Can competitiveness of banks be guaranteed through mobile banking in economic crisis business environment? A Zimbabwean case study

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Abstract: **The adoption of mobile banking by banks is intended to grant banks the ability to outperform its rivals and improve performance. However the effectiveness of mobile banking as a competitive strategy is depended upon the business environment in which banks operate. This is based on a number of factors that constrain the adoption and effectiveness of new technology in, line with the *Innovation Diffusions Theory and the Financial Intermediation Theory*theories.This study investigated the impact of mobile banking on the overall performance of a bank operating in an economic crisis business environment in Zimbabwe. The main objectives of the study was to examine if the adoption of mobile banking can still improve the performance of banks operating in an economic crisis business environment.**

A total of 302 respondents were used in this study. The study used the pragmatism philosophy and explanatory research design the researchers. A response rate of 97% was obtained which ensured that the findings are a true representation of the sample. The research was mainly quantitative in nature although it was complemented by a qualitative approach in form of interviews. Survey and interviews were used as the data collection instruments while questionnaires and interview guide were used as data collection instruments. Probability sampling technique was used to develop the sample of the study. The findings of this study have shown a strong positive impact of mobile banking on profit margins and market share in economic crisis business environment. The study however showed that mobile banking may not improve the corporate image of banks operating in economic crisis business environment.

The study concludes that mobile banking platforms may be used to make banks competitive in economic crisis through its positive influence on profit margins and market share. However is it also concluded that mobile banking adoption by banks may not leads to enhanced corporate image. The study recommends that banks should continue toincrease their investment in mobile banking technology even in crisis business environments in view of its positive influence on profit margins and market share. However other additional strategies may be required to improve corporate image to sustain the positive profit margins. This research evaluated the impact of mobile banking on the performance of one bank. It is recommended to extend the research to several banks operating in economic crisis business environments.

Key words: **Mobile banking, performance of banks**

I. INTRODUCTION

The use of mobile banking facilities by banks is one innovation that has responded to the aspect of globalization and development in the area of technology. Mobile banking has changed the way business is done in banks by bringing with it speed, efficiency and effectiveness which transmits into economic growth and development (Bold 2011, Cheah, Teo, Sim, Oon, & Tan 2011) Various initiatives use the mobile phone to provide financial services to those without access to traditional banks everywhere in the world. Mobile banking services give a high potential to expand financial services particularly payment services to the poor. The services also provide a cost effective and convenient way to access bank accounts.

According to Cheah (2011) and Francesca &Claeys (2010) mobile banking is a banking innovation that allows customers of a financial institution to conduct a number of financial transactions through a mobile device such as a mobile phone or personal digital assistant. The earliest mobile banking services were offered over SMS, a service known as SMS banking (Kingoo 2011, Must &Ludewig 2010). With the introduction of smart phones with WAP support enabling the use of the mobile web in 1999, the first European banks started to offer mobile banking on this platform to their customers (Kiragu 2017).

Mobile banking has expanded across the globe world most banks in the world investing huge financial resources into the mobile banking infrastructure (Williams & Wilkins 2003). Banks in both developed and developing countries have adopted the concept of mobile banking to remain competitive in the financial sector (Siam 2006). In America banks such as JPMorgan-Chase which is largest bank in the country and the sixth-largest in the world has invested huge financial resources in its mobile banking platforms. The bank has experienced various benefits after the adoption of mobile banking such as helping bank the go paperless and be environmentally friendly, saving money on printing and delivery, eliminating the need to hire additional workers, offering transactions that are ten times cheaper than ATM transactions, saving on operational costs of running bank branches (Siam 2006). This has led to increased market share, increased profit margins and a higher return on investment. The adoption of mobile banking has also increased significantly over the last 30 years in Africa(Simpson 2002). A number of banks in Africa have also invested significantly in the mobile banking platforms to enhance their performance (Simpson 2002, Wambari 2009).

Banks in the financial sector in Zimbabwe have adopted mobile banking to remain competitive in view of the latest development in the technology sector. It may be interesting to explore how the mobile banking platforms have influenced the performance of banks in view of the economic crisis business environment in which banks are operating (Tchouassi 2012).This is mainly because of limited research in this area in developing countries.

According to Okiro and Ndung'u (2013) various views have been proffered on the impact of mobile banking in various contexts. OkiroandNdung'u, (2013), Mbitiand Well (2011), Klein and Mayer (2011) and McNelley (2012) indicated that the influence of mobile banking on the performance of banks varies with the nature of the business environment. The argued that mobile banking is only effective in business environment where there are up to date technology. The impact of mobile banking on performance in business environments with limited connectivity and low technological is limited. However according to Daffern (2012), Ondiege (2010) ,Mbiti and Weil (2011) and King (2012) any bank that invest in mobile banking will experience higher performance in any business environment. This shows that two main views have emerged on the impact of mobile banking on the performance of banks. One view suggested that mobile banking is effective to banks that operating in well-developed business environment in terms of technology, power and infrastructure. This means that banks in developing country business environment may not register improved performance after the adoption of mobile banking. The contradictions in terms of the impact of mobile banking has therefore created a research gap that this study attempt to fill.

II. LITERATURE REVIEW

2.1 Concept of mobile banking

Mobile banking is viewed by Ombati, Magutu, Nyamwange & Nyaoga (2011). AndKiragu (2017)as the provision of bank-related financial services with the assistance of mobile telecommunication devices. Mobile banking is usually viewed as carrying out banking services with the help of mobile phones or PDAs. The offered services may include transaction facilities as well as other related services that cater primarily for informational needs revolving around financial activities (Meute 2010).

The tremendous development of the mobile phone industry has seen most financial institutions wandering into the available opportunity and have associated with mobile phone network providers to offer banking system to their customers (Meute 2010). Advancement in technology has led to the development of mobile banking and online banking in the banking industry which has changed the way which commercial banks conduct their business. Mobile banking and the internet have not just made financial organization provide banking services via mobiles and online, but they have provided their customers with easy access to financial services and other benefits.

2.2 Theories related to the adoption of mobile banking

A number of theories may be used to justify the adoption of mobile banking by banks.

(a) The Innovation Diffusions Theory

The innovation diffusions theory explains individual intentions to adopt a technology as a modality to perform a traditional activity (Okiro and Ndungu,2013). This theory suggest that the adoption of new technology is based on the expected befits that the new technology will bring to organisations and individuals. According to the theory new technology that confers benefits such as compatibility, ease of use, cost effective, complexity, trialability and observability will benefit organisations. This shows that new technology in the form of mobile banking has been adopted by banks based on the perceived attributes of innovations, cost effectiveness, ease of use by customers and its ability to make banks competitive. According to the theory, the success of any new technology depends upon its diffusion rate. New technology with higher rates of diffusion will confer greater benefits to the organisations. To enhance higher rates of diffusion of mobile banking, banks must ensure that the technology is compatible with the nature of mobile attributes owned by customers. A lack of compatibility in IT with individual needs may negatively affect the individual's IT use. If an innovation is compatible with an individual's needs, then uncertainty will decrease and the rate of adoption of the innovation will increase. Thus, what the innovation is called should be meaningful to the potential adopter. What the innovation means also should be clear. A related aspect that may make the adoption of new technology effective is the level of complexity. Thus to be effective in improving performance of banks, mobile banking platforms must be easy to use. This theory shows that the adoption of new technology in the form of mobile naming does not automatically lead to improved performance of banks. This means that despite huge investment in the mobile banking, banks may still not reap the financial benefits of their investment.

(b) Financial Intermediation Theory

According to financial intermediation theory, financial institutions exist to mediate between the surplus and deficit units in an economy by facilitating the transfer of resources. However, this needs to be done in an economic way so as to minimize the operating costs and maximize the revenues for these banks. Financial intermediation theory brings out the role played by mobile banking in the financial intermediation process by enabling the accessibility of banking services over the mobile phone. This means that the adoption of mobile banking technology is indeed necessary given its potential to enhance the financial intermediation of banks in a profitable way. However to be effective in making banks competitive, mobile banking technology must be adopted after taking into account various aspects from the customer perspective.

2.3 Influence of mobile banking on the performance of banks

(a) Impact of mobile banking on profitability of banks

According to Kiragu, (2017) the adoption of mobile banking enhances commercial banks profit efficiency in the long run. The survey study findings provide that accessibility of banking via the mobile phone, the ATMs and the various bank branches had significance on profitability and efficiency of banks. He argued that there was a significant impact on profitability of mobile banking. This was also supported by Akerlof&Girardone (2011) who observed that profitability is highly realized in internet banks than in non-internet banks in traditional analogue banks. They identified the factors that contributed to the effectiveness of mobile banking by indicating that bank's profits actually improved due to online banking by accelerating meaningful revenue.Kiragu, (2017)indicated that the adoption of mobile banking by banks will improve profitability by offering of a variety of banking services and financial products to customers. Profitability is also enhanced because mobile banking lead to a significant reduction in the operational costs of banks.

According to Chemtai (2016), mobile banking provides banks with the opportunity to develop a stronger and more durable business relationship with their customers. *It may be necessary to determine the influence of mobile banking on the profit margins of banks operating in economic crisis business environment.*

(b) Impact of mobile banking on market share

According to Akerlof&Girardone (2011) mobile banking characterised by ease of use has effect of positively influencing continuous customer use of electronic banking services. Ease of use improves users perception score and make financial transactions more easily and smoothly compared to the traditional method. Internet banking can affect customer behaviour and eventually lead to the attraction of new customers. It can create convenience to customers through transactional efficiency .It also raises the customers sensitivity to service delivery These attributes leads to more customers to banks, increasing deposits rate and hence leading to market growth and expansion . *It may therefore be critical to determine how mobile banking has influenced the market share of banks in Zimbabwe in view of the crisis nature of the business environment*

(c) Impact of mobile banking on corporate image

According to Meuter (2010), the adoption of mobile banking was a respond to competition in the banking sector. They indicated that the deployment of various e-banking tools improves the bank's reputation and eventually results to foster efficient and effective service delivery. These attributes enhances the development of a positive corporate brand which leads to a positive corporate image. Ombati et al (2011) and Kingoo (2011) suggested that mobile banking leads to a significant reduction in the overall costs for the customer and the Bank both in comparison to traditional banking. This leads to positive perception about banks by customers through increased interest rates on their savings. The various platforms of mobile banking has also integrated other institutions .This integration has made banks favourable to the great community.This generates positive corporate image. *It may therefore be critical to determine how mobile banking has influenced the corporate image of banks in Zimbabwe in view of the crisis nature of the business environment.*

III. METHODOLOGY

The study was guided by the pragmatism research philosophy in view of its emphasis on the use of integrated data collection methods to enhance the validity and reliability of findings. Survey and interviews were used data at collection methods. The study was premised on a mixed research approach which was explanatory in nature given its cause and effect focus.The study used a sam0le of 200 respondents drawn from the bank's management structures and selected using a stratified sampling technique.

IV. RESULTS AND THEIR DISCUSSION

The main objectives of the study were to examine the influence of mobile banking on the performance of banks measured in terms of profitability, market share and corporate image. A correlation between mobile banking and performance indicators was done and the results are presented in table 2.1

Table 1: Correlation results

Independent variable	Profitability	Market share	Corporate image
Mobile banking	0.76	0.67	0.12

Results in Table 1 indicates possible association between mobile banking and performance indicators

Table 1 show that mobile banking has a strong association with profitability of the bank because the correlation coefficient value is 0.76. This implies that increased investment in mobile banking will have a significant positive impact on the profit margins of the bank.

Interview results showed that most respondents indicated that mobile banking adopted by bank had a positive impact on their profit margins. It was indicated that the adoption of mobile banking led to the offering of a variety of services to customers leading to more revenue. They also suggested that the operational costs of the bank declined significantly. They are argued that mobile banking led to economies of scale which significantly reduced the operational costs leading to increases in profit margins of the bank.

The findings from both questionnaires and interviews are in line with the views raised by other scholars in terms of the influence of mobile banking on the profitability of firms.

According to CGAP, 2006, (Kiragu, 2017), Lee, & Kim, 2007 mobile banking make financial services more accessible by minimizing time and distance to the nearest retail bank branches as well as reducing the banks own overheads and transaction- related costs. All this leads to higher profitability for banks. In addition, OECD (2020) argued that the adoption of mobile banking by banks has led to flexibility in delivering services and cost-effectiveness. It has been used to improve customer relationship leading to customer loyalty. Loyal customers bring reliable and sustainable revenue to the banks through higher volume transactions.

Berg , Burg , Gombovié and Puri (2018) argued that mobile banking reduces the need for personnel (e.g. loan officers and tellers) and for an extended branch network which all reduces operational costs.All this contribute to improved profit margins. The adoption of mobile banking has also helped banks to be more customer-centric (OECD 2020). This has helped banks to fulfil current needs and future needs of their customers which increase transaction and hence profit margins of banks (OECD 2020). The findings of this study therefore confirms the positive relationship between mobile banking and profitability as indicated in the existing literature.

The result in Table 1 shows that mobile banking has a strong association with market share of the bank because the correlation coefficient value is 0.67. This means that banks that put more resources in mobile banking experience increased market share.Interview results also supported that mobile banking had a positive influence on the market share. It was indicated that mobile banking influence customer behaviour and led to the attraction of new customers. The study showed that mobile banking created convenience to customers through transactional efficiency led to the retention of the bank's customers as well as attracting more customers leading to market growth and expansion.

The findings from both questionnaires and interviews are in line with views raised by other scholars in terms of the relationship between mobile banking and market share. According to Akerlof&Girardone(2011), mobile banking increases the bank's provision of financial services with a wider choice of services geared to all levels of society. This enables the bank to capture a larger section of the mark\et. It also allows banks to appeal to more customers since banks are able to meet more customer needs through the mobile banking. Vaidya(2011), indicated that mobile banks allows banks banks to offer a diverse range of services such as checking account balances, funds transfer, payment of bills, share dealings, portfolio management and purchase of insurance which allows then to retain customers as well as attracting new customers especially in the unbanked parts of the society. This leads to increased market share. This is in line with the findings of this study where is was shown that the adoption of mobile banking led to increased market share. This could be attributed to the conveniencethat mobile banking brings to customers.

The results in Table 1 indicates that mobile banking has a very weak association with the corporate image because the correlation coefficient value is 0.12. This means that banks that put more resources in mobile banking may not achieve positive corporate image.Interview results also indicated that the adoption of mobile banking did not have a significant influence on corporate image. The study showed that mobile banking adoption was too personalised and hence it did not lead to an overall improvement in corporate image.

*The limited and insignificant impact of mobile banking on corporate image indicated by this study is indeed in line with the existing literature on corporate image literature. According to*Çetin and Tekiner (2015) corporate image is a complex concept which can be improved over a long time. Corporate image is viewed as a picture emerging in the mind of target mass and it is an accumulation of all judgments that exist in the minds of target mass as regards an enterprise. In addition, it refers to a compilation of all analyses related to the way enterprises are recognized and perceived by the audience. All these analyses make-up of the entire corporate image (Çetin and Tekiner, 2015).*This shows that the adoption of mobile banking alone by banks may not have a significant influence on the corporate image of the banks. According to* Bozkurt (2018) *corporate image may be developed on the basis of factors*outside the business circle or functions and hence the adoption of mobile banking may have a limited influence on the corporate image of banks. It therefore follows that corporate image an attribute that is developed from the thoughts and beliefs in the minds of people outside the scope of any organization may not be promoted through the adoption of mobile banking alone. The findings of this study are therefore consistent with views raised byAteş (2016) and Bozkurt (2018) who indicated that corporate image relates not only to beliefs, thoughts and impressions regarding the enterprise but also related to the name of an organization, impressions on its architectural structure, product and services, traditions, and ideology. This shows that to improve corporate image banks may need much more that improving the quality of the service.

In summary, the results indicatethat the adoption of mobile banking leads to an improvement in profitability and market share. The main factors that contribute to improved profitability and market share are the efficiency, cost cuttingeffectiveness, convenience to customers and ability to offer a wide range of services to customers, the ability to capture new customers irrespective of the their location..

V. CONCLUSION AND RECOMMENDATIONS

Based on the results presented, it can be concluded that the adoption of mobile banking can still ensures competitiveness of banks even in economic crisis business environments through positive profit margins and market share. It can be concluded that investment in mobile banking can ensure survival of banking in economic crisis business environment. It is recommended that banks operating in economic crisis environments can still invest their resources in expanding their mobile banking services to enhance their profit margins, market share and be competitive.

ACKNOWLEDGEMENT

We wish to acknowledge Women's' University in Africa for providing the support in undertaking this study. Likewise, we acknowledge the participation of the selected employees of banks used in this study. Without their cooperation and support, this study could not have materialised.

REFERENCES

[1] Akerlof, B. C., &Girardone, D, E. (2011). The Impact of Electronic Banking on the Performance of Banks. Journal of internet banking and commerce 16(2): 101-120

[2] Ateş G., Ç., (2016) Corporate Image Management– Perception of Corporate Image by Employees– Airline Companies Case, Unpublished Master's Thesis, İstanbul, Beykent University , Institute of Social Sciences .

[3] Berg T, Burg V, Gombovié A, Puri M. 2018. On the Rise of the FinTechs—Credit Scoring using Digital Footprints. Federal Deposit Insurance Corporation, Center for Financial Research WP 2018-04

[4] Bozkurt, M.2018. Corporate image, brand, reputation concepts and their importance for tourism establishments, International Journal of Contemporary Tourism Research 2, 60 – 66

[5] Bold, C., (2011). Branchless Banking in South Africa. Consultative Group to Assist the Poor (CGAP) June 28, 2011

[6] Çetin, S. and Tekiner, M.A. (2015) Key Determinants of Corporate Image: Law Enforcement Agency Sampling Internal Stakeholder Survey Journal of Management and Economy Finances, Vol:13, No:1.

[7] Cheah, C. M., Teo, A. C., Sim, J. J., Oon, K. H. & Tan, B. I. (2011). Factors Affecting Malaysian Mobile Banking Adoption: An Empirical Analysis, International Journal of Network and Mobile Technologies, Vol. 2, Issue 3, pp. 149- 160. - 1453 –

[8] Ching M. C., Chuan, A. T., Sim, J. J. Kam, H. & Tan, B. (2011). Factors Affecting Malaysian Mobile Banking Adoption: An Empirical Analysis, International Journal of Network and Mobile Technologies, Vol 2 / Issue 3

[9] Francesca, A., &Claeys, P. (2010). Innovation and performance of European banks adopting Internet. University of Milan and Cass Business School, City University London and University of Barcelona Centre for Banking Research, Cass Business School, City University London Working Paper Series, WP 04/10.

[10] Iacono, W.J. &Orlikowski, C.S. (2004). Consumer acceptance of online banking: an extension of the technology acceptance model. Internet Research, 224-35.

[11] Kingoo, H. (2011), the relationship between electronic banking and financial performance of commercial banks in Kenya. Unpublished MBA Thesis, University of Nairobi

[12] Lee, K.S., Lee, H.S., &Kim, S.Y. (2007). *Factors influencing the adoption behavior of mobile banking: a South Korean perspective.* Journal of Internet Banking and Commerce, 12(2).

[13] Lee, M. (2009). Factors *Influencing the Adoption of Internet Banking: An Integration of TAM and TPB with Perceived Risk and Perceived Benefit,* Electronic Commerce Research and Applications, 8 (3), pp. 130-141.

[14] Meuter, A.J. (2010), "Self-service Technologies: Understanding Consumer Contentment with Technology-Based Service Experiences", Journal of Marketing, Vol. October pp.48- 52.

[15] Must, B., &Ludewig, K. (2010). Mobile Money: Cell Phone Banking In Developing Countries. Policy Matters Journal, spring 2010, 27-33.

[16] Michael Kiragu, 2017. Thesis on the effects of e-banking on the financial performance of kenyan banks, international business, Vaasanammattikorkeakoulu University of Applied Sciences

[17] Ombati, R.B., Magutu, S.M., Nyamwange, N.K. &Nyaoga, P.O. (2011). Technology and Service Quality in the Banking Industry: Importance and performance of various factors considered in Electronic Banking services. African Journal of Business & Management.1, 151 – 164.

[18] OECD (2020), *Digital Disruption in Banking and its Impact on Competition* http://www.oecd.org/daf/competition/digital-disruption-in-financial-markets.htm

[19] Siam, A. Z. (2006). "Role of The Electronic Banking Services on The Profiles Jordanian Banks", American Journal of Applied Sciences, 3(9),1999-2004.

[20] Simpson, J., (2002). "The Impact of the Internet in Banking: Observations and Evidence from Developed and Emerging Markets", Telematics and Informatics, 19, pp. 315-330.

[21] Tchouassi, G. (2012). Can Mobile Phones Really Work to Extend Banking Services to the Unbanked? Empirical Lessons from Selected Sub-Saharan Africa Countries, International Journal of Development Societies, Vol. 1, No. 2, 2012, 70-81

[22] Tiwari, R., Buse, S. &Herstatt, C. (2006): Mobile Banking As Business Strategy: Impact Of Mobile Technologies On Customer Behaviour And Its Implications For Banks, Working Paper No. 37. Presented at "Portland International Conference on Management of Engineering and Technology" (PICMET) 2006, 8 – 13 July 2006, Istanbul (Turkey).

[23] Wambari, P. A. M (2009), Mobile banking in developing countries. A case study on Kenya. Unpublished Master's Thesis VaasanAmmattikorkeakoulu.

[24] Williams & Wilkins, United States of America. H. (2003). Card, Internet and Mobile Payments in Finland, Bank of Finland Discussion Papers