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COMPOUNDING THE EFFECTS OF 4.0 AND COVID-19 ON ADOPTION AND USE OF ONLINE- BANKING: A PERSPECTIVE

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Abstract

*Online banking has been around for a long time, but its adoption by customers has been facing some reluctance. However, compounded with the fast-emerging Fourth Industrial Revolution (4G) and the COVID-19 pandemic, the adoption of online banking is no longer a choice but a necessity. This paper examines the factors causing laggards in adopting online banking as a medium of transactions. An **o**nline Technology Acceptance Model developed by Anouze and Alamro (2019) was employed to collect data using the convenience sampling method. Using a quantitative research design, a sample of 125 banking customers participated in the study. Initial results demonstrated that the lack of adoption of online banking largely borders on trust and security.*

A chronology outlay showed that TIBS (Trust in the internet banking system) was the highest predictor and influencer of internet banking adoption with a beta value of .373 followed by PU (Perceived usefulness) with a beta value of .289, PEU (Perceived ease of use) with a beta value of .269, PSE (Perceived self-efficacy) with a beta value of .211and AIBS (Awareness of internet banking services) with a beta value of .188.

This paper explains that it is through establishing swift Awareness (AWRN) programs of internet banking services that can assist bank managers in decision-making concerning the development of strategies that might accelerate and expand the adoption of online banking in the wake of the Covid-19 pandemic and emerging 4G technology. In this paper, online banking will be used interchangeably with internet banking.

Keywords: *Adoption, the fourth industrial revolution, online banking, technology, trust*

Introduction

Information Communication Technology (ICT) has become the cornerstone which has impacted and changed society's everyday functioning, as well as the way business operations, are conducted (De Wet, Koekemoer, and Nel,2016). This has been exacerbated by the dawn of the fourth industrial revolution where technology has become the center-space as individuals are connected in managing their daily lives (Xu, David, and Kim, 2018). Different from earlier industrial revolutions, the fourth industrial revolution is about speed and efficiency as stated by (Ghislieri, Molino, and Cortese,2018). The sweeping advances of the 4.0 have not spared some banking customers who are still laggards in adopting online banking (Chaouali and Hedhli, 2017). Compounded with the advances of 4.0 and Covid 19 pandemic threats and disruptions, banking customers cannot afford to be left behind but to embrace the new way of conducting transactions since it is no longer a choice but a necessity.

Literature Review

Riffai et al. (2011) advance that the landscape of banking has shifted gears due to the development of information communication technology that has introduced the dawn of internet banking and a drive towards branchless banks and faceless services. Internet banking has been defined in different ways by scholars. According to Thulani et al, (2009) internet banking ascribes to systems that enable banking customers to make transactions irrespective of time and distance on their bank accounts, and access information relating to new product offerings. Scholars such as Lallmahamood (2007) define internet banking as the service conducted by customers using the public network for different banking services which include payment of bills and

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investments. The common thread between these definitions is that internet banking has enabled customers to conduct transactions without having to visit a brick-and-mortar branch for the service. This self-service banking can be traced from the emergence of ATMs (Safeena, Abdullah, and Hema, 2009) which have enabled customers to access their accounts 24/7 and carry out transactions devoid of any human interaction.

Empirical literature review on adoption of online banking

A stream of studies has been conducted on online banking technology adoption. Most of these studies have been prompted by the reluctance and phobia that is abound by users. For example, a study by Jana, Subramanib, Chebolua, and Sasikala (2020) in India found a positive correlation between perceived usefulness and adoption of online banking. While a study conducted by Al-Smadi (2012) in Jordan showed that there is a positive relationship between uncertainty avoidance, perceived ease of use, and perceived usefulness on internet banking which borders on perceived risk in using online transactions. A study by Anouze and Alamro (2020) revealed that inhibitions to online banking stem from a variety of factors which included perceived usefulness, perceived ease of use, risk of money loss, and price.

Impact of 4.0 in the COVID-19 era on banking

The huge, anticipated benefits of 4.0 and the adverse effect of Covid 19 on world economies has compounded the use of technology (Al-Maroof et al,2020). This, therefore, entails that those who still have an internet banking phobia are forced by the moving dispensation to comply. Most of the laggards to the adoption and use of online banking are likely to be left with no option but to join and be a part of this digital transformation. It can now be argued that the theories that predicted the intention to use technology such as perceived usefulness (PU) and perceived ease of use (PEU) have become irrelevant to a great extent. In the same vein, aspects relating to banking service quality measurement pioneered by Parasuraman (1988) in the SERVQUAL have been revolutionised and replaced with reliability, accessibility, security, privacy, and responsiveness (Liao and Cheung, 2008).

Theories on technology acceptance

From the seminal works of Rogers (1983) in the Diffusion of Innovation theory (DIO) who proposed that attributes relating to compatibility, complexity, observability, trialability, and relative advantage are vital in the acceptance of technology to Tornatzky, Fleischer, and Chakrabarti (1990) who proposed that technology assimilation in organisations should further focus on the contexts of technology, organisation, and environment (TOE) prior to adopting ICT,a number of theories have been developed. Consequentially, there has been a bludgeoning of theories which attempt to explain acceptance and adoption of technology at an individual level. Pioneering the adoption theories have been Technology Acceptance Model (TAM1, TAM2, TAM3) and the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003).

In the context of the predictors to the adoption of technology, the Technology Acceptance Model (TAM) has been pivotal among other theories that have been developed to explain the "push" on individuals to accept and adopt new technology. According to TAM, technology acceptance and adoption sits on the premise of whether the technology is perceived to be useful and whether it is also perceived to be easy to use (Davis, 1989; Venkatesh et al., 2003).

Other theories developed to help understand the reasons in acceptance and adoption of technology include the Theory of Reasoned Action (TRA)and Theory of Planned Behaviour (TPB). The TRA explains human behaviour and intentions which are influenced by opinions and social pressures from other people's expectations in complying with what they expect (Ajzen and Fishbein, 2004). In other words, the individual's decision to comply or not should largely be influenced by the individual's personal judgment (Arevalo and Brown, 2019). The TPB emanates from the Human Agency theory which postulates that performance behaviour is embedded in intention, attitude, subjective norms, and perceived behavioural control. The relevance of the human agency theory is that it attempts to understand human behaviour. Generally, the human agency theory is held to be the precursor of many contemporary theories dealing with the adoption and acceptance of technology (Cockfield and Pridmore, 2007). The two theories of TRA and TPB resulted in the creation of the Technology Acceptance Model (TAM). Owing to the fact that the use of technology is now deeply intertwined with every facet of human lives, and has become the mainstay of humans' civilization; understanding factors that influence user acceptance or rejection of information technology is of paramount importance not only to academics in various fields but also to organisations (Marangunić and Granić, 2015).

The Technology Acceptance Model has become useful in determining human behaviour in relation to human beings and their interaction with technology (Chen, Li, and Li, 2011). In addition, Venkatesh and Bala (2008) advance that TAM is capable of predicting about 40 percent of the influence to accept and adopt the technology.

Online Technology Acceptance Model

Similar to the TAM and TPB models, the Online Technology Acceptance model developed by Anouze and Alamro (2019), focuses on similar variables considered in understanding the factors relating acceptance and adoption of internet banking.

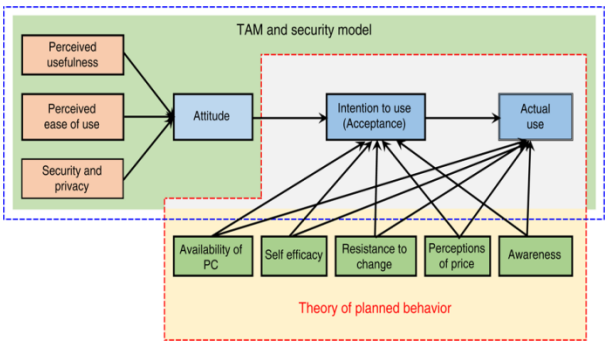

Figure 1: Online Technology Acceptance Model
Source: Anouze and Alamro (2019 p.91)

The model subsists that there are a number of factors that drive the adoption of technology which include access to the technology and infrastructure-related factors, internet banking factors as well as socio-economic factors. However, above all the perceived use and ease of use remain the dominant drivers towards acceptance and adoption of technology (Davis et al., 1989). Security and privacy are areas that most users of online banking find challenging (Alarifi, Alsaleh, and Alomar, 2017).

Perceptions of internet banking

Despite the convenience derived from online banking security and usability still remain challenges to most users (Alarifi, Alsaleh, and Alomar,2017). Janatian and Samavatyan (2013) point out that adopting technology tends to be met by some resistance at the beginning but later subsides with time. The following affect internet banking adoption by customers.

Security and reliability

Among the greatest inhibitors of online banking are the security concerns where the customer is now dealing with non-physical contact unlike in the past when one would visit a brick-and-mortar bank and make transactions. As much as online banking has enabled transactions to be conducted 24/7, the same exposure has been opened to criminals who can steal without leaving any trace (Makarević, Secim, and Toycan,2014). These cybercrimes and identity thieving have a negative effect on online banking usage as trust in the banking transactions are eroded (Kesharwani and Bisht, 2012). In the midst of cyber-attacks, banks have suffered losses amounting to millions of US dollars (Heeb, 2020). In an attempt to circumvent cybercrimes, banks are introducing enhanced security systems such as biometric technologies which involve fingerprint and facial recognition to improve trust (Koltzsch, 2006).

Trust

Trust is aligned to security. Chiemeke, Evwiekpaefe, and Chete (2006) contend that improved security translates into driving the perceived usefulness and client attraction to adopt internet banking. In tandem with security is the trust which emanates from the customer's perception that transactions conducted via internet banking will not end in losses (Afshan and Sharif, 2016). The hesitancy towards using internet banking is mainly bordered on trust since personal information could be used to the detriment of the account holder through cybercrime (Akhlaq and Ahmed,2013). Trust issues are therefore mostly strengthened by adequate security features on the bank's website.

System failures

Concerns relating to disruptions caused by system failures have also affected usage of online banking (Shams et al. 2020). The inability by banks to reconcile transactions undertaken by the customer when internet stoppages occur tends to lower customer trust on internet banking (Fixler, (1996).

Customers' self-efficacy

The lack of computer exposure and customer awareness of the online banking service is another challenge in the adoption of technology. A number of studies have found computer self-efficacy to inhibit the use of technology and online banking. Stemming from the Human agency theory and TPB theory of Ajzein (1975), the drive to perform a behaviour is influenced by the intention, attitude, subjective norms, and perceived behavioural control. As advanced by Fishbein and Ajzen (1975) intention has been attributed to be the locus predictor of an individual's behaviour.

Awareness of service.

The confidence to use a computer is a precursor to online banking as long as informed awareness of the service exists. Al-Shomali, Gholami, and Clegg (2008) posit that awareness relates to the amount of information a customer receives about internet baking. This, according to Smith (2006) involves a friendly website that provides the customer with security that transactions will be protected, culminating in continued usage of the service.

Methodology

A quantitative approach was used in this study. Cooper and Schindler (2014) subsist that quantitative method tend to provide a specific measurement on variables that relate to the phenomenon under investigation. Due to the health protocols and regulations on Covid -19 pandemic, convenience sampling was adopted in selecting the 125 participants to the study.

Data collection

A survey questionnaire adopted from Anouze and Alamro (2019) which measures the perceptions on Internet Banking was used for data collection. Using a 5-point Likert scale from 1 strongly disagree to 5 strongly. The number of scales that needs to be used on a Likert scale has been a subject of controversy and debates (Fern et al, 2016). However, Olakunke (2003) establishes that a 5-point scale communicates better with participants.

The questionnaire was divided into 3 sections.

Section A dealt with the demographic data of the respondents,

Section B covered constructs relating to Perceived Usefulness, Perceived Ease of Use, Perceived Security, and Self-efficacy which were measured on a 5-point Likert scale.

Section C dealt with the factors influencing the adoption of internet banking which included Awareness of internet

banking services, PC availability/facilitating conditions, and Perceived price.

Results and discussion

On Perceived ease of use (PEU), the majority indicated the capability of using the internet, and hence this knowledge could easily be applied to online banking although a few indicated that they could if shown how.

Perceived usefulness (PU) showed that all participants appreciated the convenience and benefits of online banking.
Perceived Security (PS) found that a total of 85.6%, were sceptical about the security of their transactions online as confidential information could be used to hack their accounts. Only14.4% indicated that they found online banking safe for transactions. The findings are in concert with those of Fatima (2011) who asserts that the exposure of personal details to parties that are not privy to it has negative consequences resulting in the hesitance to adopt online banking.

Relating to Self-efficacy (SE), the majority of participants indicated that they would be confident of using internet banking if a built-in online "help" function for assistance existed. According to Anouze and Alamro (2019), computer self-efficacy improves the adoption of online banking.
Awareness of internet banking services showed that 16.8% had received information relating to the banking service, while 32.8% stated that they had received information on its benefits and 50.4% had information on how to use online banking. These findings are in harmony with those of Ali (2016) who contends that the provision of information about internet banking to customers tends to attract prospective users of the service. These sentiments are contrary to the views of Makosana (2014) who argues that awareness on its own is inadequate given that new technology innovation is not easily accepted by banking customers.

Personal Computer availability/facilitating conditions showed that 18.4% had the necessary resources for internet banking, 35.2% possessed the necessary knowledge in using internet banking, and 46.4% agreed that internet banking was compatible with other systems they used. The findings indicate that not all customers possess a personal computer to conduct internet banking transactions. This could be attributed to the phobia that relates to technology and computer usability as stated by Makosana (2014).

Perceptions of the cost of using internet banking were skewed with 33.6% claiming that they would be charged more, 16.8% felt that network connections were expensive while 28.8% thought they would be charged extra for banking transactions and 20.8% indicated that internet banking expenses were burdensome. The findings are in line with those of Kamutuezu (2016) who found that low charges on internet banking can attract adoption of the service. These sentiments are also shared by Aliyu and Tasmin (2012), who assert that the pricing of technologies tend to influence customers in adopting new technologies.

Pearson Correlation

A Pearson Correlation analysis showed that there was a positive relationship (0.705 at p<.001) between the availability of the facilitating resources such as a personal computer and awareness of the banking service. In other words, the facilitating resources and awareness had an influence to adoption of online banking.

Multiple regression Analysis

Since the correlation analysis showed a positive relationship between the dependent variables and the independent variables, multiple regression analysis was conducted to find out which of the independent factors predicted the adoption of internet banking. The regression model is presented as**:**

$y=.34+.289x_1+.373x_3+.211x_4+.188x_5$ with x_1 as perceived usefulness, x_2 as perceived ease of use, x_3 trust, x_4 as perceived self-efficacy, and x_5 as awareness.

Results from the model showed that the variance of the dependent variable (internet banking adoption) is explained by 69.8% in the independent factors and is statistically significant at a p-value (0.000). Using the standardised coefficients, PU had a beta value of .289, PEU .269, Trust .373, Perceived self-efficacy .211, and Awareness .188. The independent variable with the unique contribution to the adoption of online banking was Trust .373. It is evident from the regression analysis that the issue of trust remains the biggest inhibitor to the adoption of online banking.

Recommendations

Emanating from the findings in the study, the following recommendations are made:

Security and reliability

The findings showed that security and trust were obstacles to the full adoption of internet banking. Mitigating risks and finding ways to protect customers against cyber criminals must be strengthened by enforcing biometric technologies which involve fingerprint and facial recognition. The bank's websites should also be designed with adequate security information to allay and attract the laggards in adopting internet banking.

Awareness and education on internet banking

Awareness campaigns through aggressive marketing and education on how to use online banking platforms should be conducted. This should be an ongoing program with a strong component of monitoring and evaluation. As technology keeps on evolving, customers need to be adequately educated on new functionalities and the benefits of such products. This will not only help maintain existing customers but improve conversion rate. One effective way is to strengthen research and development (R&D), especially in evidence-based studies, especially when dealing with unpredictable disruptions caused by Covid-19. Banks could further introduce a computer loan facility to customers in order to improve the facilitating resources for internet banking.

Addition of more options to online banking

Since internet banking has been undergoing improvements from its onset, there is need to add more options to align with

the Covid-19 health restrictions. Enhanced functionalities such as putting in an insurance claim, submitting home loans, personal loans, vehicle financing including overdrafts can be added. The use of the digital signature in such cases would suffice.

Conclusion

The new technological advancements provided by the 4 th Industrial Revolution and the persistent Covid-19 pandemic is a force on their own towards the acceleration and adoption of technology. Internet banking, given its benefits of convenience, provides a remedial solution to the world that is changing at a fast rate. The study has shown that the phobia of losing savings through cybercrime is the biggest inhibiter of online banking. Trust issues remain an obstacle in attracting customers in adopting internet banking and unless website designs are perceived safe to the user, the service will continue to be avoided due to such impediment factors.

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