

# The Effect of ATM on the Growth and Sustainability of Commercial Banks in Rwanda; A Case Study of Ecobank Rwanda

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**Abstract:** *The business environment is characterized by rapid changing technology liberalization and the market awareness by the customers. The Banks introduced the Automated Teller Machines (ATM) to facilitate their customers in order to perform the withdrawals and deposits transactions without any human intervention and increase the number of transactions and reducing the operating cost as well. The main purpose of this study was to examine the effect of ATM on the growth sustainability of Rwanda's commercial banks. The study adopted both descriptive and quantitative research designs. Questionnaires were addressed to 20 respondents selected from among the Ecobank staffs and an interview was held with 4 respondents from the bank's top management. Descriptive statistics was used for testing the effectiveness of variables. Findings of the study asserted that there is a positive relationship between ATM services and growth and sustainability of Ecobank and that ATM services by Ecobank has contributed to the growth and sustainability of the bank. The study thus recommends that the administration of the bank should observe into the fact of using ATM transactions to watch over safety measures and risk management to enhance confidence on use of ATM technology amongst the clients.*

**Keywords:** ATM, Ecobank, Growth and Sustainability

## 1. Background of the Study

Over the years, the world has seen a massive change in the management of commercial banks; from organizations replying more on specialized in-house service functions, conventional multipurpose service functions to outsourced services (Mwanko, 2010). Information technology (IT) has helped many commercial banks in improving their operational efficiencies by providing internet-based solutions for their supply chain networks and electronic solutions. The revolution of information technology has influenced almost every facet of life, among them is the banking sector. Service delivery in banks has greatly transitioned from visiting banking halls to making transactions without even being in the bank. The need to reach customers in low income areas gave rise to retail banking (Mangatu&Shamaz, 2013).

The UK has one of the highest tariffs of adopting retail banking in the world: around one-third of customers use mobile banking applications and mobile banking is now available to customers of all of the major banks (Gul, Faiza, & Khalid, 2011). While there are differences in the sophistication and functionality of the mobile banking applications offered by the established banks in the UK, customers are typically able to check their balance, set up personalized alerts, send payments to another account using a mobile number, and locate their nearest branch or ATM (Khravish, 2011). In its end-to-end digital transformation, Lloyds Bank, in the UK, focused on ten customer journeys, using agile delivery, deploying cross-functional customer journeys, and empowering product owners with responsibility. Lloyds also modernized its IT architecture to extend the use of micro services, and cloud environments. The results were dramatic. Between 2014 and 2016, the number of customers using Lloyds' mobile channel grew from five million to eight million (Beck *et al.*, 2017).

Kenyan banks are profit making institutions and thus profit can be termed as the measure of growth sustainability; thanks to strong retail banking that the country has embraced with the government support to the young innovators (Kamau, 2012). Growth is the degree in which financial objectives are being accomplished in an organization. Several financial ratios have been developed to measure profitability (Ndungu & Njeru, 2014). Bank regulators and analysts have used ROA and ROE to assess industry performance and growth sustainability in market structure as inputs in statistical models to predict bank failures and mergers and for a variety of other purposes where a measure of profitability is desired (Flaming *et al.*, 2011). Finally, ecosystems, which have emerged most notably in China, are likely to become more of a feature in the African economy, and banks will need to have the digital sophistication to play a role as they develop retail banking sector (Arisa & Muturi, 2015).

Good business environment as well as sound regulatory policies on the Rwanda's banking sector have resulted to high level of financial inclusion in Rwanda which increased by 24% to 72% in 2012 from 48% in 2008 (Bank supervision annual report (2011). According to the report by BNR (2016), in order to reduce transaction costs as another barrier of financial inclusion, digital financial services were introduced in Rwanda, such as mobile payments, mobile banking and internet banking. This has contributed to expand financial services in the country between 2012 and 2016. The use of digital financial services boosted access to formal non-bank financial services to 42% in 2015 from 19% in 2012. For example, in 2015, 74% of adults in Rwanda (2.8 million) use mobile money. As mentioned, formulation and adaption of economic policies is important in achieving sustainable economic development. It is about how leaders adjust strategies and choices to changing circumstances (Kingangai, *et al.*, 2016).

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Ecobank Rwanda (2013), the current technology in the bank plays a vital role of helping financial managers to retrieve data, process them and then analyze them to make effective and efficient growth sustainability decisions unlike in the past where most banks including Ecobank Rwanda itself used to face fatal difficulties. Therefore, the researcher wished to establish the effect retail banking has on the Rwandan commercial bank's growth sustainability with a reference of Rwanda's Ecobank. The bank powers a wide range of solutions for mobile and digital devices that are fast, safe and easy to use.

## 2. Statement of the Problem

Banking industry has changed drastically not only in Rwanda but world at large. From traditional banking where customers used to walk to bank, take and fill the form and after that standing in the line for depositing and withdrawing the money. Like other service industries, banking is also a customer focused service industry, where the attention or we can say that focused attention is on differentiate customer services as compare to the competitor's strategies. BNR (2016) revealed that there has been tremendous innovation, improved, performance and efficiency of services such as online banking, mobile payments & banking. Rwanda's internet usage and adoption that has incredibly increased with more using internet in different aspects, including financial services, business transactions, and data management (Aduda & Kalunda, 2012)

However, while monitoring compliance with liquidity requirements, the BNR performed quarterly stress tests mainly to test resilience of banks when faced with liquidity shocks and it realized that banks depend on low number of customers. The test showed that, the first banks would become illiquid when 27 percent of deposits are withdrawn and 14 out of 17 banks met minimum liquidity requirements when 20 largest depositors pulled out 50 percent of their deposits. From these results, it appeared that banks were not liquid enough for them to require acute and very adverse shocks for banks to be liquid (BNR, 2016). The results of the tests indicated how important retail banking strategy involvement is in the banking industry in Rwanda and how dangerous it is to rely on the corporate clients.

In addition, instability of the performance ratios is among other big challenges Rwandan banking sector because of costs that are aligned to money. The sectors' ROA and ROE declined respectively from 2.4 percent and 13.1 percent to 1.7 percent and 9.2 percent. It is alleged that the strong decline of non-operating incomes by 34.9 percent was a major cause for this drop in profits and reflected the significant drop of income from recovery. Strong increase in operating expenses also played part to push down banks' profits. At the end June 2016, return on equity reduced; and also operating expenses increased by 14.8 percent, from 9.3 percent registered in the same period of 2015. Based on the above therefore, the researcher was motivated to find out how growth sustainability in Rwandan commercial banks is affected by retail banking. The study referred to Ecobank Rwanda.

## 3. Literature Review

### Technology Acceptance Theory

Technology acceptance model was introduced by Davis in 1986. According to this theory, emerging technologies cannot improve organizational effectiveness and performance if the change has not been accepted by the users. This theory is when one wants to quickly understand the adoption of computer expertise because the adoption of any innovation or particularly ICT based necessitates venture in computer grounded apparatuses to effectively and efficiently backing conclusion making, preparation communiqué (Veniard, 2010). Nevertheless, these technology structures may be hazardous. It is consequently selfsame life-threatening that these systems are quantified on structural predilection and judgment. In addition, it is also compulsory to comprehend that individuals might struggle technical fluctuations. There must be a determination to recognize why individuals counterattack changes and the possible ways through which similar disputes can be committed (Ombutora & Mugambi, 2013). Fitting administrative philosophy must be instructed; the change must be approved in an incremental way conveyed by effective announcement. Every Tom, Dick, and Harry complicated have to be informed must be knowledgeable on their roles and authorized to accomplish the corresponding activities and responsibilities (Mary, 2015).

To note is that the technology acceptance theory is centered on twofold rulebooks; supposed expediency of the system structure for stance; better performance, improved productivity, efficiency and proficiency in maneuvers and operations and many other actives. and the professed affluence of use of the new schemes for example effortlessness to fascinate, simplicity to use, ease to regulator and ease to remember (Kinyanjui, 2011). This theory passes a considerate that getting and use of users' approaches around the organization and its supposed assistances.

### Automated Teller Machine (ATM)

To effect retail banking successfully, ATMs have to come in first place. Introduction of ATM is the seminal example of how to introduce agile into a banking sector at large scale. Noteworthy, successful digital transformations depend on adapting or adding to a bank's existing IT systems in multiple ways; for example, increasing the number of ATM, introducing a library of micro services or APIs, using cloud computing at scale, and leveraging technologies such as robotics and artificial intelligence (Mwangi, 2011). Partnering for reach and innovation the second response to digital disruption involves a bank partnering with a telco to transform its reach and accessibility to customers, and in product innovation. Partnerships can make sense for banks seeking a cost-effective model to serve low-income segments. It is a less resource-intensive option, making it a suitable play for a bank facing constraints in financial resources or talent (Ndome, 2011).

The world around one-third of stakeholders use mobile applications and online banking is now available to customers of all of the major to make the transactions and this makes it hard for auditors (Wen, 2010). While there are

differences in the sophistication and functionality of the applications offered by the established commercial banks based in the UK, customers are typically able to check their balance, set up personalized alerts, send payments to another account using a mobile number, and locate their nearest branch. Lloyds also modernized its IT architecture to extend the use of micro services, and cloud environments. The results were dramatic. Between 2014 and 2016, the number of customers using Lloyds' mobile channel grew from five million to eight million. Therefore, all this makes hard for auditors in identifying any possible fraudulent actions (McKenzi, 2016).

Platform commercial banks that orchestrate these ecosystems will become the de facto interface for customers across multiple services; and financial services players are at risk of being reduced to white-label manufacturers for the platform player. Already, in China, digital attackers managed \$6.5 trillion in transactions in 2015, five times the level just two years earlier, and exceeding the \$6 trillion in offline point-of-sale transactions handled by traditional banks in 2015. Similarly, digital attackers increased their share of the unsecured lending market in China from 1 percent in 2013 to 25 percent in 2016 (Wen, 2010).

However, bank customers usually enjoy the convenience of ATM debit cards to take out money from a machine and to buy products or services. You don't have to carry cash because you can get it from almost any ATM machine, though you may end up paying a fee if you use an ATM that's not in your bank's network. You can pay your bills easily and quickly with a debit card because the number on the card acts like a credit-card number (Garry et al, 2012). Criminals target ATMs, so using an ATM could place you at risk for robbery after withdrawing money from the machine. Always choose an ATM in a well-lit and populated area to increase your safety during and after the transaction. If you lose your ATM card to theft and the thief has access to your account PIN, you may lose your account balance (Mwangi, 2011).

#### 4. Conceptual Framework

According to Mugenda and Mugenda (2013), a conceptual framework is an analytical tool with several variations and contexts. It is used to make conceptual distinctions and organize ideas. Likewise, conceptual frameworks are abstract representations, connected to the research project's goal that directs the study data gathering, analysis and presentation. The independent variable is ATM while dependent variable is about indicators of growth sustainability of commercial banks.

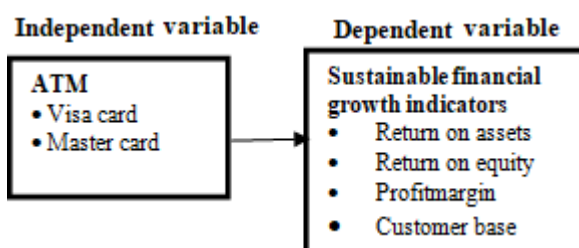


Figure 1: Conceptual framework

#### 5. Research Methodology

This study applied both descriptive and quantitative research designs. The main is to provide information on characteristics of the chosen population or phenomenon. Descriptive research was considered prior to be quantitative research design as it provides an overall overview as to what variables to test quantitatively. The target population was 24 employees of Ecobank Rwanda, head office working in Finance, Consumer banking (retail banking, distribution channels, agency banking, CASA and marketing units, Commercial banking-SME and Credit Risk department. Among 24 research population, there were four(4) Members of the management team who serve as the heads of the department. Purposive and Simple Random Sampling techniques was applied to select the respondents in the focused departments directly involving in the implementation of strategic orientation.

A closed ended questionnaire was used to obtain primary data. Interview and documentary technique were used to re-inforce the data collected. The data was analyzed by using Statistical package for social sciences (SPSS) was used in data analysis in both descriptive and inferential statistics. Descriptive statistics involved description of data using statistics such as means, standard deviations and percentages while inferential statistics included using t-tests for relationship purposes.

#### 6. Results and Findings

##### Effect of ATM on growth and sustainability of Ecobank Rwanda

The study population level of appreciation the effect of ATM activities in Ecobank Rwanda and the results are clearly explained in the table whereby they are in form of percentages whereas discussions follow below the tables. Respondents' opinion was captured using 1-Strongly disagree; 2 – Disagree; 3 – Indifferent; 4 – Agree; 5 – Strongly agree. The findings presented in table 1, the researcher's intended to evaluate the degree of appreciation for respondents on the effect of ATM on the growth and sustainability in Ecobank Rwanda Ltd regarding to the strategies that were set by the bank. As established in Table 1, among all the statements that were listed by the researcher, it was learnt that only one statement was undecided and while the rest of the statements were agreed and strongly agreed. Research discoveries publicized the following as the highly strongly agreed at 100%; ATM offers a paperless mode of transaction which is environmentally friendly; with ATM, transaction data is stored in organized database and that ATM provides an advantage of saving time and its reliable. The statement that worried the researcher was that ATM to watch over safety measures and risk was agreed at 20.0% and this was the only undecided statement.

During the interview with the senior finance officer, he stressed that the importance and purpose of managing Ecobank Rwanda's retail banking effectively is mainly to have increased profitability, liquidity, happy customers and better growth. Hence, the results revealed above are no surprise in comparison this senior banker's revelation. From

the results therefore, the researcher learnt that Ecobank Rwanda ATM practices are effective since most of the practices were strongly agreed by the respondents at a percentage of 100% hence the strategy is more competent for bank's growth.

**Table 1:** Views on the effect of ATM on growth and sustainability

Avowals	1		2		3		4		5	
	F	%	F	%	F	%	F	%	F	%
Mobile banking decreases structure expenditures	17	85.0	3	15.0	0	0	0	0	0	0
Mobile banking has significantly abridged numerical faults	18	90.0	2	10.0	0	0	0	0	0	0
ATM aid to guard over security processes and hazard	16	80.0	3	15.0	2	10.0	0	0	0	0
ATM is friendly to environment with paperless transactions	20	100.0	0	0	0	0	0	0	0	0
ATM, contract data is stored in organized database	20	100.0	0	0	0	0	0	0	0	0
ATM provides an advantage of saving time and its reliable	20	100.0	0	0	0	0	0	0	0	0

Source: Researcher (2018)

**Correlation between ATM on growth and sustainability**

Correlation analysis was conducted to empirically determine whether ATM had a significant effect on growth and sustainability of Ecobank Rwanda. Results indicates that ATM is significantly correlated to the growth and sustainability of Ecobank Rwanda ( $r=0.522$ ,  $p<0.01$ ). This implies that the increasing the ATM in this case public institutions would result to increased growth and sustainability of Ecobank Rwanda.

**Table 2:** Correlation between ATM and growth and sustainability of Ecobank Rwanda

		ATM	Growth and sustainability
ATM	Pearson Correlation	1	
	Sig. (2-tailed)	.000	
Growth and sustainability	Pearson Correlation	.522**	1
	Sig. (2-tailed)	.000	

\*\* Correlation is significant at the 0.01 level (2-tailed).

**7. Discussion of Results**

The study findings agree with Wambugu, (2011), in the study Factors influencing Adoption of Agency Banking by Commercial Bank in Kenya, found out that innovation was introduced in the period between 2006 and 2010. These included ATMs, Credit cards, women-oriented banking, internet banking, youth oriented accounts, women oriented banking, children accounts, Shariah Compliant banks and now most recently introduced within the Kenyan banking sector Agency Banking.

In addition, the study found out that: ATM improves the economics of the institutions compared with branches that offer table banking, especially for high- transaction, low-

balance accounts that are common among the poor user, low-balance accounts that are common among the poor users. This agrees with Veniard (2010) who found out that Agent banking system are cheaper to operate than Branches, Costs are incurred only if transactions are realized, Agent transaction platforms benefit from additional transactional resources, Agent banking works best for low balance High transaction accounts.

**8. Conclusion**

This researcher found that ATM influenced the growth and sustainability of Ecobank. Researcher's intended to evaluate the degree of appreciation for respondents on the effect of ATM on the growth and sustainability in Ecobank Rwanda Ltd. All the statements show that, it was learnt that only one statement was undecided and while the rest of the statements were agreed and strongly agreed. Research discoveries publicized the following as the highly strongly agreed at 100%; ATM offers a paperless mode of transaction which is environmentally friendly; with ATM, transaction data is stored in organized database and that ATM provides an advantage of saving time and its reliable.

**9. Recommendations**

In ensuring ATM safety, the administration of the bank should observe into the fact of using ATM transactions to watch over safety measures and risk management and enforce to escape future dangers that could affect the bank's growth sustainability and the clients at large. For public responsiveness, commercial banking stakeholders such as the ministry of ICT and MINECOFIN together with other responsible stakeholders in the government are recommended to sensitize the general public on retail banking components. This will enable the bank to increase the customer base.

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