Mobile Banking Withdraws and Profitability of Commercial Banks in Uganda. A Case Study of the Centenary Bank (Main Branch) Kampala. A Correlational, Cross-Sectional Study.

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Abstract

Background
This study aims to document the relationship between withdraws and the profitability of Centenary Bank's main branch in Kampala, Uganda. Mobile banking refers to the act of enabling bank customers to access its services using mobile applications like phones and tablets. Withdrawal refers to taking money out of an account. Mobile withdrawals refer to the access to withdrawals using mobile phones. Services include performing withdrawals through a mobile device such as a mobile phone which is most used in developing countries like Uganda. Centenary Bank is one of the leading commercial banks in Uganda. Therefore, this study seeks to assess the relationship between mobile withdrawals and the profitability of Centenary Bank's main branch in Kampala, Uganda.

Methodology
The study adopted a correlational, cross-sectional case study survey design.

Results
Based on the findings, there were significant positive correlations between profitability and mobile bank withdraws (0.613). This means that as these mobile withdrawals increase, the profitability of Centenary Bank tends to increase as well. Further, findings showed that 62.6% of the variation in profitability was explained by mobile bank withdrawals.

Conclusion
It can be concluded that mobile banking activities, including withdrawals, have a positive impact on the profitability of Centenary Bank in Uganda.

Recommendation
Centenary Bank should consistently monitor and analyze the financial performance associated with mobile banking to identify any trends or areas for improvement.
Centenary Bank should continue to invest in upgrading its technology infrastructure and implementing robust security measures to ensure the smooth and secure operation of its mobile banking services.

Background of the study

Mobile banking refers to the act of enabling bank customers to access its services using mobile applications like phones and tablets. Mobile withdrawal refers to the access to withdrawal services using mobile phones. Services include performing withdrawals through a mobile device such as a mobile phone which is most used in developing countries (Nassiwa, 2019). Withdrawal refers to taking money out of an account.

Over the past few years with advancements in information technology, the banking industry has completely transformed how business is conducted by various organizations on a day-to-day basis (Haralayya, 2021). The established advancement technology structures have consequently brought about the progress that exists now for mobile banking and online banking in the banking industry and have entirely changed how commercial banks and financial institutions go about their businesses recently (Simon, Thomas, &Senaji, 2016).

Globally, with dynamics in the operating environment, banks and other financial institutions have embraced mobile banking to satisfy customer demands. Partnerships between financial institutions and other service providers have led to the growth of mobile banking as different customers can conduct their daily banking needs through their mobile devices at a relatively lower cost (Mwange, 2013). Further, commercial banks have already begun investing in mobile technology and security. They are introducing and developing smartphone apps, introducing various new features such as remote deposit of checks, and educating consumers among others. Therefore, this indicates that mobile banking acceptance among consumers has been increasing when compared to the situation of mobile banking penetration a year ago (Ala & Ngugi, 2013).

Recently, mobile money account adoption in Sub-Saharan Africa has outpaced growth in the rest of the world. The report signals a growing trend for mobile banking on the continent (Asongu& Nwachukwu, 2016). The invention of the mobile phone presented a great opportunity for the provision of financial services to the unbanked in Africa (Ismail &Masinge, 2012).

In Uganda, mobile banking was introduced in 2009 as a business model that involved a partnership between mobile money operators and commercial banks (Mawejje &Lakuma, 2019). Contextually the study was carried out at Centenary Bank's main branch in Kampala City. Since mobile banking was established in Uganda, the number of subscribers has been steadily increasing. By the end of 2012, Uganda had over 9 million mobile banking users all over the country (Ssonko, 2010). Currently, that figure has grown to about 19.5 million, because mobile banking services have deepened financial inclusion in Uganda where bank accounts are six million. Also, mobile banking has driven up Uganda's financial inclusion rate to 78 percent (Akileng, Lawino, &Nzibonera, 2018).

Several banks like Commercial Bank of Africa, Tropical Bank, Exim Bank, Guaranty Trust Bank, and Centenary Bank in 2020 had led the bottom table for registering heavy losses (Okaka, 2023).

Therefore, the objective of this study is to assess the relationship between

Mobile Banking Fund Transfer and Profitability of Commercial Banks in Uganda. A case study of the Centenary Bank (main branch) Kampala.

Methodology
Research design
The study adopted a correlational, cross-sectional case study survey design. The study was correlational since it established the relationship between the study variables. It was cross-sectional since it collected data at an appointed time for a short period and the study had no follow-up on the findings.

A mixed research approach was also used for this study. Quantitative methods were used to quantify numerical data to describe current conditions while investigating the relationship between the two study variables. The study also used a qualitative approach to ascertain the in-depth information for the study variables while balancing opinions from several respondents (Amin, 2005).

Study Participants
Study population
The study population consisted of 152. These included 12 administrative bank managers, 125 lower bank officials, 10 IT staff, and 10 Uganda Bankers Association officials. All these were chosen because of their relevance to the study objectives.

Inclusive criteria
All those who were relevant to the study objectives were selected.

Sample size
The researcher had 110 respondents which were selected as the sample size of the study as shown in Table 1.

Table 2: Sample Size of Respondents and Sampling Technique

Category of Population	Population Size	Sample Size	Sampling Technique
Administrative staffs	12	11	Purposive sampling
Uganda Bankers' Association officials	5	5	Purposive sampling
IT staff	10	10	Purposive sampling
Lower bank officials	125	84	Random sampling
Total	152	110	

Source: CentenaryBank Human Resource Report (2022)

Therefore, the researcher selected 11 administrative staff of key bank departments, 5 Uganda Bankers' Association staff who are in charge of mobile banking transactions, 10 IT staff, and 84 lower bank officials of the commercial bank.

Sampling techniques
This study employed a random sampling technique representing a probabilistic sampling design and purposive sampling representing non-probability sampling. Simple random sampling was appropriately used for choosing lower bank officials in Centenary Bank. This technique was preferred because it reduced **bias** and allowed everyone to be selected to participate in the study. Purposive sampling,

was used in choosing administrative staff, Uganda Bankers' Association officials, and IT staff.

Data collection methods
Qualitative and quantitative methods were used in the collection of data. Original data was gathered using self-administered questionnaires and interviews. Secondary data was obtained from a review of documents such as journals, reports, planning documents, memos, and files.

Questionnaire survey
A questionnaire survey refers to a method of data collection that is designed with a series of short questions using both

open and close-ended questions to allow prompt answers from respondents (Amin, 2005). This was employed to collect original data from bank lower officials in Centenary Bank. This involved the use of a close-ended questionnaire which allowed easy correlation and regression of the respondent's attitudinal disposition on the independent and dependent variables (Amin, 2005).

Interview

The study employed an interview method. The interview method means collecting data while asking differing questions that allow probing and prompting of respondent's answers. The researcher obtained more detailed information on mobile banking and the profitability of Centenary Bank. This method was used by the researcher to obtain in-depth answers or information from key informants and allowed him to get clarification on anything that arose. The interview method was the best for administrative staff, Uganda Banker' Association officials, and IT staff.

Documentary review

The study collected secondary data guided by the documentary review checklist. The researcher reviewed documents to obtain information that was related to the study. This method enabled the researcher to find data at her appropriate time and gather data that was thoughtful by informants that would give attention in obtaining them and enable the researcher to obtain data in the language of the respondent.

Questionnaire

A questionnaire refers to a tool of data collection that is designed with a series of short questions using both open and close-ended questions to allow prompt answers from respondents (Amin, 2005). This was employed to collect original data from bank lower officials in Centenary Bank. This involved the use of a close-ended questionnaire which will allow easy correlation and regression of the respondent's attitudinal disposition on the independent and dependent variables (Amin, 2005). Secondly, the use of questionnaires allowed busy respondents to adequately reserve time to answer the questions during their convenient hours.

Interview Guide

The study also employed an interview guide. An interview guide means collecting data while asking differing questions that allow probing and prompting of respondents' answers. The researcher obtained more information on mobile banking and the profitability of Centenary Bank. This tool helped the researcher obtain in-depth answers or information from key informants and allowed clarification on anything that might arise from a survey method. The interview tool was best used on administrative staff, Uganda Bankers' Association officials, and IT staff.

Data quality control
Validity

Validity refers to what an instrument is supposed or meant to measure Similarly, according to Amin (2005), it is the extent to which a scale measures the concept that it is intended to measure; determined using various methods but the most crucial being via the content validity method (CVI). The Content Validity Index (CVI) reveals the potential of the constructed instrument to remain right and true for the intended study. The researcher determined CVI, after giving the Self-Administered Questionnaire (SAQ) instrument to the research supervisor for rating/ judgment and scoring. The number of relevant (n) was then divided by the total number of questions (N) hence the obtained Content Validity Instrument (0.9) was compared with 0.7 as proposed by (Amin,2005) and found to be good hence the researcher continued to use the instrument as it was relevant.

Reliability of instrument

Reliability is a measure of the degree to which an instrument yields consistent results or data every time it is used to measure a trait or concept from the same respondents. Internal consistency technique was used where a fraction of respondents (10 respondents) not part of the study were requested to answer a pre-test questionnaire and thereafter data that was obtained was used to calculate Cronbach alpha (0.82) and compared with 0.7 as proposed by (Amin,2005). The obtained value was greater than 0.7 hence the questionnaire was accepted for collecting data since it was reliable.

Data collection procedures

The researcher obtained a research letter from Team University introducing her to Centenary Bank and specifying that the data needed for the study was solely for study purposes.

Upon obtaining the requisite permission, the researcher proceeded with data collection starting with giving out questionnaires to the Centenary Bank lower bank officials. After that, interviews were conducted with administrative bank staff, BOU staff, and IT staff at Centenary Bank.

Data Analysis
Quantitative data analysis

The researcher presented data using descriptive and inferential statistics where frequency tabulations were used to present the data on sample characteristics whereas for the research objectives, Pearson correlation and linear regression analysis were used. The researcher used correlation analysis to test the relationship between mobile banking and the profitability of Centenary Bank whereas regression analysis was used in examining the effect of mobile banking and the profitability of Central Bank.

Ethical considerations

After the approval of the research proposal by the Research Supervisor and the Research Panel of Team University, an introductory letter was obtained from the University which introduced the Researcher to the Centenary bank and Uganda Bankers' Association officials that were participating in this study.

Permission to collect data was sought from the Head of Research at Centenary Bank. After getting permission, the selected respondents were contacted and the researcher explained to them the objectives of the study. This was clearly explained to the study participants in the language they understand very well.

Written informed consent forms were supplied to them and confidentiality of all the information about the respondents was communicated and maintained as the information provided was only used for academic purposes.

Results

Demographic characteristics of the respondents

The researcher used gender, age, marital status, and level of education as demographic characteristics of the respondents and the findings are as in Table 2.

Table 3: Demographic characteristics of the respondents

Characteristic	Frequency	Percent (%)
Gender		
Male	62	65%
Female	34	35%
Total	96	100%
Age (years)		
20-35	34	35%
36-45	43	45%
46-59	19	20%
Total	96	100%
Marital status		
Single (Lower bank officials)	21	22%
Married	69	72%
Separated	5	5%
Widowed	1	1%
Total	96	100%
Level of education		
Certificate	6	6%
Diploma	26	27%
Bachelors	54	56%
Masters	10	10%
Total	96	100%
Length of service(years)		
0-5	46	48%
6-10 y	48	50%
11+	2	2%
Total	96	100%

Based on the findings of the study on mobile banking and the profitability of commercial banks in Uganda, the following observations were made on respondents.

On gender, the study included 96 participants, out of which 65% were male and 35% were female. It can be inferred that a slightly higher number of males were involved in the study compared to females.

On age, the participants were divided into three age groups: 20-35 years, 36-45 years, and 46-59 years. The largest age group was of the age 36-45 years, accounting for 45% of the total participants. The 20-35 years age group accounted for

35% of the participants, while the 46-59 years age group accounted for 20%.

On marital status, the participants were categorized into four marital status groups: single (lower bank officials), married, separated, and widowed. Among the participants, 72% were married, making it the largest marital status group. The single (lower bank officials) group accounted for 22%, followed by the separated group at 5% and the widowed group at 1%.

On the level of education, the participants had different educational backgrounds, ranging from certificate holders to individuals with master's degrees. Certificate holders

accounted for 6% of the participants, followed by diploma holders at 27%. The majority of the participants, 56%, held a bachelor's degree, while 10% had a master's degree.

On length of service in the banking sector, the participants' length of service in the banking industry was divided into three categories: 0-5 years, 6-10 years, and 11+ years. The largest category was 0-5 years, accounting for 48% of the participants. The 6-10 years category accounted for 50% of the participants, while only 2% had been in the industry for 11+ years.

Overall, the study included a mix of participants in terms of gender, age, marital status, level of education, and length of service. These findings provide a diverse perspective on the relationship between mobile banking and the profitability of commercial banks in Uganda.

Mobile withdraws and profitability the Centenary bank

To explore the relationship between Mobile withdraws and the profitability of the Centenary Bank, the researcher used a descriptive analysis of responses that were captured using a Likert 5-point scale where 1- Strongly disagree (SD), 2-disagree (D), 3-Not sure (NS), 4- Agree (A), 5-Strongly Agree (SA), Mn- Mean, Std-standard deviation

Table 4: Mobile withdraws and profitability of the Centenary Bank

Statements	Mean	standard deviation
Mobile withdrawals increase operational costs for the bank and eat into the bank's profits.	4.2	0.3
Mobile withdrawals reduce the bank's fee revenue which can negatively impact the bank's profitability.	4.2	0.4
Mobile withdrawals lead to lower customer footfall in physical bank branches which reduces the opportunity for cross-selling and upselling of other banking products and services hence overall profitability.	4.2	0.5
Mobile withdrawals also impact the bank's lending profitability due to reduced footfall in branches leading to lower interest income and profitability.	4.7	0.4
Mobile withdraws are done 247 hence allowing the bank to generate income through	4.2	0.2
Mobile withdrawals are more risky as they are associated with fraud hence resulting in heavy losses	4.6	0.4

The findings indicate that mobile withdrawals have both positive and negative impacts on a bank's profitability.

One positive aspect was that mobile withdrawals allow the bank to generate income 24/7, increasing its revenue potential. However, this must be balanced against the negative effects on fee revenue and operational costs.

Mobile withdrawals contribute to increased operational costs for the bank, which can eat into the bank's profits. This is supported by a mean rating of 4.2 and a standard deviation of 0.3.

Similarly, mobile withdrawals reduce the bank's fee revenue, which can negatively impact profitability. This is also supported by a mean rating of 4.2 but with a slightly higher standard deviation of 0.4.

The reduction in customer footfall in physical bank branches due to mobile withdrawals is another negative effect. This results in a decreased opportunity for cross-selling and upselling of other banking products and services, impacting overall profitability. The mean rating for this statement is again 4.2, with a higher standard deviation of 0.5.

Additionally, mobile withdrawals have an impact on the bank's lending profitability. The decrease in footfall in branches leads to lower interest income and profitability. This statement has a higher mean rating of 4.7, with a standard deviation of 0.4.

On the other hand, mobile withdrawals also come with risks associated with fraud, potentially resulting in heavy losses. This statement has a mean rating of 4.6 and a standard deviation of 0.4.

Overall, the findings suggest that while mobile withdrawals offer the benefit of generating income continuously, they also pose risks and have negative effects on the bank's fee revenue, operational costs, customer footfall, and lending profitability. These findings highlight the need for banks to carefully manage and balance the impact of mobile withdrawals on their profitability.

Discussion

This study documents the relationship between mobile banking fund transfers and the profitability of Centenary Bank's main branch in Kampala Uganda at 62.5%. This finding is below the average. The finding of this study disagrees with the finding of (Momanyi, n.d.) who documented the profitability at 70.7%. The study by Merhi (2019) focuses on the definition and services provided by mobile banking. The definition provided aligns well with the commonly understood concept of mobile banking as the delivery of financial services through mobile devices. Additionally, the study highlights the services typically offered by mobile banking, including withdrawing. These withdrawing services are indeed common features provided by mobile banking platforms globally.

According to Uwamariya (2020), mobile banking is separated into two categories; additive, where the model uses mobile banking as an extra access channel for existing clients, and transformational where it is categorized by a new type of services that could attract users from rural areas and poorer segments of the market, and hence can have a transformational effect (Medyawati, Yunanto, &Hegarini, 2021). This is commonly used among retail banks (Mohamed, 2019). This way customers can withdraw and deposit cash easily, and funds are transferred electronically using ATMs to provide retail banking services allowing 24, hours a day cash withdrawal, balance verification, and bill payment at branches and remote locations away from branches(Said &Kaplelach, 2019).

The study revealed two categories of mobile banking, namely additive and transformational, and their applicability to commercial banks in Uganda. The additive model suggests that mobile banking serves as an additional channel for existing clients, while the transformational model aims to attract users from rural areas and poorer segments of the market.

One potential advantage of mobile banking, particularly the transformational model, is its potential to increase the reach and accessibility of banking services to underserved populations. By providing banking services to rural communities and lower-income segments, commercial banks in Uganda can tap into new customer bases and expand their market presence. This can result in increased transaction volumes, customer deposits, and ultimately, profitability.

Furthermore, by offering 24-hour cash withdrawals, commercial banks can enhance convenience for customers and potentially encourage more frequent use of their services. This can lead to increased customer loyalty and repeat business, ultimately contributing to the profitability of the banks.

However, there are also potential challenges and limitations to consider. Firstly, the success of mobile banking in attracting users from rural areas and poorer segments of the market depends on factors such as access to mobile devices, network coverage, and financial literacy. In Uganda, for example, the penetration of smartphones and mobile internet may still be limited in certain regions, which could hinder the adoption of mobile banking services in these areas.

Additionally, while mobile banking can enhance convenience and accessibility, it also comes with risks such as fraud and security concerns. Commercial banks need to prioritize robust security measures to protect customer information and transactions. Failure to do so may erode customer trust and hinder the growth of mobile banking usage.

Moreover, the profitability of mobile banking depends on factors such as operational costs, and the ability to generate sufficient revenue from mobile banking activities. While mobile banking can reduce certain costs associated with physical branches, there may be infrastructure and technology investment required to establish and maintain mobile banking platforms. Therefore, careful cost-benefit analysis is necessary to ensure that the potential benefits of mobile banking outweigh the associated costs and risks.

In conclusion, mobile banking has the potential to enhance the profitability of commercial banks in Uganda by expanding their customer base, increasing withdrawal volumes, and improving customer convenience. However, challenges such as limited mobile device penetration, security risks, and cost considerations need to be carefully addressed to maximize the effectiveness and success of mobile banking initiatives.

Conclusion

It can be concluded that mobile banking activities, including withdrawals a positive impact on the profitability of Centenary Bank in Uganda. These activities contribute to increased transaction volumes, enhanced efficiency in transaction processing, and lower administrative and processing costs, resulting in improved profitability for the bank. However, there are also limitations associated with mobile banking, such as security risks, credit risk, increased competition, and potential negative effects on fee revenue and customer footfall in physical bank branches. Centenary Bank needs to effectively manage these challenges while leveraging the opportunities offered by mobile banking to maximize profitability.

Recommendation

Centenary Bank should consistently monitor and analyze the financial performance associated with mobile banking to identify any trends or areas for improvement.

CentenaryBank should continue to invest in upgrading its technology infrastructure and implementing robust security measures to ensure the smooth and secure operation of its mobile banking services.

Centenary Bank should prioritize enhancing customer experience and ensuring high-quality service through their mobile banking platforms. This can be achieved by regularly collecting feedback from customers, addressing any concerns or issues promptly, and continuously improving the user interface and functionality of their mobile banking services.

Centenary Bank should consider partnering with fintech companies that specialize in mobile banking technology and solutions. This can help the bank leverage the expertise and innovations of these partners to further enhance their mobile banking offerings and drive profitability.

Acknowledgment

List of Abbreviations
BOA Bank of Africa
MFPED Ministry of Finance, Planning and Economic Development
MFT Mobile Fund Transfer
ROA Return on Assets
UBA Uganda Bankers Association
SPSS Special Package for Social Scientists

Conflict of interest
The author declares no conflict of interest.

Author Biography

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