality is to use a set of dimensions or attributes. Several scholars have attempted to define the attributes of e-service quality. These attributes characterize e-service quality using specific attributes associated with a given service. Additional aspects of e-service quality will always be required, according to Raman, Stephenaus, Alam, and Kuppusamy (2008), to capture the entire construct of e-service quality. Consequently, the study proposed a conceptual model to achieve the goal of the study.

The conceptual model in Figure 1 seeks to identify the most significant e-service quality attributes that may influence customers' e-banking perceived quality. It suggests the affiliation between e-banking perceived quality and e-service quality attributes and the connection between e-banking perceived quality, perceived e-value, e-satisfaction, and e-loyalty. The identified e-service quality attributes are expected to influence e-banking perceived quality, and e-banking perceived quality is expected to influence the outcomes (perceived e-value, e-satisfaction and e-loyalty). It is also projected that perceived e-value will impact e-satisfaction, which will affect e-loyalty.

Figure 1: Conceptual Model of E-Service Quality Attributes and Outcomes



Source: Authors (2021)

Perceived e-banking quality is a bank customers' total appraisal of e-banking based on their opinions of what they expected and received (Zeithaml *et al*., 2000). It occurs when customers compare their perceptions of the service delivery process to the actual service outcome. Service quality attributes are frequently used to determine perceived e-banking quality. However, as noted by Yang, Jun and Peterson (2004), "not all quality features may affect perceived e-service quality since some attributes may not boost e-service quality in specific contexts." Despite the observation, the identified e-service quality attributes (website design, ease of use, reliability, security, convenience, personalization, fulfilment and responsiveness) are predicted to influence e-banking quality.

Website design is the organization of a website's material and aesthetic qualities. It refers to how visually beautiful and well-designed the website interface is (Swaid & Wigand, 2009). When a customer wants to use e-services, the initial point of contact is the website. The fact that e-services are offered via electronic channels presents some difficulties for the service provider. As a result of the absence of face-to-face engagement with service providers, e-banking customers interact with the user interface. Some studies have identified website design as a critical factor of e-service quality (Lee & Lin, 2005; Zhengwei & Jinkun, 2012; Askari, kazempoo & Milad lajevardi, 2016; Shankar & Datta, 2020). The extent to which the e-channel guarantees easy transactions for customers is referred to as ease of use. It refers to how clear and straightforward the e-channel may be comprehended and operated. According to Vatolkina *et al*. (2020), "ease of use is an essential feature during the acceptance of e-service and its use". Some e-banking customers find it challenging to comprehend the instructions for some activities. If users believe a technology is simple to use, their likelihood of using it increases their sense of service quality. A significant component of the service delivery process is the creation of user-friendly websites and screen displays that do not necessitate a high level of skill on the part of clients. Customers should be able to accomplish all functions without needing assistance through such e-channels. Ease of use has been identified as a critical aspect of e-service excellence (Shirshendu & Sanjit, 2011; Kumbhar, 2011; Narteh, 2013).

Reliability means that the technology can deliver the promised service consistently and accurately (Askari *et al*., 2016). It has to do with a service's accuracy, quickness, and availability. It is a measure of how well the e-channel follows through on its service claims. Reliability implies that the e-channel should be available at all times and deliver on its promises. It entails the site's technical functionality, such as ensuring that the information presented is accurate and the site is available and functional. For example, one of the essential services supplied by ATMs is cash withdrawal, and most ATMs appear to be out of cash or out of service, implying that ATMs do not fulfill the claimed 24-hour service. Reliability has been discovered to be an essential indicator of e-service quality (Khan, 2010; Narteh, 2013; Akinmayowa & Ogbeide, 2014; Askari *et al*., 2016; Al-Hawary & Al-Smeran, 2017). Security is the safeguarding of customers' personal information and the prevention of fraud and financial loss. It is an assurance that transaction records and credit card and account information are not shared with third parties. Customers perceive significant risks in the virtual world due to the increased occurrence of internet fraud. Hence this dimension is vital in e-services (Zhengwei & Jinkun, 2012). Security may be an appealing feature for customers to favour online transactions. In some research (Khan, 2010; Kumbhar, 2011; Akinmayowa & Ogbeide, 2014; Askari *et al*., 2016), security has been

found to be an essential dimension of e-service quality, but it was not found to be relevant in others (Yang et al., 2004; Narteh, 2013).

Convenience is "perceptions of time and effort associated with using a service" (Jiang, Yang & Jun, 2013). It is the capacity to utilize the e-channel at any time, from any location, and without experiencing any delays. It is the capacity to ensure that the e-banking hours of operation or the location of the service facility is convenient. Customers will have constant access to the e-channel, saving them time and effort. Some authors (Khan, 2010; Kumbhar, 2011; Poon & Lee, 2012; Narteh, 2013; Akinmayowa and Ogbeide, 2014) have identified convenience as a crucial element impacting the perception of e-service quality. Personalization is "individualized attention and differentiated service designed to match individual requirements and preferences" (Swaid & Wigand, 2009). E-banking allows a bank to collect and keep information on its customers while also identifying them individually. If the client database is linked to the e-channel, the bank can greet them with targeted offers every time they visit the e-channel. The more customers utilize e-banking, the more the bank can fine-tune its profile. According to Kabadayi and Gupta (2011) personalization impresses customers, causing them to return to the site in the future. It has been noted as a significant element of e-service quality (Lee & Lin, 2005; Ojasalo, 2010; Askari *et al*., 2016).

The extent to which the e-channel delivers results that meet the customer's expectations is fulfillment (Narteh, 2013). It shows the service delivery performance, emphasizing customers needs and what they obtain. For example, when using internet banking to pay, it is assumed that the transaction would be successful; nevertheless, if the customer's account is debited and the transaction is unsuccessful, the transaction is not fulfilled. Fulfillment has been identified as a major aspect of service excellence (Parasuraman *et al*., 2005; Farnaz, Mohd, Ahmad, Norhayati, Ahamad & Mohsen, 2012). The perception of e-banking quality is expected to be influenced by fulfillment. When customers have challenges with a technology, responsiveness is how the service provider responds to assist them. It also entails paying attention and responding quickly to customers requests, queries, and complaints about the e-channel and compensating customers who suffer losses. Several studies have highlighted responsiveness as one of the predictors of e-service quality (Khan, 2010; Kumbhar, 2011; Madu & Madu, 2002; Lee & Lin, 2005; Akinmayowa & Ogbeide, 2014; Shankar & Datta, 2020).

The evaluated value that a customer perceives to acquire by receiving a service online is perceived e-value. It is the discrepancy between the actual benefits a customer thinks he got and the price (money, time, and effort) he had to pay for those benefits (Pushkar & Satish, 2019). E-satisfaction is a client's happiness with their previous online experience with a certain e-channel (Sindhu, 2019). According to Tran and Le (2020), a service's perceived quality impacts its value in large part. The authors further noted customer satisfaction is directly influenced by perceived e-value. According to Ryu, Lee, and Kim (2012), "perceived value is a strong determinant of customer satisfaction". Several authors (Khan, 2010; Kumbhar, 2011; Akinmayowa & Ogbeide, 2014; Sundaram, Ramkumar & Shankar, 2017; Al-dweeri, Obeidat, Al-dwiry, Alshurideh & Alhorani, 2017) have noted that the quality of online services is becoming increasingly crucial in determining satisfaction.

Customer e-loyalty refers to the attitude and behavior of preferring e-channel service over direct

service (Al-dweeri *et al*., 2017). Behavioral loyalty is a consumer's behavior in terms of repurchase because of a preference for a selected provider. In contrast, attitudinal loyalty refers to the customer's emotional and mental state as meditated in preference to repurchase and endorsement of the product to others (Amin, 2016). Su, Swanson, and Chen (2016); Al-dweeri *et al*. (2017) found affiliation between perceived service quality and consumer e-loyalty. Similarly, satisfaction has been identified as a critical determinant of loyalty (Kassim & Abdullah, 2010; Ting, Ariff, Zakuan, Suliaman & Zameri, 2016; Sundaram *et al*., 2017; Al-dweeri *et al*., 2017).

Based on the foregoing, the study aims to identify the critical e-service quality attributes that banks can focus on to improve the quality of e-banking and determine the relationship between perceived e-banking quality and perceived e-value e-satisfaction and e-loyalty. Thus, the following hypotheses were formulated:

H_1: Website design has a positive influence on perceived e-banking quality.
H_2: Ease of use has a positive influence on perceived e-banking quality.
H_3: Reliability has a positive influence on perceived e-banking quality.
H_4: Security has a positive influence on perceived e-banking quality.
H_5: Convenience has a positive influence on perceived e-banking quality.
H_6: Personalization has a positive influence on perceived e-banking quality.
H_7: Fulfillment has a positive influence on perceived e-banking quality.
H_8: Responsiveness has a positive influence on perceived e-banking quality.
H_9: Perceived e-service quality positively influences perceived e-value.
H_{10}: Perceived e-service quality positively influences e-satisfaction.
H_{11}: Perceived e-service quality positively influences e-loyalty.
H_{12}: Perceived e-value positively influences e-satisfaction.
H_{13}: E-satisfaction positively influences e-loyalty.

METHODS

The study employed a cross-sectional research design. E-banking users in Osun State, Nigeria, were the target population. The sample size was estimated using the table given by Krejcie and Morgan (1970). The authors advised that a sample size of 384 can be used for a population with more than 1,000,000 target groups. The data for the Pilot Study was collected using a standardized questionnaire with 70 items. The study variables were assessed using scales adapted from previous studies, including e-service quality attributes and perceived e-banking quality (Narteh, 2013; Mohammad *et al.* 2013); perceived e-value (Tran & Le, 2020); e-satisfaction and e-loyalty (Ong, Mohd, Norhayati, Zuraidah & Muhamad, 2016; Amin, 2016). There are six sections to the questionnaire. Section A measured respondents' demographic information. Second B measured the attributes of e-service quality; Section C measured perceived e-banking service quality. Sections D, E and F measured the outcomes; perceived e-value, e-satisfaction, and e-loyalty, respectively.

A pre-test of the instrument to ascertain the instrument's clarity and to test for reliability was undertaken. The researchers administered the instrument to 50 e-banking users. Cronbach's alpha was computed for each variable in the study to test the instrument's dependability. Before administering the final questionnaire, this test was undertaken to ensure that the items used to estimate the constructs were consistent. The study constructs had a Cronbach's Alpha coefficient

of more than 0.7, with perceived e-value (0.878) having the most outstanding value and responsiveness having the lowest (0.737). This, according to Pallant (2010), indicates good internal consistency. As a result, the research instrument was considered sufficiently reliable. However, based on the respondents' feedback, the questionnaire was revised and reduced from 70 items to 60 items.

The final questionnaire was created in Google form and administered to 384 e-banking users in Osun State, Nigeria. An invitation soliciting participation in the study was sent to emails and WhatsApp of identified e-banking users. A filter question was put in place to ensure that only e-banking users participated in the survey. The researchers collected the data for three months, from 30th June to 30th September 2021, and 171 responses were received. The study employed Structural Equation Modeling (SEM). Wong (2013) noted that "a sample size between 100 and 300 is sufficient for path modeling". Thus, the response of 171, representing 44.5%, was considered sufficient for the analyses.

RESULTS

The demography of the respondents in Table 1 implies that majority of the respondents (96) 56.1 per cent were males while (67) 39.2 per cent were below 25 years. For the respondents' level of education, majority (155) 90.6 per cent had tertiary education while (64) 37.4 per cent were students. With respect to monthly income/allowance, (101) 59.1 per cent earned less than N100,000. The analysis revealed that all the categories of respondents were captured except for level of education, where there was no response for primary education.

Table 1: Demographic Characteristics of the Respondents

	Variable	Frequency	Percent (%)
Gender	Male	96	56.1
	Female	75	43.9
Age	Below 25	67	39.2
	25-35	22	12.9
	36-45	35	20.5
	46-65	43	25.1
	65 and above	4	2.3
Level of Education	Primary	NIL	0.0
	Secondary	16	9.4
	Tertiary	155	90.6
Employment Status	Student	64	37.4
	Self-employed	35	20.5
	Public Employee	26	15.2
	Private Employee	35	20.5
	Others	11	6.4
Monthly Income/Allowance	Less than N100,000	101	59.1
	N100,000 to N300,000	51	29.8
	N300,001 to N500,000	15	8.8
	N500,001 and more	4	2.3

Both structural and measurement models were used to examine the data. According to Hair, Black, Babin, and Anderson (2010) "a two-step method is more effective than a single-step approach". The study used Confirmatory Factor Analysis (CFA) to demonstrate the dimension model. In line with Hussain, Fangwei, Siddiqi, Ali, and Shabbir (2018), all elements in the measurement model should be reflective, and the least factor loading value should be.0.70. As demonstrated in Table 2, the constructions (i.e. factor loadings) have values more than 0.70. Composite Reliability, Cronbach's Alpha, and Average Variance Extracted (AVE) were employed to evaluate the construct validity and homogeneity of the items. Hair et al. (2010) noted that the threshold for all scales and measuring items should be dependable. As a result, the Composite Reliability has to be at least 0.80. When the Cronbach's Alpha is equal to or greater than 0.70, it is considered dependable. Finally, the AVE estimate (Average Variance Extracted estimate) must be greater than 0.50.

Table 2: Analysis of Measurement Model

Indicators	**Factor Loading ≥0.7**	**Composite Reliability ≥0.8**	**Cronbach's Alpha ≥0.7**	**Average Variance Extracted (AVE) ≥0.5**	**No of Items**
E-Service Quality Attributes		0.835	0.772	0.602	34
Website Design	0.802				
Ease of Use	0.908				
Reliability	0.776				
Security	0.895				
Convenience	0.867				
Personalization	0.814				
Fulfilment	0.893				
Responsiveness	0.725				
Perceived E-Banking Quality		0.811	0.753	0.635	5
Outcome of E-Service Quality		0.912	0.841	0.700	13
Perceived E-Value	0.918				
E-Satisfaction	0.921				
E-Loyalty	0.896				

Table 2 shows that the factor loadings of the items were more than the minimum criterion of 0.70, as stated by (Hussain *et al*., 2018). The factor loadings for the construct specific measures ranged from 0.725 to 0.921. Table 2 also indicates that all constructs have values more than 0.80 and 0.70, respectively, assuring composite internal consistency and Cronbach's Alpha reliability. Furthermore, the Average Variance Extracted estimate (AVE) ranged from 0.602 to 0.700, surpassing the 0.50 requirement. As a result, the instrument is deemed dependable.

The structural model which determined the route coefficients' important values in structural equation modeling was also assessed. In PLS-SEM, bootstrapping is required to determine the significance level (Hair *et al*., 2010; Hussain *et al*., 2018). The coefficient of determination, often known as the R Square (R^2), was employed to determine the study model power variance. According to Byrne (2010) R^2 value of 0.71 - 0.90 is seen as excellent; 0.51 – 0.70 is regarded as

good; 0.31 – 0.50 is regarded as fair and 0.10 - 0.30 is seen as weak. The path model can be considered excellent in this study, as depicted in Table 3.

The Path Coefficients (β) and (T) statistics were assessed using Partial Least Squares method (PLS). The value tested the hypotheses significance. The bigger the significant impact on the endogenous latent construct, the more the value. Table 3 shows the findings of the Path Coefficients and T-values. The P-values of the link between perceived e-banking quality and e-service quality outcomes are below 0.05. The results reveal that e-banking quality significantly impacts e-service quality outcomes. The results in Table 3 also indicate that, except for website design, ease of use, reliability, and fulfillment, all identified e-service quality factors substantially impact perceived e-banking quality.

Table 3: Path Coefficients for E-Banking Quality Imperatives during COVID-19

	Path	**Beta (β)**	**T**	**P**	**Decision**
H_1	Website design → e-banking perceived quality.	0.093	0.883	0.378	NS
H_2	Ease of use → e-banking perceived quality.	-0.155	1.363	0.174	NS
H_3	Reliability → e-banking perceived quality.	-0.025	0.280	0.780	NS
H_4	Security → e-banking perceived quality.	0.269	2.309	0.021	Sig.
H_5	Convenience → e-banking perceived quality	0.342	3.099	0.002	Sig.
H_6	Personalization → e-banking perceived quality	0.203	2.074	0.039	Sig.
H_7	Fulfillment → e-banking perceived quality	0.042	0.334	0.739	NS
H_8	Responsiveness → e-banking perceived quality	0.199	2.364	0.018	Sig.
H_9	Perceived E-banking quality →perceived e-value.	0.855	24.869	0.000	Sig.
H_{10}	Perceived E-banking quality →e-satisfaction.	0.542	4.382	0.000	Sig.
H_{11}	Perceived E-banking quality →e-loyalty.	0.649	5.706	0.000	Sig.
H_{12}	Perceived e-value →e-satisfaction.	0.368	2.656	0.008	Sig.
H_{13}	E-satisfaction → e-loyalty.	0.255	2.131	0.034	Sig.

Independent Variables		**Dependent Variables**	**R-Square (R^2)**
E-service quality attributes	➡	Perceived E-banking quality	0.761
Perceived E-banking quality	➡	e-value	0.731
Perceived E-banking quality and e-value	➡	e-satisfaction	0.770
Perceived E-banking quality and e-satisfaction	➡	e-loyalty	0.771

Note: *NS = Not significant; S= Significant*

Table 3 indicates that the attributes of e-service quality excellently explained 76.1% of the variation in perceived e-banking quality while perceived e-banking quality excellently explained 73.1% of perceived e-value. In the same vein, perceived e-banking quality and e-value excellently explained 77% of the variations in e-satisfaction. Finally, perceived e-banking quality and e-satisfaction excellently explained 77.1% of the variations in perceived e-loyalty. This

model suggests an excellent explanatory power. Overall, the affiliation between e-banking perceived quality and the outcomes of e-service quality (i.e. perceived e-value, e-satisfaction and e-loyalty) was confirmed. The results imply that e-banking perceived quality is a predictor of e-service quality outcomes of e-banking recorded during the COVID-19 pandemic. The results demonstrated the structural models' high predictive and explanatory power and path analysis for perceived e-banking quality and e-service quality outcomes.

Besides, Table 3 reveals that convenience (β=.342, t = 3.099, p=.002<0.05); security (β=.269, t = 2.309, p=.021<0.05), personalisation (β=.203, t = 2.074, p=.039<0.05) and responsiveness (β=.199, t = 2.364, p=.018<0.05) significantly influence e-banking service quality and they are positive. Therefore, the findings provided empirical support for H_4, H_5, H_6 and H_8. The findings indicate that convenience has the most substantial influence on perceived e-banking quality. The results confirm the assertion of Poon and Lee (2012) that the primary reason for using e-banking is convenience. Since COVID-19, there have been long queues in almost all the banks due to the Protocols of social distancing and avoidance of overcrowding in the banks. Bank customers now spend several hours in the bank to receive service. So, most bank customers have resorted to e-banking for convenience. It implies that if the customers cannot use e-banking at their comfort anytime, anywhere, and at convenient locations, their perception of e-banking quality will be affected. The finding that security has a remarkable influence on e-banking perceived quality is in agreement with the results of (Khan, 2010; Kumbhar, 2011; Akinmayowa & Ogbeide, 2014; Askari *et al*., 2016) but does not support the finding of Narteh (2013) and Yang *et al.* (2004). In Nigeria, there has been a report of bank customers losing their money to third parties. That is why banks always advise customers to report the loss of ATM cards, disclosure of PINs and other information immediately to avoid unauthorized withdrawals from their accounts. The results also indicate that personalization significantly influences perceived e-banking quality. This supports the finding of (Lee & Lin, 2005; Ojasalo, 2010; Askari *et al*., 2016). Furthermore, responsiveness was found to be significant. E-banking has brought some challenges to customers. Therefore, how the issues are resolved substantially affects e-banking quality.

The model indicated statistically significant path co-efficient between e-banking perceived quality and the outcome variables; perceived e-value (β=.855, t = 24.869, p=.000<0.05); e-satisfaction (β=.542, t = 4.382, p=.000<0.05) and e-loyalty (β=.649, t = 5.706, p=.000<0.05). According to earlier results, perceived quality positively impacts perceived e-value (Tran & Le, 2020). Furthermore, it was found that e-service quality positively influences e-satisfaction in line with previous findings (Sindhu, 2019; Al-dweeri *et al*., 2017). Also, perceived e-service quality has a considerable positive impact on e-loyalty (Su *et al*., 2016; Amin, 2016). Hence, H_9, H_{10} and H_{11} are confirmed.

The results also indicate a significant and positive relationship between perceived e-value and e-satisfaction (β=.368, t = 2.656, p=.008<0.05); e-satisfaction and e-loyalty (β=.255, t = 2.1.31, p=.034<0.05). The findings confirmed H_{12} and H_{13}. This implies that how people perceive e-satisfaction influences perceive e-value. This agrees with the finding of Ryu *et al.* (2012). Finally, the finding that e-satisfaction positively influences e-loyalty supports previous results (Kassim & Abdullah, 2010; Ting *et al*., 2016; Sundaram *et al*., 2017). The implication is that when customers perceive that e-banking quality is high, the perceived value, satisfaction and loyalty will also be increased. This is probably due to most bank customers' comfort and time-

saving desire in Nigeria.

CONCLUSION

The purpose of the study was to determine the e-service quality attributes that contribute most to the perception of e-banking quality and to ascertain the impact of e-banking perceived quality on e-service quality outcomes. The results revealed four essential e-service quality attributes influencing the perception of e-banking quality, namely, convenience, security, personalization, and responsiveness. A significant positive relationship was found between e-banking perceived quality and e-value, e-satisfaction, and e-loyalty. It was also shown that e-satisfaction is strongly influenced by perceived e-value which affects e-loyalty.

The findings suggest that to enhance the perception of e-banking quality in the era of COVID-19, banks need to give more attention to convenience, security, personalization, and responsiveness. Bank executives should constantly monitor the performance of e-banking channels in terms of the four attributes to quickly identify shortcomings and improve on them as soon as possible. It should also be noted that technology can malfunction at any time. Therefore, banks should be responsive when issues arise from using e-banking.

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