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Trend Analysis of Electronic Banking as the Catalyst of Commercial Banks Performance in Tanzania: Evidence from CRDB Bank Plc.

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Abstract
Electronic banking (E-banking) is one of the rapid global technological trends seen in the banking industry. In developed countries, the adoption electronic banking in banking industry is at great pace. The empirical studies from developed countries are reporting great improvement in the banking industry due to adoption of E-banking in the industry. Comparing developing countries to developed ones, still the implementation pace and impacts of E-banking in African countries particularly in sub-Saharan Africa is low. Tanzania is among of the developing country witnessing changes in banking industry at slow pace; though, most commercial banks in Tanzania have adopted some E-banking tools in their operations, the expectation is to improve both financial and non-financial performance of the bank. By using (SPSS), the study analysed both primary and secondary data of CRDB Bank Plc and its 1,000 randomly chosen sample of customers to measure the performance of the bank after the introduction of E-banking. The study has found a significant positive change in both financial and non-financial performance of the bank; yearly average increase of 39% internet customers, 68% fees collected from internet customers, 28% ATM customer, 22% revenue collected from sim-banking services in five years. It also, recommended to make necessary improving on challenges facing customers served through E-banking tools.
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1.Background to the Problem.

Electronic banking is the utilization of electronic and media transmission systems to deliver an extensive range of significant value-added services and products to bank clients (Steven, 2002). The utilization of information technology (IT) in banking processes is also, called electronic banking; E-banking is a result of e-commerce in the ground of financial and banking services (Steven, 2002). E-banking is a general term for the process by which a client may conduct banking businesses electronically instead of visiting banking holes (FinCen, 2014). In 1999, European banks started to issue electronic banking on this area to their customers until 2010 where it had frequently been made via SMS on Mobile (Idriss, 2013). Individuals would now be able to know their balance, results of the bank, exchange history, and subsidize exchange through mobile phones each time and from any place (Jenkins, 2008).

Modern innovations in telecommunication have enabled the launch of new access methods for obtaining banking services; one of these is electronic banking; whereby a customer work together with a bank through his or her mobile phone, computer and other devices that can access it (Barnes & Corbett, 2003). Electronic banking services can be grouped into SMS Banking, Application (Software) arranged, Browser (Internet) based model and Mobile Apps. Banks are acquainting E-banking all together with exploit high mobile entrance far and wide and all the more particularly in Africa (Devan, 2013). Wu and Wang (2005) in a research on mid class populaces initiate that, cost had least significant effect on the implementation of electronic banking. It was further found that at the time when banks have customer data bank, they can employ SMS supporting to give information about their support of their existing customers. Clients through utilizing versatile keeping money appreciate whenever anyplace saving money administrations with the assistance of their cell phones; they don't have to remain in the lines or face the representatives (Dixit & Datta, 2010). Electronic banking is effective in cost reductions for customers and bankers, and the information can be automatically stored in mobile, computer or any other devices in use as a proof as SMS whether sent or not (Angelovay, 2012). The 21st Century, made by the Technological Uprising, is the age of globalization, all aspects of business have been impacted massively by Internet, making electronic business necessary and no longer an option (Mazwile, 2012).

The banking industry in Tanzania experienced in few years back the use of ledgers and passbook which were modified to normal saving accounts and current accounts (Tarimo B. , 2013 & Mazwile, 2012). But before the incorporation of technology in banking; there were long queue, lots of paper works and difficulties in storage of customers information. This created a demand for new technology to innovation of products and services provided by the electronic banking industry (Tarimo B. , 2013). Most commercial banks in Tanzania have adopted electronic banking those not at the same level and pace, but at one or more tool of electronic banking is implemented ((News, Daily News, 2017). Most banks are using accounting packages instead of manual ledgers

and passbook of the past, out of banks Automatic teller machine are operating twenty-four hours, internet banking and mobile banking is now common service or tool to serve the banks customer (Tarimo B. , 2013 & Mazwile, 2012). Despite the slow pace of implementing electronic banking in Tanzania and in most of sub-Saharan Africa rural areas, the expectation of banks and their customer was not only to improve the service to customers, but also, to improve overall financial and operational performance of commercial banks (Bhattaacherjee, 2001& Kariuki, 2005).

Statement of the Problem

The financial sector is one of the pillars of efficient and sustainable economy growth of any country all over the world, in particular the banking industry plays a great role on building sustainable economy (DFID, 2004). Any improvement in the financial sector, especially the banking industry is the improvement in the whole economy in the country and in the world at large ((DFID, 2004, King & Levine, 1993b). The 21st Century, named "the age of globalization" has witnessed technological uprising in all aspects of business, massively impacted by Internet, making electronic business necessary and not an option (Mazwile, 2012; Seth and Bhatia, 2007). Banking industry being one of the most impacted sectors of the economy; Reports from empirical studies in different corner of the global, report the implementation pace of electronic business to be high and the impacts both positive and negative are enormous (Turban & King, 2003). But in some parts of the global the situation is not impressive, comparing developing countries to developed ones, still there is slow rate on the implementation of electronic banking in Africa; In Sub-Saharan Africa in particular (Ozsoz, & Onay, 2012). In Tanzania-rural, like in most of sub-Saharan Africa rural areas electronic business, especially E-banking both implementation and usage is at a slow pace with little contribution to the economy (News, Daily News, 2017). The bank performance depends much on how it`s innovative products attracts both existing and new customers (outreach), brings new revenue and contributes to profitability sustainably (Farshad et al., 2013 & Mazwile, 2012). Already the empirical studies in developed countries reports the best performance of banks after adopted electronic banking, in developing countries especially in Sub-Saharan Africa we have mixed reports (Farshad et al., 2013). In some developing countries in Africa and Asia finding reports better performance while some part reports slow adoption and insignificant results (Farshad et al., 2013; News, Daily News, 2017; Mazwile, 2012; Ozsoz, & Onay, 2012). To clear the doubt, the study analysed the data from one of giant commercial bank in Tanzania "CRDB Bank Plc" to assess both financial and non-financial performance of the bank after adopting E- banking in the period of five years.

General objectives

The purpose of the study was to assess the contribution of E- banking on financial performance of commercial banks in Tanzania.

Specific objectives

i) To identify Electronic banking tools used by CRDB Bank Plc and its Branches.
ii) To analyse the financial performance of CRDB Bank Plc due to the use of Electronic banking
iii) To identify challenges faced by CRDB Bank on the use of Electronic banking system

The scope and significance of the study

This study assessed the contribution of electronic banking on the financial performance of commercial banks in Tanzania focusing a single giant bank "CRDB Bank Plc" analysing secondary data performance trend. The study has added empirical literature to support other future studies in the area of electronic business, electronic banking in particular. Also, the study has provided analysed data to inspire the CRDB Bank Plc and other banks in Tanzania and other part in the global on adoption of Electronic banking.

Methodology

The study applied both quantitative and qualitative methodology, secondary data analytic approach; where by the tools for analysis were applied to the data from archives (Boslaugh, 2007). The approach was the best to analysis the performance of huge organization like "CRDB Bank Plc". Since the study was not funded, the approach provided the cheapest way to study the organization using data stored and published by the bank. Also, the study selected only appropriate data necessary for the study to save financial resources and time (Boslaugh, 2007; Andrews, et al., 2012; Smith et al., 2008; Schutt, 2011 & Smith 2011). This quantitative approach of study only has saved fund and time but also, has provided convenient way of studying the huge firm and it has provided the best results which is unbiased because the whole population of data like to be applicable instead of sample with sample errors and biasness (Dale et al., Smith, 2008; 1988; Glaser, 1962; Smith et al., 2011 & Smith, 2008). On the other hand, survey method was used to collect primary data from sample of 1,000 responded from the bank customers to fill questionnaires. Surveys approach is the best for obtaining data from huge samples. It is also, suitable for gathering demographic information describing the composition of the sample (McIntyre, 1999, p. 74). Surveys is inclusive in the types and number of variables that can be studied, it is relatively cheaper to develop and administer, and in making generalizations it is also, relatively easier (Bell, 1996, p. 68). Survey is capable of collecting data about attitudes that could be collected in difficult using other techniques (McIntyre, 1999, p. 75 & Tourangeau, 1999). It is also vital to know that, the methodology only delivers estimates for the true population,

and not exact measurements (Salant & Dillman, 1994, p. 13).

Literature review

In this chapter a researcher presents the review of literature on the contribution of electronic banking on financial performance of commercial banks as discussed by different authors. Specific issues covered in this chapter include; definition of important terms, theoretical review, empirical review and conceptual framework.

Definition of important terms

Electronic banking

E-banking is well-defined as the automatic provision of traditional and new banking services straight to consumers over electronic, collaborating communication networks (James, 2009). Electronic banking is the utilization of electronic and media transmission systems to deliver an extensive range of significant value-added services and products to bank clients (Steven, 2002). The utilization of information technology (IT) in banking processes is also, called electronic banking; E-banking is a result of e-commerce in the ground of financial and banking services (Steven, 2002). E-banking is a general term for the process by which a client may conduct banking businesses electronically instead of visiting banking holes (FinCen, 2014).

Electronic Banking types

E-banking encompasses of: ATM, internet banking, mobile banking and telephone banking, electronic card (Tarimo, 2000).

Automated Teller Machine (ATM)

Automated teller machine is a machine which gives a customer an access to monetary transactions in an open space without a requirement for clerk or bank tellers or any other bank employees (Endsley & D.J.Garland, 2000). On most present days ATMs, the bank customer is accepted by embedding a plastic card with stripe or a card with a chip that holds a card numbers and secured information, For example a termination date. According to (Endsley & D.J.Garland, 2000) authentication is given by a bank client to enter a PIN number. Utilizing an ATM, a bank customer can access his/her account and make kinds of transactions such as balance checking, cash withdraws, statement inquiries and other kinds of bank transactions (Endsley & D.J.Garland, 2000).

Mobile banking/simbanking

Simbanking involves the utilization of mobile phone for settlement of transactions related to money. It supports exchanges between one individual to another with prompt accessibility of assets for the recipient. Simbanking utilize the card framework for growth of instalment directions and in addition secure Short Message Service (SMS) notifying for verification of receiving to the receiver (Sathye, 2004). Simbanking is implied for low esteem exchanges where quickness of finishing the exchange is a key. Services covered under this product include; funds transfer, account enquiry, recharge phones, payment of bills which are offered by few institutions and passwords changing. (Asia, 2015).

Internet banking

Internet banking includes carrying out banking exchanges, for example, account request for information, printing of statements of record; transfer of fund and payment transactions on the web (WWW) by using devices such as the PC without going to bank halls. Online banking likewise use electronic card basis for accomplishing instalment guidelines and for final payment of services over the web among the client and the dealer. (Asia, 2015).

Electronic Card

An electronic card refers to a plastic card that particularly identifies the owner and utilized for budgetary exchanges on the web. Example, ATM and PoS agents use to approve instalment to the dealer or merchant (James, 2009). Electronic cards incorporate credit card and debit cards. Expired cards needs going to bank hall for recharging. Debit card is connected to nearby financial balances and offer prompt affirmation of instalment. Utilization of Credit card needs a customer to be connected to a credit line also can likewise be utilized for getting to neighbourhood and worldwide systems and are broadly acknowledged in 12 most nations (James, 2009). The basic foundation and operational principles are regularly given by worldwide confided in plans, (for example, visa and master card) (James, 2009).

Theoretical review

The study applies expectation confirmation theory (ECT) (Bhattaacherjee, 2002) (Brown, Venkatesh, & Kim, 2012),

Expectation Confirmation Theory

The core logic of expectation confirmation theory was stated by (Bhattaacherjee, 2002), (Brown, Venkatesh, & Kim, 2012). They argue that; initialy a customer shapes a desire of a unique good or services frame to an agreement in the wake of utilizing it for some time, second be the buyer shapes the sense about his/her apparent deed, contrasted with introductory desire and choose to gauge to which then expectation is met. A consumer collects the realisation choice, in light of the level of validation and expectation on which what approval was built. And at last, a customer shapes a repeat buy or continuance aim and behaviour (Bhattaacherjee, 2002). In

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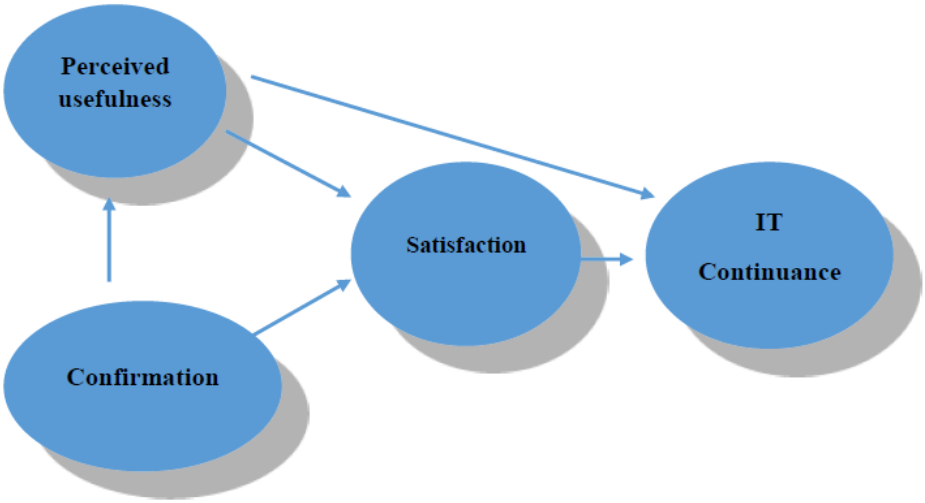
short, they postulate that expectation confirmation theory comprises of perceived usefulness and user satisfactions which determine the information technology continuance intentions (Bhattaacherjee, 2002).

Figure 1: Expectation Confirmation Theory



Source: Research Data, 2018

From the figure 2.1 above it seems that user satisfaction is influenced by user confirmation of expectation from the prior adoption of Information technology (electronic banking) and also client satisfaction is influenced by perceived helpfulness of the information system adoption (Brown, Venkatesh, & Kim, 2012). The satisfaction which is determined by the confirmation of the expectation and perceived usefulness is the one which determine the information technology continuance. Therefore, this theory was used to explain the continuation of using electronic banking system by CRDB Bank as it already adopting it. It will show if the expectation were derived (impact of adoption) and it was useful to them and the continuation of using it or innovating it (Bhattacherjee, 2001).

Performance measurement

Performance measurement is the procedure of customary and deliberate information gathering, examination and answering to be utilized by a firm to catch up the assets it utilizes, the outcomes it acquired with the created services and goods (Singh, 2009).

Performance measurement aims for encouraging representative improvements and for the going purposes: to give direction and criticisms and to set execution goals (Singh, 2009). The steps engaged with successful performance include: recognizable proof of important performance and setting yearly goals for each key execution marker, distinguishing proof of reproachful of qualities of compelling execution, occasional survey of execution (Singh, 2009).

Analysis of the financial performance.

Performance of the banks was measured by looking the income derived from electronic banking such as fees and commissions, deposits and profit for the year was analysed to comment on the contribution of electronic banking for five years. The researcher also indicated the performance ratio ,as its normally used by CRDB Bank to measure its financial performance; Return on Equity, Return on Assets, Operating Expenses to Operating Income, Growth in customer deposits, Earnings per share, Gross loans to customer deposits, Non-performing loans to total loans, Growth in total assets, Total Capital Ratio (CRDB, Annual-Report, 2015). This should show how the key performance indicators may not reflect well in performance while on other hand electronic banking is doing better, and that was why a researcher decided to use other measures such as fees and commissions which were derived directly from E-banking as a measure despite of using key performance indicators and profit only.

Empirical review

On his exploration study titled 'Electronic banking and money banking' demonstrated the friendly effect of ICT on saving money execution utilizing bank income and benefit as degree of execution; he built up that bank with great benefit development will probably be utilizing more prominent quantities of cutting-edge ICTs (Kariuki, 2005). He concludes that electronic banking stimulates higher benefits in long-term and not in a short term because of high investment cost (Kariuki, 2005). In his study concerning the impact of item improvement on the financial execution of Kenya's business banks reasoned that, new item advancement affected emphatically on Kenya's bank budgetary execution, however the same was not factually noteworthy (Kariuki, 2012).

Another research in Turkey use 18 banks board's information, from the beginning of 1990 to 2008 in commercial sector development. They conclude that internet adoption is negatively affects the productivity at the beginning of the adoption year (Ozsoz & Onay, 2012). Their model utilizes other essential factors as non-Interest

Income, interest income, profits, deposits, and credit. They conclude that performance of business sector in emerging business sector is distinct as in developing markets, the appropriation of E-banking productivity of the bank (Ozsoz & Onay, 2012). Another conclusion is that E-banking adoption has positively impacts on productivity of the branch, in deposits. (Ozsoz & Onay, 2012).

Another study on E-banking adoption by Commercial banks in Kenya decided that though acceptance of E-banking was advantageous, factors such as readiness of services 24hours, customer conveniences and quickened transactions was affected E-banking (Osage, 2012). Pikkarainen (2004) in his work on buyer acceptance of E-banking discovered two crucial reasons underlying E-banking improvement and dispersion. Firstly, by offering E-banking services, banks save costs. This is because E-banking is the cheapest way of offering bank service to the customers (Sathye, 2004). Secondly, the number of bank staffs has been reduced due to the simplicity of using E-banking products, also in term of time the bank saves the time of offering their services (Karjaluoto, 2003).

On his study provided that, electronic banking provides substitutes for faster provision of financial services to a broader range of clients (Kiunsi, 2013). The study report that internet banking provides wide varieties of banking services with exception of cash withdraws.

Another study postulated that, Bank customers have complaints of longer time spent in performing transactions since the commencement of the ongoing banking reforms were instituted (Bangudu, 2011). Customers expressed worry that perhaps the resurfaced queues might not be unconnected with the recent massive layoffs in thE-banking industry. The sight of the queues has actually forced some customers to leave onE-banking hall for another. The study finds out that there are negative impacts to the banks by not adopting electronic banking. But it says nothing on the positive contribution of electronic banking.

Another research shows that clients of CRDB Bank utilize Electronic banking platforms such as Automated Teller Machine. Some benefits of using E-banking products like cost saving, time saving and convenient of the products are enjoyed by CRDB customers (Kiunsi, 2013). Most of Customers mostly use Automated Teller Machine among the Electronic banking products due to its user friendliness and effectiveness. The normal operating time of Electronic banking platforms is not more than 5 minutes. Moreover, E-banking platforms have features such as customer's username and his or her passwords for secure personal information against theft and hackers.

Another research on "customer perceptions regarding Internet banking services" conducted in Kinondoni district, Dar es Salaam. His study focused on the perceptions of the bank customers regarding E- banking, but did not focus on the contributions of E-banking on commercial bank's financial performance in Tanzania leaving a lot to be done on the subject matter (Bello & Jacob, 2008).

PRESENTATION AND ANALYSIS OF THE RESARCH FINDINGS

Electronic banking tools and financial performance of CRDB Bank

The following are simbanking tools and their contribution to the financial performance of the bank

CRDB Banks Performance on simbanking

The table below express the performances on simbanking

Table 1: CRDB performance on Simbanking

YEAR		NUMBER OF SIMBANKING CUSTOMERS	NUMBER OF SIMBANKING TRANSACTIONS
2013	2013	759,517	9,635,658
2014	2013	759,517	9,635,658
	2014	987,153	9,363,303
	Increase/decrease	**+30%**	**-2.8%**
2015	2014	987,153	9,363,303
	2015	1,227,843	12,568,990
	Increase/decrease	**+24**	**+34%**
2016	2015	1,227,843	12,568,990
	2016	1,526,562	13,240,460
	Increase/decrease	**+24%**	**+5%**
2017	**2016**	1,526,562	13,240,460
	2017	2,045,593	20,296,656
	Increase/decrease	**+34%**	**+53%**

Source: CRDB Bank Plc Annual Reports 2014, 2015, 2016 and 2017

Table 1 above shows the performance of simbanking for the last three years ,it shows that number of simbanking customer, increased by 24% from 987,153 customers of 2014 to 1,227,843 ,the increase of simbanking customers is direct proportional to the increase in the number of simbanking transactions from 9,363,303 transactions in 2014 to 12,568,990 transaction in 2015 which is equal to rise of 34%.In 2016 also the number of simbanking customers rise from 1,227,843 of 2015 to 1,526,562 customers of 2016 equivalent to 24% rise, the rise of the simbanking customers also was direct proportional to the rise in simbanking transactions as it rose from 12,568,of 2015 to 13,240,460 in 2016 equivalents to 5% rise. The rise in the number of simbanking customers and the simbanking transactions as well indicate that these products capture the attention of customers as it simplifies their work and save their time and cost that is why the number of customers and transactions increase year to year. This also concludes that simbanking has a lot to do with the increase in financial performance of CRDB Bank.

CRDB Banks Performance on Internet banking

Table 2: The performance of internet banking

YEAR		NUMBER OF INTERNET BANKING CUSTOMERS	NUMBER OF INTERNET BANKING TRANSACTIONS
2013	2013	9,453	56,743
	Increase/decrease		
2014	2013	9,453	56,743
	2014	11,545	73,983
	Increase /decrease	**+22.1%**	**+30.4%**
2015	2014	11,545	73,983
	2015	17,398	141,776
	Increase/decrease	**+51%**	**+92%**
2016	2015	17,398	141,776
	2016	21,460	207,847
	Increase/decrease	**+23%**	**+47%**
2017	2016	**21,460**	**207,847**
	2017	**34,688**	**424,117**
	Increase/decrease	**+62%**	**+104%**

Source: CRDB Bank plc Annual Reports 2014, 2015, 2016 and 2017

From table 2 above, the number of internet banking customers has increase from 11,545 customers of 2014 to 17,398 customers of 2015 equivalent to 51% increase, the increase in internet banking customers result to the increase in internet banking transactions from 73,983 of 2014 to 141,776 of 2015 equivalent to 92% increase (CRDB, Annual-Report, 2015).In 2016 the internet banking customers also increased from 17,398 in 2015 to 21,460 in 2016 equivalent to 23 % increase (CRDB, Annual Report, 2016). The increase in internet banking customers impacted the internet banking transactions as it increases from 73,983 in 2014 to 141,776 in 2015 which is equivalent to 925 increases and also from 141,776 in 2015 to 207,847 equivalent to 47% increase. This trending indicates that, the increase in both internet banking customers and internet banking transactions result to the increase in financial performance of CRDB Bank in term of fees and commissions as well as other incomes.

CRDB Banks performance on electronic cards

Table 3: CRDB performance on Electronic cards

YEAR		NUMBER OF ELETRONIC CARDS CUSTOMERS	NUMBER OF ELECTRONIC CARDS TRANSACTIONS
2013	2013	626,979	12,467,026
	Increase/decrease		
2014	2013	626,979	12,467,026
	2014	1,139,961	18,405,156
	Increase/decrease	**+45%**	**+47.6%**
2015	2014	1,139,961	18,405,156
	2015	1,695,573	22,198,196
	Increase/decrease	**+50%**	**+21%**
2016	2015	1,695,573	22,198,196
	2016	2,301,233	19,747,116
	Increase/decrease	**+36%**	**-11%**
2017	2016	2,301,233	19,747,116
	2017	3,967,895	20,652,929
	Increase/decrease	**+72%**	**5%**

Source: CRDB Bank plc Annual Reports 2014, 2015, 2016 and 2017

Table 3 above, shows the performance of electronic cards for the last three years ,it shows that number of simbanking customer increased by 50% from 1,139,961customers in 2014 to 1,695,573,the increase of electronic cards customers is direct proportional to the increase in the number of electronic cards transactions in 2015 from 18,405,156 transactions in 2014 to 22,198,196 transaction in 2015 which is equal to the rise of 21%.In 2016, also the number of electronic cards customers rose from 1,695,573 in 2015 to 2,301,233 customers in 2016 equivalent to 36 % increase, the rise of the electronic cards customers also was inversely proportional to the number of electronic cards transactions as it fall from 22,198,196 of 2015 to 19,747,116 of 2016 equivalents to 11% decrease. The rise in the number of electronic cards customers and the electronic cards transactions as well indicate that this products as capture the attention of customers as it simplify their work and save their time and cost that is why the number of customers and transactions increased in 2015.But also in 2016, the number increase in the number of electronic cards customers was inversely proportional to the number of electronic cards transaction which impacted to negative effect of 11% fall in transactions due to the slowdown in government spending which affected market deposits and lending growth (CRDB, Annual-Report, 2016).

CRDB Bank performance on ATM

Table 4 shows the performance of ATM transactions and ATM values

Table 4: CRDB performance on ATM

YEAR		NUMBER OF ATM TRANSACTIONS	VALUE OF ATM TRANSACTIONS (BILLIONS TZS)
2013	**2012**		
	2013	15,412,899	1,1478
	Increase/decrease		
2014	2013	15,412,899	1,147
	2014	18,021,540	2,208
	Increase/decrease	**+16.9%**	**+10%**
2015	2014	18,021,540	2,208
	2015	21,409,830	2,269
	Increase/decrease	**+19%**	**+10%**
2016	2015	21,409,830	2,269
	2016	19,277,870	2,907
	Increase/decrease	**-10%**	**+28%**
2017	**2016**	19,277,870	2,907
	2017	20,071,569	2,940
	Increase/decrease	**+4%**	**+1%**

Source: CRDB Bank plc Annual Reports 2014, 2015, 2016 and 2017

Table 4. Above, shows that the number of ATM transactions in 2014 was 18,021,540 and the transactions value was TZS 2,208 billion (CRDB, Annual-Report, 2014). In 2015 it increased from 18,021,540 in 2104 to 21,409,830 in 2015 equivalent to 19% increase and its transactions value increased from TZS 2,208 billion in 2014 to 2,269 billion in 2015 is equivalent to the increase of 10% (CRDB, Annual-Report, 2015).The trend change in 2016 when the number of ATM transactions decreased from 21,277,870 in 2015 to 19,277,870 in 2016 equivalent to 10% decrease but its value increased by 28% from TZS 2269 billion in 2015 TZS 2907 billion in 2016. This was due to the negative impact of government spending falls and impacts resulted from market deposit falls and lending power growth (CRDB, Annual-Report, 2016).

Summary of the performance indicators

The table 5 below summarize the performance of CRDB Bank in its financial performance indicators

Table 5: Summary of the key performance

PERFORMANCE INDICATOR	DEFINITION & FORMULA	CRDB BANK RATIOS				
		2013 (%)	**2014** (%)	**2015 (%)**	**2016 (%)**	**2017 (%)**
Return on Equity	$\frac{\text{Net Profit}}{\text{Total Equity}}*100\%$	22.3	21.7	18.8	10.3	4.9
Return on Assets	$\frac{\text{profit Before Tax}}{\text{Total Asset}}*100\%$	3.4	3.1	3.4	2.2	0.9
Operating Expenses to Operating Income	$\frac{\text{Net Operating Expenses}}{\text{Net Interest Income+Non Interest Income}}*100\%$	56.9	60.4	55.8	63.1	66.7
Earnings per share	$\frac{\text{profit attributable to equity shareholders}}{\text{number of ordinary share issued}}*100\%$ Note Not in percentage	38.8	43.9	54.3	28.4	13.9
Gross loans to customer deposits	$\frac{\text{greoss loan to customers}}{\text{total deposits from customers}}*100\%$	67.1	76.0	79.6	82.6	72.4
Non-performing loans to total loans	$\frac{\text{non-perfoming loans}}{\text{gross loan and advances}}*100\%$	6.2	5.0	8.4	14.0	12.6
Growth in total assets	$\frac{\text{current-previous year total assets}}{\text{previous year total assetts}}*100\%$	15.7	18.3	0.3	29.3	9.2

Growth in customer deposits	$\frac{\text{current}-\text{previous year deposits}}{\text{previous year deposits}}*100\%$	17.0	12.1	25.2	-2.4	5.3
Total Capital Ratio	$\frac{\text{total capital}}{\text{risk weighted including off balance sheet items}}*100\%$	15.1	14.3	19.4	17.6	17.0

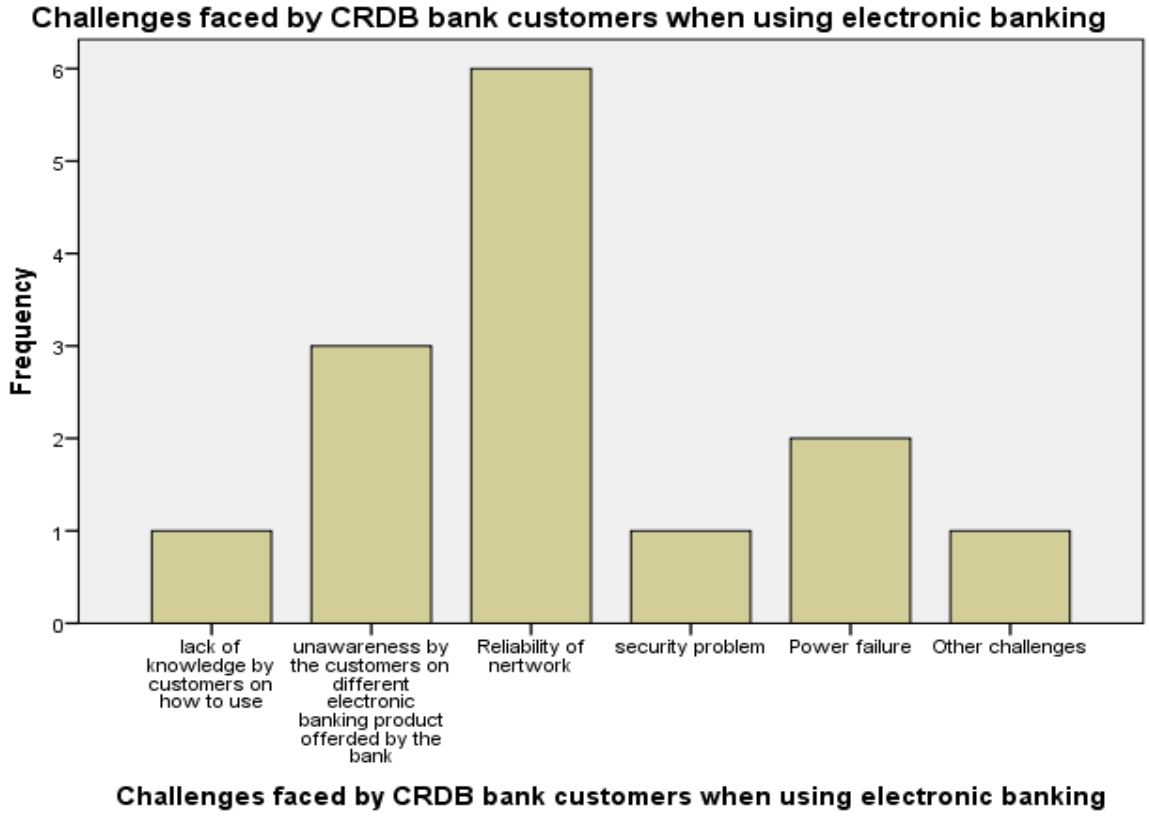
Source: CRDB Bank plc Annual Reports 2014, 2015, 2016 and 2017

The table 5. Above, summarize the CRDB Bank performance in its final performance measurement rations for five years. It may be indicated that there is rise and fall in the key indicator ratio, which may not portray the trend in growth comparing to electronic banking, that why the researcher decided to add some other measurement to be used to conclude about the contribution of E-banking on financial performance of commercial banks in Tanzania.

Challenges faced by CRDB Bank while using E-banking

Figure 2: below shows challenges the bank face in having effective e banking system in place

Figure 2: Challenges faced by CRDB Bank while using E-banking



Source: Research data, 2018

Challenges hindering the implementation of electronic banking system in CRDB Bank are; 42.9% of the respondents said that network reliability is the big challenge that is why result customers face challenge to use E-banking products. 7.1 % comment on the customers little skills on how to use the E-banking facilities. Other respondents 14.3% said that the issue is power failure which challenges the electronic banking system adoption. This is because most of electronic banking facilities operates in devices which use electric power, and supply of electricity power until now is a challenge to most developing countries especially Tanzania.

There is also security issues where by 7.1 % of the respondents agued on that because the system can be accessed by hackers and this can cause problem to both bank information and customers information.

Interpretation of the findings

Table 6 below interprets how electronic banking contributes to the performance of the bank through fees and commissions and also through profit.

Table 6: Interpretation of the Findings

	2013	2014	2015	2016	2017	ANALYSIS
FEES AND COMMISSION INCOME	**TZS MILLIONS**					
ATM withdrawal charges	7,610	9,723	10,668	13,910	13,148	**Persistent Increase from 20143to 2016**
VISA and master card fees	3,199	3,322	3,721	7,990	6610	**Persistent Increase from 2013 to 2016**
Fees on issue of bank cards	4766	7,040	7,500	12,532	12,552	**Persistent Increase from 2013 to 2017**
Commission on mobile phone services	4,360	9,173	13,611	20,081	30,977	**Persistent Increase from 2013 to 2017**
Other fees and commissions	5,829	6,067	8,285	9,658	10,354	**Persistent Increase from 2013 to 2016**
Total fees and commission income	88,987	115,661	148,601	159,443	169,755	**Persistent Increase from 2013 to 2017**
Profit before tax	119,282	130,008	178,163	111,860**	169,755	**Increase from 2014 to 2015 and decrease by 37.2% in 2016 then increase in 2017**

** The decrease in customer deposits was due to government application of Treasury Single Account (TSA) and stoppage in government expenditure which exaggerated market deposits. Bank's financial performance was destructively affected as non-performing loans which led to fall in profit before tax. Later on, in 2017 the profit rose to TZS 169,755 million. The table 6, above shows how electronic banking affects the financial performance of CRDB Bank in term of income generated from fees and commission services requested via simbanking, internet banking also via ATM all charges generated from their transactions forms the income generated from fees and commissions. Profit itself constitutes of many items including income generated from fees and commissions which together form the profit of the bank. In table 6 above it shows that in 2013 income generated from fees and commission was TZS 88,987 million and in 2014 was TZS 115,661 million whereby there was an increase of 29.98%. In 2014, income generated from fees and commission was TZS 115,661 million and in 2015 was TZS 148,601 million which shows that there is an increase of 28.7 % equivalent to TZS 32,940 million. In 2016 it was TZS 159,443million, whereby there was an increase of 7.3% equivalent to 10,842 million. Also, in 2017 there was a rise of 6.5% from TZS 159,443 million to TZS 169, 755 million. This concluded that, electronic banking contributes positively to the financial performance of CRDB Bank as it increases its profit by increasing the value of fees and commissions. On the other hand, specifically for each electronic banking tool it seems that in all three years, there is an increase in the income generated from each electronic banking platform. There was an increase of 27.8% from 2013 to 2014 income from ATM, 9.7% of income generated from ATM from 2014 to 2015 and 30.4% increase from 2015 to 2016 and the rise of 5.5% from 2016 to 2017. Income from card fees was increased by 3.8% from 2013 to 2014, 12% from 2014 to 2015, 54% from 2015 to 2016 and fall by 17.3% in 2017 this was due to the impact or reducing the amount to be charged in card fees from that year but the performance is still good. Fees on the issue of cards increased by 6.5 % from 2014 to 2015 and 79.3 % from 2015 to 2016.Income from simbanking increase by 48.4 % from 2014 to 2015, 47.5 % from 2015 to 2016 and in 2017 also there was an increase from TZS 12,532million in 2016 to TZS 12,552 million in 2017. The profit also was affected by the government policy of reducing government expenditures which reduced the circulation of money in economy resulted to fall in customers bank deposits, this effect reduced profit before of the bank from TZS 178,163 million of 2015 to TZS 111,860 million in 2016. From this point of view the researcher conclude that, electronic banking contributes positively to the financial performance of commercial banks in Tanzania as it improves the performances due to its simplification of operations and reaching other areas in offering their services, due to its reduction of cost of offering their service to customers and finally in profit making electronic banking increase the profit of the bank as analysed above.

Result summary, recommendation and conclusion

This part presents the overall summary of the results, conclusion and recommendations from the finding.

Result summary

Electronic banking tools used by CRDB Bank

From the findings and presentations, it has been shown that, CRDB Bank use different types of electronic

banking tools such as ATM as people can access some of the services provided by the bank teller like, withdrawing some amount of money via ATM, requesting for balance, requesting for short statements at ATM, changing PIN at ATM and other small services offered by ATM. Another electronic banking tool is simbanking this enable the customer to reach some services via mobile phone like withdrawing money from bank account to Tigopesa/M-pesa/Airtel money and other networks. Simbanking also offers other services like balance enquiry, min-statement inquiry, depositing money to bank accounts, payments for different bills, and offer loan through salary advance. Another electronic banking tool used is electronic cards, CRDB Bank offer electronic card for making different payments especially prepaid hospital cards to different customers via different hospital, customer can access hospital services by using his/her card after depositing amount of money to that account before requesting for that service, also there is credit card which enable a customer to performs and request for services via the ATM. Another electronic banking tools used by CRDB Bank is SimAccount this is the new product offered by CRDB Bank which provide an opportunity to any customer to deposit his/her money to his account and operates the same as Tigopesa, M-pesa, Airtel Money and other network platforms. Another one is internet banking this enable customer to receive different information and request different information concerning his/her bank account through CRDB internet web. Also, the Bank has launched its own mobile banking application "Simbanking", internet banking so as to provide our banking customers with Android software an access to a secure and easy-to-use account management platform (CRDB, Annual Report, 2016).

Performance of CRDB Bank basing on electronic banking.

From the findings, all respondents asked for their comments on the financial performance CRDB Bank for the last five years 100 % of all respondents said that, the performance of the bank for the last three years was very good. The findings also indicate that E-banking improve the performance as time goes on, because it increases the level of profit through its income from fees and commissions. CRDB Bank also holds a vigorous balance sheet with assets in total of Tanzania shillings 5.3 trillion (Group has assets in total of Tanzania shillings 5.4 trillion) and Total customer deposits of TZS 4.05 trillion (Group has Total deposits of TZS 4.11 trillion) as at 31st December 2016. The value of CRDB Bank balance sheet assets also includes fees and commissions from E-banking platforms. Fees and Commission income was TZS 4.6 billion in 2017 compared to TZS 1.9 billion in 2016, this is equivalent to 142% increase due to acquisition of new customers and retaining the existing customers (CRDB, Annual-Report, 2017). CRDB Bank offers its customers a reliable and trusted partner for major financial investment dealings in Tanzania and Burundi owing to its strong strategy, technology and dedicated team of board members, management and staff (CRDB, Annual Report, 2016).

Contribution of E-banking on financial performance of CRDB Bank.

Respondents agree that electronic banking as contribute to the financial performance of CRDB Bank in term of increasing profits through fees and commission derived from electronic banking platforms and simplify operations of the bank. This can be proved also by looking the analysis in chapter four which explain the contributions of each types of E-banking through their income contributed for the three consecutive years. Findings show that for all three years there is continuous rise in the income generated from electronic banking.

Challenges faced by CRDB and its customer on using E-banking tools

Implementation of electronic banking CRDB Bank is faced by some challenges which are network reliability means that there is a network problem in using electronic banking which discourage customers from using E-banking facilities. Power supply also hinders the system as some times it happens there is unavailability of power while all of the devices which enable customers to use electronic banking facilities are associated with power. Unawareness of clients on how to use electronic devices also hinder the system. Lastly Security issues as the system can be retrieved by hackers and this poses a danger to both customers and bank in form of losses and privacy of customers information.

Conclusion

Electronic banking has simplified the operation of the bank by saving some services which first were only offered inside the bank halls but now customers can access it where they are. The number of customers also increase due to the fact that they are conscious to use those E-banking services. The increase in number of customers increase also income generated from services offered to customers and finally to the profit of the bank.

Recommendation

ATMs should be increased in all branches where the number of transactions have been increasing so as to reduce the queues, example from the case study area of Marangu and other rural areas there is only one ATM while the number of customers has increase and transactions level has increased which result to long queues. Also, the bank should put ATMs in different locations which are easily reachable by customers, so that speedy service and accessibility is sustained, therefore; improving bank operations. At the same time constantly services in those ATMs should be guaranteed in order to offer reliability of the services.

Awareness on the service offered by should be created to customers. Both electronic banking services and other services should be advertised to customer or any other way which could make customer be aware of the services offered by that bank

On the issue of network reliability, the bank should employ experts more experience on network issues in order to guarantee the reliability of network to customers while accessing their services. This has been observed there when a customer comes and say I don't want to use those electronic banking services since they are of network problems for both ATM and other electronic devices used to offer those services.

On the issue of customer unawareness on the use of those electronic services in different devices like ATM on mobile phones or laptops, the management should create training to them for clients on usage of various electronic banking services for effective performance of the bank. Example training on the use of ATM and, simbanking, and internet banking and so on.

Also, in this world of science and technology bank should retain on innovating their E-banking technology in order to have modern system in delivery of effective service.

The government through its policy creators and BOT should also review policies related to campaign of improvement implementation and transfer of technology so as to make sure that all financial institutions in the country especially banks are adopting those technological innovation so as to reach even in the area where bank buildings can't be constructed but people in that area can access services through their mobile phone, personal computers or other means like ATM. By doing that, the government can benefit from technological innovation in different sectors and finally the industrial policy of the current leadership will be achieved.

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