Influence of Automatic Teller Machines on Uptake of Products and Services in Commercial Banks in Kenya

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ABSTRACT: *Automatic teller Machine is a computerized banking strategy that uses Information Communication Technology to distribute bank products and services. The study investigated the influence of the Automated Teller Machines strategy on the uptake of bank products and services in Family Bank, Kenya. Secondary data was acquired from Family Bank and Central Bank of Kenya annual reports, while Primary data was collected using questionnaires. The bank-focused theory guided the study. The study adopted a descriptive research design, and a sample of 384 was arrived at using Fischer's formula. The quantitative data were analyzed using descriptive and inferential statistics. A simple univariate regression was applied and yielded a beta coefficient of 0. 979.The study concludes that use of Automated Teller Machines is a good strategy to increase uptake and recommends that once the customers are on-boarded to use this strategy, they should be thoroughly trained to use and access all available services. The bank should devise a policy to ensure that once the customers are on boarded, they are issued with visa cards to facilitate their transactions at the ATM points.*

Keywords: Automatic Teller Machines, Influence, Strategy, Uptake, Products, services

I.   INTRODUCTION

1.0 Background of study

Customers can do simple banking transactions using Automated Teller Machines. They are computerized banking systems adopted by banks to distribute products and services. Commercial banks employ this method to enable clients to use debit and credit cards for withdrawals. According to [1], the first ATM was used in 1967 at the Barclays Bank, which has so far rebranded to Absa. According to [2], ATMs are electronic tools that let clients use a bank's products and services without interacting with any bank employees. The ATM verifies the customer's data using a debit or credit card to automate the payment procedure. To protect the security of the customer's data and funds, the bank always issues a Personal Identification Number (PIN). A chip has been incorporated into the card's characteristics during the past five years as an additional security to guard the customers against cyber-crimes and malicious people [3]

This technology's development is attributed to the John Barron-led engineering company De la Rue. This tactic has also dramatically reduced the number of patrons visiting banks' branches, reduced operating expenses for banks, and increased revenue from consumer fees. The 24-hour availability of ATM services provides clients with flexibility, inexpensive transaction costs, and reduced waiting times at branch offices [4]. The local affiliate of Barclays Bank PLC was the first to publicize the use of ATMs in Kenya in the 1990s [5].The public enthusiastically embraced the technology, and by 2006, 737 Machines were operational across the nation. The demand for these machines grew quickly as bank clients became more aware of them. Due to the increased use of this banking technology, academic and professional researchers are becoming more interested in the many tactics that may be used to increase the influence of ATMs on market share growth and the adoption of bank products.

As of December 2018, there were 2833 ATM facilities in Kenya, up from 2,796 in January 2018. This results from commercial banks' conscious commitment to offer consumers ease. Competition in the banking sector has been fierce, accelerating technological innovation. Commercial banks have invested in cost-effective distribution systems to ensure effectiveness and the retention of their market share. When they require immediate access to their bank account, bank customers typically prefer to use ATMs to the teller [3]. Benefits like simplicity, affordable withdrawal fees, and a customized touch concerning the consumers' accounts are the key driving forces behind this. For instance, Family Bank charges 36 shillings for cash withdrawals through ATMs, while customers must pay 122 shillings to withdraw the same amount from a teller [6] . Strategically, the usage of ATMs was statistically inconsequential in enhancing the performance of the banks due to the simplicity of scamming users whose cards included magnetic strips. Since the introduction of chipped cards, this situation has changed. The inability to access one's account from competing ATMs is another issue that has been successfully handled. Through unique visa cards and pesa-link, companies like the Co-operative Bank actively promote leveraging synergies with other banks and SACCOs.

As part of its current strategy, the bank focuses on regions where many customers could need cash for consumption. As a result, ATMs can be found next to bank branches and in local shopping centers and malls. A notable drawback of this innovation is that preventing fraud at ATM outlets is challenging due to the high volume of customers in these places [3]. Additionally, 95% of consumers preferred that their ATMs be located in an enclosed space. The main drawback is that smaller financial institutions cannot meet the requirements to provide their consumers with the ATM product. In addition to maintaining a healthy ratio of core capital to liabilities and capital to assets, banks must incur additional costs to satisfy their clients [7]. 75% of respondents want enough lighting compared to 65% who want surveillance cameras and 58% who want security personnel. This suggests that banks must invest a large amount of resources to guarantee that the ATM products meet the clients' needs. ATMs are a crucial product that central commercial banks supply; especially in light of the empirical data showing that they have a significant favorable impact on those banks' operational success [2]

In conclusion, ATMs provide banks with long-lasting, practical, low-cost, and easily accessible service stations. It is crucial to develop financial services and products that the bank can provide to the account holders. The study results provide compelling evidence that banks should take the initiative if they still need to meet the conditions for operating ATM outlets. The results also imply that those with ATM branches should be bold in growing such branches or developing new ATM-related products. In terms of strategy, ATMs are a good strategy for commercial banks to sell their products and make profits.

1.1 Statement of the Problem

Over time, the banking industry has become increasingly aggressive. Commercial banks and other financial institutions are now competing for clients as a result. To enhance productivity, convenience, and competitiveness, commercial banks came up with Automated Teller Machines and committed resources to support them. ICT-based systems must undergo constant innovation to improve customer needs and relationships. Due to these factors, commercial banks are ruthlessly competing, winning market share and maintaining customer loyalty [8]. This distribution strategy adopted by banking institutions is essential in achieving those mile stones. According to [9], Automatic Teller Machines make it simple for customers to access services. More services and items can thus access throughout the day as opposed to the convectional branch distribution strategy, where services are only provided for around eight hours each day. Although the customers have access to the bank's distribution strategies, they visit physical branches to transact. The purpose of commercial banks adopting new technologies in the distribution of their products and services is to enable customers to access various services remotely without having to travel to visit physical branches [10]. Family Bank Limited uses Automated Teller Machines to distribute its products and services to increase uptake. Despite the availability of ATM banking strategy, customers prefer visiting the banking halls. In contrast, others defer transactions to later dates instead of using ATMs to access offered products and services, affecting uptake

levels. This prompted the researcher to investigate the influence of ATMs on the uptake of bank products and services in Kenya.

1.2 Objective of the study

To assess the influence of Automatic Teller Machines transactions on uptake of the bank products and services in Family Bank Ltd.

1.3Research hypothesis

H$_{03}$: There is no statistically significant relationship between Automatic Teller Machines transactions and the bank products and services uptake in Family Bank Ltd.

II.   LITERATURE REVIEW

2.1Theoretical review

2.1.1 Bank Focused Theory

This theory was put forth by [11] .The theory posits that for the services and products to reach the customers easily, the institutions use non-traditional ways to achieve that milestone. The digital distribution method is complementary and a modest extension of a conventional combination of branchless and branch service delivery. According to [12], the bank-focused theory looks at traditional banks which utilize modern methods to deliver services to their customers. The methods used are low-cost to ensure the delivery strategies are easily accessible. The banking method has become popular due to the dynamic nature of society and the need to have cash at the tip of one's fingers. Some of the non-traditional banking means include the use of Automated teller machines. To transact with an ATM, a customer needs to have an ATM card issued by their respective banks and whose access is protected by a secret code only known to the customer. Initially, one could only use an ATM card that belongs to their specific Bank; however, with advancements in technology, one can use their card on other ATM cards that the Bank may wish to collaborate with, such as Visa and Verve. The main disadvantages, as discussed by Kapoor, clients' fears and misgivings about the systems [11]. First, most clients question the experience of a traditional bank in carrying out its business on non-traditional platforms. The question, therefore, becomes whether the traditional Bank can keep up with emerging technology threats and opportunities. This uncertainty leads to the next issue of concern: the security of transactions and customers' identities. With the existing threats on the internet platform, bank hacking is not a new phenomenon. Banks, therefore, need to prove their ability to maintain the security and integrity of their clients and their accounts and transactions.

Despite the benefits that come with the technologies used to distribute bank products and services, there are also a few drawbacks, including network outages, risks related to these platforms; user unfriendliness; users' level of education, and service usage limitations, among others. Commercial banks solve these issues by enhancing the network of these tactics, offering a user-friendly interface, and spending money to bolster security features to shield the user from malicious individuals [11].
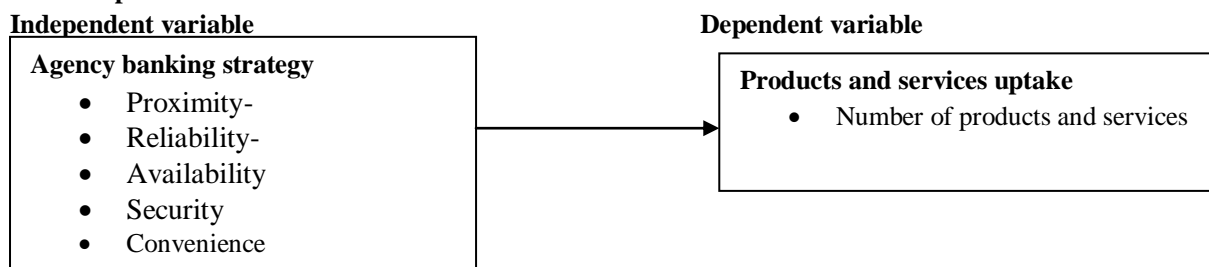
2.2 Empirical literature

[13] Evaluated the driving forces for the adoption of electronic banking in a few Nigerian states. He points out that ICT-driven innovations were introduced into the banking industry through ATMs, with mobile and internet banking emerging as key players. Six assistant lecturers administered structured questionnaires to a sample of 450 participants in this study using a household survey methodology. With a 76.36% response rate, 51% of the respondents used ATMs, with a younger demographic predominating in the distribution. It was discovered that people over 54 preferred banking hall services over ATMs and other electronic banking methods. The highest education level was discovered not to affect the use of the ATM product, but the higher yearly income was said to increase the use of ATM services strongly. It was determined that the majority of customers avoided ATMs because of perceived hazards, which the bank managers might reduce with little care.[14] Conducted a study on the factor influencing customers' use of digital banking in Kenyan commercial banks. The study concluded that

age and gender were demographic factors that affected the adoption and use of digital services and products. It was also demonstrated that perceptions and attitudes regarding digital platforms influenced the adoption of digital products and services from commercial banks. The survey also discovered that the security issues related to ICT-based strategies for distributing bank products and services were the elements that most influenced the adoption of Automated Teller Machines.

A study by [15] established that ATMs improve bank performance through competitive advantage, improved employee competency, and technical advancement. The benefits of ATMs for banks come from their ability to increase service delivery channels, which leads to better profits from account holders' increased spending. For instance, the capability to provide alternatives for third-party payments, including Point of Sales (POS) transactions. [16] Investigated the factors influencing ATMs usage. The main objectives were to analyze factors influencing ATMs usage, hindrances to ATM usage, and ways of improving ATM usage. The study found that the level of awareness of ATM functions, availability of cash, machine uptime, training, faulty cards, cards retention, personalized services, insecurity, location, cost, speed of machines and monthly seasons influenced ATM usage. The impediments established by the study were: insecurity, card retention, age, psychological reasons, poor training, and ATMs times. The study concluded that surveillance building lobbies for the wall's ATMs, proper lighting, customer education, 100% uptime of the machines, well-labeled machines, and less retrieval time for captured cards improved the usage of the ATMs.The study recommended that ATMs should be introduced in supermarkets and airports to increase usage, and water bill payment and coin deposit facilities should be available at the ATMs.

2.3Conceptual framework

Independent variable	**Dependent variable**

| **Agency banking strategy**
• Proximity-
• Reliability-
• Availability
• Security
• Convenience | → | **Products and services uptake**
• Number of products and services |

III   METHODOLOGY

This study referred to positivism research philosophy. The philosophy posits that knowledge is based on facts. According to [17], the facts that makeup knowledge are gathered from objective reality and analyzed numerically to give conclusions or relationships between variables and not based on the subjective nature of a person. The positivism research philosophy uses hypothesis testing and regression to draw conclusions that have been included in this study. The study used descriptive research design and the research was carried out in Family Bank Limited in Mt Kenya region, comprising of 23 branches. This region was chosen because it constitutes customers engaging in various income-generating activities ranging from agriculture, business and employment who visited branches rather than transacting remotely via bank agents. A sample of 384 was drawn from the target population using Fischer formula. According to [19], the formula for determining sample size for

populations greater than 10,000 is given by $n = \dfrac{z^2 pq}{d^2}$ Where n = this forms the desired sample size for

populations greater than ten thousand. z = this represents the required standard deviation of 1.96. This is a 95% confidence level. P =represent the part of the target population estimated to have measured characteristics. q = 1-p thus (1-0.5) = 0.5. d = this is the statistical significance required (accuracy = 0.05 level desired).Having no estimate available of the proportion in the target population assumed to have the characteristic of interest, 50%

or 0.5 will be used in the equation to get the sample size. Thus $n = \dfrac{(1.96)^2 \times (0.50) \times 0.50}{0.05^2}$ this formula gives n to

$$n = 384$$

be 384, but the researcher assumed a non-response rate of 5 %.

Primary data was collected using questionnaires. The secondary data was collected from the Central Bank of Kenya and Family Bank Annual reports. To ensure validity, the instrument was submitted to Murang'a University of Technology supervisors for evaluation and feedback. Pre-testing was conducted on 38 respondents, which formed 10% of the sample, and edited where errors were noted to ensure content and construct validity.

The study tested reliability by Computing Cronbach's alpha to ensure the instrument had all essential items and eliminated the unwanted ones. The Cronbach's alpha value of 0.824 was generated indicating acceptable reliability [18]. The study considered ethical issues such as confidentiality, rights to withdraw from research and explanation of the purpose of the research to respondents. The data was entered in Statistical Package for Social Sciences tool and analyzed to establish descriptive statistics such as frequencies and means and inferential statistics which included the regression model and calculated bivariate statistics such as means and standard deviations. The results helped to draw conclusions and answer the research question. The regression was estimated using the model. $Yi = \beta 0 + \beta 1X1 + \varepsilon i$ where Y is products and services uptake, β0 is constant, β1 coefficient of the independent variable and εi the error term.

IV.   RESULTS AND DISCUSSIONS

4.1 Response rate

Table 1: Response rate

Response	Frequency	Percentage
Responded	354	92%
Not responded	30	8%
Total	384	100%

Source: Field data (2021)

4.2 ATM Banking Strategy Response rate

The research administered 384 questionnaires to the respondents. Some were dropped and picked by the research assistants after they were filled while others were administered in terms of interviews. Three hundred fifty-four questionnaires were responded to translating to 92% response rate. According to [19], a response rate of 80% and above is good enough for research work.

4.3 Customer usage of ATM banking

Table 2: Customer Usage of agency banking

Total Respondents	Those who use ATM Banking	Percentage of ATM banking users
354	106	30%

Source: Field data, 2021

The study established that 30% of customer's use agency banking. Three hundred and fifty four returned the response but only106 had used agency banking strategy This indicates that Family Bank may embark on more promotion to ensure that customer use agency distribution strategy. Advertisements in mainstream and social media should also be considered by the management in its strategic plans on improving uptake of products and services.

4Descriptive statistics for ATM banking

Table 3: Descriptive statistics

ATM TRANSACTIONS	n	Mean	Standard Deviation
Convenience	106	4.91	0.268
Proximity of agent outlets	106	4.9	0.415
Security of agent outlet	106	4.95	0.608
Availability of ATM cards	106	4.97	0.305
Cost effectiveness of agent	106	4.91	0.265
Average	**106**	**4.91**	**0.37**

The results of Table 2 established that most respondents rated the convenience of ATMs with a minimum average of 4.9 and a standard deviation of 0.268. The highest average score by the respondent was for availability followed by security with average of 4.97 and 4.95 respectively. This implies that respondents strongly agreed that Family bank ATMs banking strategy influence uptake of products and services. The results agree with the study by [20], who studied the effects of financial innovation on the financial performance of commercial banks in South Sudan. The study found connection between South Sudanese banks' adoption of technology and the associated returns. The Central Bank of South Sudan's annual reports was utilized to obtain secondary data and primary data was collected using questionnaires. According to the analysis, financial returns would improve by 2.28 units for every unit more ATM transactions. The study suggested that ATMs are crucial for increasing bank services and products uptake. The results further agree with [16], who investigated the factors influencing ATMs usage. The main objectives were to analyze factors influencing ATMs usage, hindrances to usage, and ways of improving usage. The study found that the level of awareness of ATM functions, availability of cash, machine uptime, training, faulty cards, cards retention, personalized services, insecurity, location, cost, speed of machines, and monthly seasons influenced ATM usage. The impediments established by the study were: insecurity, card retention, age, psychological reasons, poor training, and ATMs times. The study concluded customer education, 100% uptime of the machines and proper labelling improves ATMs usage. The study recommended that the ATMs should be introduced in supermarkets and airports to increase usage, and water bill payment and coin deposit facilities should be available at the ATMs.

4.5Regression model

Table 4: Simple regression

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.979[a]	.958	.957	.14688

a. Predictors: (Constant), ATM Banking

Coefficients[a]						
Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	.113	.031			3.585	0.001
ATMs Banking	.190	.074	.979		49.743	.000

a. Dependent Variable: Products uptake

The study sought to investigate the influence of ATMs banking strategy on products and services uptake in Family Bank Limited, Kenya. A null hypothesis (H0) was formulated assuming that there was no statistically

significant relationship between ATMs banking strategy and uptake of bank products and services in Family bank Limited. Table 4 indicates that the correlation coefficient(R) was 0.979, indicating a direct linear relationship between ATMs banking strategy and products and services uptake in Family bank. The results further established from the coefficient of determination (R2) that agent banking strategy influenced 95.8% variations in products and services uptake.

The beta coefficient of 0.979 with a P- value of 0.00 implies that a unit increase in ATM leads to increased products and services uptake by 0.979. Therefore, at $P < 0.05$ level of significance, null hypothesis was rejected, implying a statistically positive and significant relationship between ATMs banking and the uptake. The regression model was fitted as: $Y=0.113+0.979X1 + u$……. [1].The study also agrees with [14], conducted a study on the factor influencing customers' use of digital banking in Kenyan commercial banks. The study concluded that age and gender were demographic factors that affected the adoption and use of digital services and products. It was also demonstrated that perceptions and attitudes regarding digital platforms influenced commercial banks' adoption of digital products and services. The survey also discovered that the security issues related to ICT-based strategies for distributing bank products and services were the element that most influenced the adoption of ATM transactions.

V.   CONCLUSIONS AND RECOMMENDATIONS

The objective was to investigate the influence of ATMs banking on the uptake of the bank's products and services. The study concluded that ATMs banking influenced products and services uptake. Regression analysis concluded that ATMs banking had a positive and statistically significant influence on the uptake of bank products and services. The beta coefficient was 0.979 indicating a unit increase in ATMs banking leads to 0.979 unit increase in uptake. The study established that although customers accessed the products and services through this strategy, a number of the services available were not accessed. They included payment of bills, money transfers via pesa link, mobile banking registration, M-pesa withdrawals, and Airtel money withdrawals. The researcher recommends that once the customers are on-boarded to use this strategy, they should be thoroughly trained to use and access all available services. The bank should devise a policy to ensure that once the customers are onboard, they are issued visa cards. This will ensure that the customers will transact at the ATMs points.

VI. GAPS OF THE STUDY

The customers do not access all the services offered in this strategy. The services available at the ATM points are deposits, withdrawals, mini-statement, balance enquiry, salary advance, M-pesa withdrawal, pin change, Airtel money withdrawal, cheque deposits, pesa-link bill payments, and registering for banking services. Though the bank has provided these services through this strategy, customers and staff only use a few of them, with withdrawals and balance enquiries being the ones that are mostly used. This established a gap in product knowledge; therefore, the study recommends that a study be conducted to establish the influence of product knowledge on the uptake of bank products and services at the ATMs outlets.

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