

ASSESSING THE ADOPTION OF ELECTRONIC BANKING INNOVATION AND PERFORMANCE

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Abstract

Purpose – Drawing on Technology Acceptance Model (TAM) and Information Diffusion Theory (IDT) on the adoption of electronic banking innovation, this study sought to assess the adoption of electronic banking innovation and its impact on performance. The research considered the effects of perceived ease-of-use, perceived usefulness and compatibility of the CBZ platforms. **Design/methodology/approach** – The research utilised a deductive research approach and quantitatively tested the hypotheses using 224 CBZ employees. Data were computed and analysed using SPSS version 23. **Findings** – The findings concluded that there are significant relationships among the variables and that perceived ease-of-use, perceived usefulness and compatibility positively affect the adoption of electronic banking innovation. The positive effects also significantly impact bank performance. **Practical implications** – This study recommends that CBZ should consider embracing a learning organisation culture as well as inculcating an innovation philosophy within the bank. The bank should also invest in training and innovation to safeguard against redundancy of its platforms. **Originality/value/contribution** – This study added to the existing literature that technological innovation in the banking industry is not an option these days.

Keywords: *Technology Acceptance Model (TAM), Information Diffusion Theory (IDT), electronic banking innovation, performance;*

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INTRODUCTION

Technological use has altered the way people communicate and interact with each other thus creating opportunities for banks to meet customer expectations through various alternative channels (Bansal & Bagadia, 2018, p.50). Modern global economy customers' demand fluctuates with technological growth and the challenge for business is to keep abreast with the changes (Bhattacharjee, 2017, p.265).

Globally, many banks have shifted to digital operations due to customer convenience and speed. Major banks such as JPMorgan Chase and Wells

Fargo have released modern social media banking to attract new customers and retain existing ones. In Africa, the existence of robust mobile network operators (MNOs) offering financial services like M-Pesa in Kenya and Ecocash in Zimbabwe have greatly changed the banking sector operations. Banks now increasingly partner Fintech companies to also provide mobile banking solutions in a never ending search to bring flexible innovative solutions to their customers (Banking, 2019). South African banks, Discovery Bank Capitec, ABSA, Nedbank, and FNB have all developed mobile applications used by customers to consume financial services.

Embracing of e-banking by Zimbabwean banks has led to transformation in the distribution of banking services. Zimswitch report (2019) states that the banking sector processed almost ZWDL14 billion worth of electronic transactions - CABS having the highest figure of ZWD5.6 billion followed by CBZ on ZWDL1.6 billion. Additionally, MNOs processed ZWDL49 Billion worth of transactions for the same period and they continue to play a key role of providing safe, secure and cheap financial services to many Zimbabweans who have limited access to formal banking systems.

Researchers used the TOWS matrix adapted from Johnson, Scholes and Whittington (2008), to come up with key issues that impact bank operations in Zimbabwe, namely; economic challenges, low confidence in banking and rapid change in technology. CBZ's interest income has been declining from a peak of \$183 million in 2015 to \$114 million in 2018 and this would likely continue to suffer decline in profits due to high fixed costs from the extensive branch network especially in an age where customers no longer prefer physical brick and mortar banking. Sluggish adoption of e-banking innovation to reach out to the ever-growing informal sector and changing customer preferences erodes the bank's deposit market share (Abel & Le Roux, 2016, p.845).

THEORETICAL UNDERPINNINGS

Conceptualising Technological Innovation

There has not been a clear-cut consensus in academic literature on the definition of innovation. However, the majority of authors suggest that the fundamental characteristic is the ability to create value (Drența, & Lobonțiu, 2016). Technological innovation is one critical type of innovation that enhances

competitiveness in this information age (Mazana, Rupere, & Kabanda, 2016). Technology is no longer considered as an afterthought in corporate strategy but a pillar of organisational performance (Dube, et al., 2011, p.3). The major technological innovations in banking are in the form of mobile banking, automated teller machine, internet banking, telephone banking, cards, and electronic funds transfer (Boro, 2015, p.3). Moreover, Japparova and Rupeika-Apoga (2017), averred that some banks have embraced social media channels to provide banking services for the digital-savvy customers like WhatsApp banking. The above implies that banks use similar technology.

Business performance was defined by Wade and Recardo (2001) as an overview of the achievement of goals and objectives of a business entity. Ramakrishna, Ramulu and Kumar (2016) argued that economy performance mostly depends on the performance of the banking sector. Financial performance is measured using traditional accounting key performance indicators (KPI) such as return on assets (ROA) and return on equity (ROE) whilst non-financial performance is measured using operational KPIs such as market share, customer satisfaction and level of innovation. Dmitrović, Dobrota, and Knežević (2015) opine that bank performance is best gauged by profitability through analysis of bank assets and income against number of employees and competition. Most empirical studies measure bank profitability through ROA and ROE (Palečková, 2016).

Technology Acceptance Model (TAM)

Davis (1989) as cited in Dajani and Yaseen (2016) came up with TAM theory to predict the acceptance and use of new technology based on perceived usefulness (PU) and perceived-ease-of use (PEOU). The TAM model is shown in figure 2.1 below;

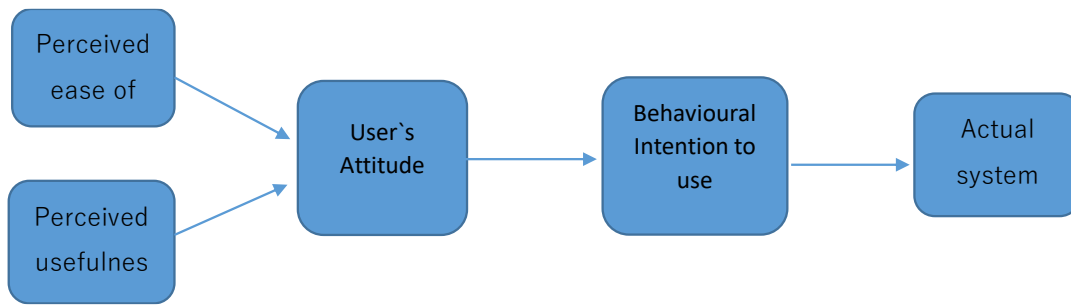


Figure 2.1: Technology Acceptance Model

Source: Adapted from (Sujatha & Sekkizhar, 2019)

Innovation Diffusion theory (IDT)

The innovation diffusion theory (IDT) is considered one of the most effective theories to understand the

adoption of innovative products (Waheed, et al., 2015; Wang, et al., 2012). The model is as presented in figure 2.2 below

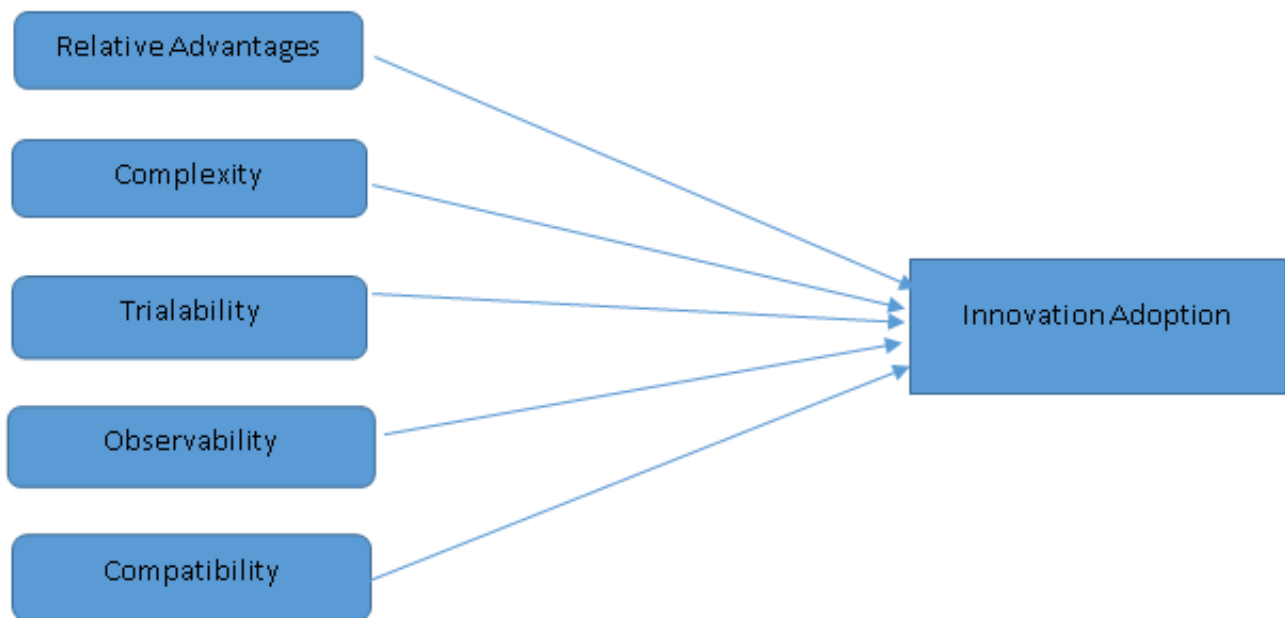


Figure 2.2: The innovation decision process of adoption

Source: Adapted from Rogers (2003)

The innovation-decision process is an information-seeking and information-assimilation process which incorporates variables of relative advantage (Shin and Hwang, 2011), compatibility (Trakulmaykee & Benrit, 2015), complexity (Sahin, 2006), trialability (Rogers, 2003) and observability (Shin & Hwang, 2011) that influence attitude. The two models help to explain the

adoption of electronic banking innovation. Hence, they are very critical in coming up with a conceptual framework.

Conceptual Framework

A conceptual framework is a schematic presentation which identifies the variables and concepts that when

put together explains the issue of concern (Adom, et al., 2018). Figure 2.3 models a conceptual argument which suggests that there is a positive relationship

between adoption of e-banking innovation and business performance.

INDEPENDENT VARIABLE

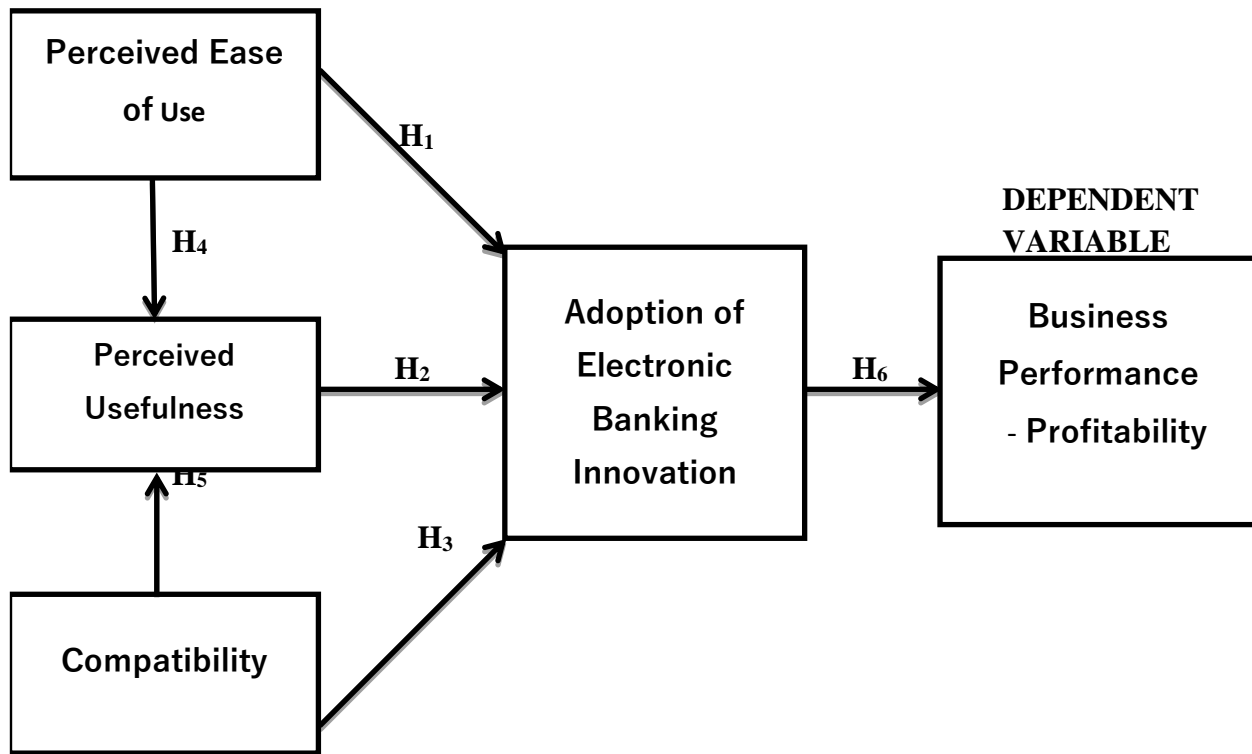


Figure 2.3: Conceptual Framework - [E-banking Innovation on Business Performance]

Source: Researchers’ own compilation

In figure 2.3, the independent variable is only adopted by business if it has the combined attributes of PU, PEOU adapted from TAM (Davis, 1989) and compatibility from IDT model (Rogers, 1995). The adoption of e-banking innovation is expected to bring in efficiency in business processes by reducing costs and creating customer convenience, thus attracting more customers leading to more profit. The technological innovation may only impact on business performance if effectively communicated from concept assessment to adoption. As a continuous process, it responds to environmental and technological changes. Organisations also need to

continuously assess and improve security to protect customer information as security concerns negatively impact on the usage of e-banking innovation (Poudel, 2016).

RESEARCH METHODOLOGY

In this study, the positivism research philosophy was chosen since it values objectivity and is able to prove or disprove hypotheses (Ryan, 2018). It was used to determine the relationship between the independent variable of e-banking innovation adoption and the dependent variable of business performance and test the respective hypotheses. It is deductive approach

which is inclined to quantitative research and starts from general to specific findings and follows a framework based on pre-existing logic (Fisher, 2010). Quantitative approach was appropriate because the researcher wanted to determine the link between e-banking innovation and business performance. In addition, quantitative research design is more objective and is independent of the researcher (Creswell, 2014). Again, quantitative methods increase the validity of findings (Yin, 2013). Based on these arguments, a sample of 285 respondents was chosen from a population of 1,000 CBZ employees. Self-administered close-ended 5-point Likert scale questionnaires were distributed to the study sample. Data were gathered and put into SPSS where regression correlation analysis was run to determine the impact of the adoption of electronic banking innovations on CBZ bank performance.

RESULTS AND DISCUSSION

Regression analysis of coefficients and one sample test were carried out to assess the impact of the variables on the adoption of electronic banking innovations on performance and to test research hypotheses respectively. The model summary showed $R=0.929$ which indicates good prediction level for the dependent variable. The measure $R^2=0.864$ explains the variation between the three independent predictors and the adoption of e-banking innovation. Thus, 86.4% of the variance of adoption of e-banking innovation could be predicted by the independent variables (PEOU, PU and Compatibility) whilst the 13.6% could be predicted by other variables which could not be the three under study. This value was above the minimum required model fit of 60% which is recommended (Zygmunt & Smith, 2014).

Regression Analysis of Coefficients

The researcher also calculated the regression analysis of the results in order to extract data for hypotheses

testing. As per the SPSS generated, the equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon$) becomes adoption of e-banking innovations= $1.639 + .426*PEOU + .492*PU + .784*C+\epsilon$. The regression equation confirms that after considering all the independent variables at zero constant for adoption of e-banking innovations the constant value would be 1.639. A unit increase in PEOU positively affects adoption of e-banking innovation within CBZ with a 0.426 increase. Furthermore, a notable unit increase in PU positively influences adoption of e-banking innovation with a 0.492 increase. The study also concluded that compatibility greatly contributes to the adoption of e-banking innovation with a 0.784 increase. The results were also confirmed by Sarkar (2016) who argues that e-banking innovation is key in bank performance since it removes geographical and communication barriers. E-banking innovation increases the bank's ability to attract deposits and transactional revenue. Hence there is a positive correlation between e-banking innovation and bank performance, (Kashmari et al, 2016).

Hypotheses Analysis

A sample T-test was considered relevant to test the research hypotheses that were put forward at the study inception.

H₁: Perceived ease-of-use will have a positive effect on the adoption of e-banking innovation.

Research hypothesis analysis proved that PEOU has a positive effect on the adoption of e-banking innovation ($t=69.994$; $p=.000$). The bigger the t-value and $p<0.05$ concludes PEOU has a positive effect on the adoption of e-banking innovations. Respondents confirmed that the e-banking platforms allow the users to do what they want. It has comprehensible features and that they were of great quality. Salman et al (2017) also echoed that adoption of e-banking innovation positively affects the attitude of staff and

users. Therefore, based on the above analysis, the first hypothesis was accepted.

H₂: Perceived usefulness will have a positive effect on the adoption of e-banking innovation.

Further the second hypothesis confirmed that perceived usefulness has a positive effect on the adoption of e-banking innovation ($t=59.265$; $p=.000$). The higher t-value figure and $p<0.05$ confirms that perceived usefulness has a positive effect on the adoption of e-banking innovations. The respondents agreed that they favour platforms that enhance efficiency, improve services, promptly address customer queries and assure users a high quality service. Lee, Tsao, & Chang, (2015) also confirmed that PU positively affects the use of new technology. Therefore, based on the above analysis, the second study hypothesis was accepted.

H₃: Compatibility will have a significant effect on the adoption of e-banking innovation.

The hypothesis analysis proved that compatibility is a significant factor on the adoption of e-banking innovation ($t=78.595$; $p=.000$). The bigger t-value and $p<0.05$, the more compatibility has a significant effect on the adoption of e-banking innovations. Thus, the respondents prefer platforms that are compatible with their work, appropriate for work quality and add value to existing systems. The same was confirmed by Wu and Wang (2005) that compatibility increases likelihood of technology adoption. Therefore, based on the above results, the third hypothesis was accepted.

H₄: Perceived ease-of-use will have a positive effect on the perceived usefulness of e-banking innovation.

Research analysis also found that PEOU has a positive effect on the PU of e-banking innovation ($t=60.725$;

$p=.000$). Hence, the bigger t-value $p<0.05$, the more PEOU positively effects PU of e-banking innovations. Respondents were in favour of platforms that are simple to use, more reliable, simply designed and require less effort to use. Davis (1989) supports that usage benefits are outweighed by the effort of using the application and PEOU. Therefore, the fourth hypothesis was accepted.

H₅: Compatibility will have a direct effect on perceived usefulness

The hypothesis tests expressed that compatibility has a direct effect on PU ($t=52.109$; $p=.000$). The greater t-value and $p<0.05$ the more compatibility positively effects PU. The respondents value compatibility of platforms that directly impact usefulness. Compatible platforms bring peace of mind to the users and also give value to the bank. Hanafizadeh et al. (2014) agrees that compatibility is critical in the adoption of banking technology. Based on the above results, the fifth hypothesis was accepted.

H₆: Adoption of e-banking innovation will have a positive effect on bank performance.

Finally, this research found that adoption of e-banking innovation has a positive effect on bank performance ($t=66.191$; $p=.000$). Thus, the bigger t-value figure and $p<0.05$ the more adoption of e-banking innovation has a positive effect on bank performance. Respondents shared the same notion that e-banking influences customer satisfaction, improves efficiency of the processes, reduces costs to serve customers and attracts new customers. Kashmari et al. (2016) supports that adoption of e-banking innovation increases the bank's ability to attract deposit market share. Consequently, the research confirmed that adoption of e-banking innovation has a positive effect on bank performance. Therefore, the sixth hypothesis was accepted.

CONCLUSION

The purpose of this research was to assess the effect of adoption of e-banking innovation on bank performance at CBZ. The results confirmed and accepted all the hypotheses of the study. Drawing on the findings the bank is recommended to continue creating and developing an organizational learning culture which is a key issue in the strategic plans of progressive organizations. Additionally, the bank should also train and develop employees to be cognizant and responsive to technological advancement so as to reduce technology use resistance. Furthermore, bank needs to implement internal marketing that design and model its people with technology related strategies and align with the modern trends. The bank should invest more in e-banking innovations since these increases the ability to increase deposit market share and transactional revenue as there is a positive correlation between adoption of e-banking innovation and bank performance. However, further studies should be carried out to assess adoption of the electronic innovations in other commercial banks. Further empirical researches are recommended to be implemented in other different industries which use technology platforms especially retail industry and mobile telecommunications sector. Finally, studies could also be carried out to assess the effects of customer loyalty and customer opinion on the adoption of e-banking innovations could also bring a different dimension to this subject.

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