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**EFFECT OF PROCESS INNOVATION ON PERFORMANCE OF  
COMMERCIAL BANKS BRANCHES IN KITUI TOWN**

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**Abstract**

Commercial banks have witnessed dramatic strategic changes due to the entrance of many financial market participants with different products to offer to customers. The products are delivered through process innovation which enables commercial banks in Kenya to reach as many customers as possible at reduced cost with high returns. All commercial banks are regulated by Central Bank of Kenya which gives guidelines on new and existing bank innovations. Commercial banks have successfully adopted the use of mobile and agency banking in their operations. The use of mobile and agency banking enables customers to perform all bank transactions without physically visiting the banking halls. The banks which have not adopted mobile and agency banking experience long queues in the banking halls, low customer base growth and reduced profits. The objective of the study was to investigate the effect of mobile and agency banking on performance of commercial banks branches in Kitui Town. The study was anchored on three theories: Diffusion of Innovation (DOI) theory and Technology acceptance model theory. The study adopted a descriptive research design and random sampling method to determine the sample size of 99 bank staff and 80 bank customers. Study data was based on primary data which was collected by use of questionnaires. The data was analyzed using qualitative and quantitative data analysis techniques and presented in tables and figures. The study established that mobile and agency banking has a positive significant effect on the banks performance. The study recommends that commercial banks should strengthen on agency and mobile banking innovation systems for effective operation. The study further recommends that a study can be done on effect of mobile banking lending on commercial banks performance.

**Keywords:** Mobile Banking, Agency Banking, process innovation, Performance

**1.1 Background of the Study**

According to Macnamara (2016) process innovation in banking sector is basically an alternative banking channel which allows commercial banks to operate at a low cost in service provision. Since 1970's, process innovation in banking sector has experienced significant development among the commercial banks due to globalization, market competition and dynamic change in customer needs hence improve their performance (Dawood, 2014). The earliest generation of process innovation in banking sector originated from mobile devices through use of short message services (SMS) which was commonly known as SMS banking in 1999 by European banks (Macnamara, 2016). The service enabled bank customers to check their account transaction based on the three concepts; mobile accounting, mobile brokerage and mobile financial information services (Hiyam & Boutheina, 2017).

In Kenya process innovation has gained significant milestones in its market penetration among the commercial banks. The first process innovation in banking sector was introduced in 1989 by Standard Chartered Bank which enabled bank customers to make cash withdrawals and deposits through the Automatic Teller Machines (ATMs) without service by the bank tellers (Ongore & Kusa, 2013). The service delivery developed more in electronic banking by entrance of mobile and internet banking in late 2009. Mobile banking allowed customers to check account balances, debits and credits and the response are real time due to system upgrades (Zipporah & Margret, 2015). The recent process innovation is use of mobile banking and agency banking where customers can perform all bank transaction without visiting the bank branches (Malhotra & Singh, 2010).

Performance is the relationship between the banks service delivery efficiency and the banks profit after taxation to the total assets hence measures the ration in which the assets and services are maximized to generate income. Very high rate of performance indicates that the bank is more profitable in relation to the available net assets (Koech & Makori, 2014). Commercial banks performance depends on which aspect of bank performance is being considered optimum whether growth in market share, rate of return, overall resource capability, process innovation management could improve banking industry performance (Ahmed, Raza, Ahmed & Akram, 2011).

### **1.2 Statement of the Problem**

Commercial banks in the developing states have adopted the process innovation in their bank operations which includes the mobile banking and agency banking. The use of these innovations enables customers to perform transactions without physically visiting the bank branches hence minimizing queues in the banking halls (Mohana & Tekeste, 2012). Mobile banking and agency banking enables customers to withdraw and deposit funds, transfers, check account balances, account statement, accounts opening and make utility payments from the account (Koech & Makori, 2014).

According to CBK (2018) annual reports, twelve banks have not implemented mobile banking and twenty four have not implemented agency baking. Some commercial bank branches in Kitui town have not introduced the process innovations due the regulations, lack of funds and system challenges. The banks which have not adopted process innovation experience long queues in the banking halls, low customer base growth, reduced profits due to high cost of staffing and poor service delivery since customers wait for long to get services such as deposits and withdrawals (Muiruri & Ngari, 2014).

Mohamud and Mungai (2019) studied the effect of agency banking and mobile banking on performance of the commercial banks in Garissa County. Koech and Makori (2014), studied the effects of innovation orientation on financial performance of commercial banks in Kenya using National Bank of Kenya as a case study. This study therefore sought to investigate the effect of mobile and agency banking on performance of commercial banks branches in Kitui town.

### **1.3 Objective of the Study**

To investigate the effect of mobile and agency banking on performance of commercial banks branches in Kitui Town.

#### *1.3.1 Specific Objectives*

- i. To establish the effect of mobile banking on the performance of commercial banks branches in Kitui Town
- ii. To find out the effect of agency banking on the performance of commercial banks branches in Kitui Town.

#### *1.3.2 Research Questions*

- i. What is the effect of mobile banking on the performance of commercial banks branches in Kitui Town?
- ii. What is the effect of agency banking on the performance of commercial banks branches in Kitui Town?

## **2.0 Literature Review**

### *2.1 Theoretical Review*

#### *2.1.1 Diffusion of Innovation Theory*

Diffusion of Innovation (DOI) theory was developed by Rogers in 1962 and was based on the communication on how, what time which the innovated process gains customer confidence within the social system. The diffusion of innovation is influenced by relative advantage, compatibility, complexity, trainability and observability (Rogers, 1962). From the factors, relative advantage is measured by the extent to which the ICT guarantees development, improvement of the available resources and innovation of the service delivery process to maximize the rate of returns within the commercial banks.

Compatibility is the ability of the innovation consistency with the social norms and practices among the customers, stakeholders and the regulators (Rogers, 1962). This ensures that the process strength, weakness, opportunities and threats analysis are addressed in timely manner (Malhotra & Singh, 2010). Finally, observability measures the extent to which the information and communication technology's performance, outputs and the contribution to the effectiveness of service delivery and customer satisfactory (Rogers, 1962). In this relationship, commercial banks have borrowed the idea of theory in order to communicate well to all bank customers, perform a forecasting on the process to determine when the new process will gain customers' confidence.

#### *2.1.2 Technology Acceptance Model*

The Technology Acceptance Model (TAM) is an information and communication systems theory that was derived by Davis in 1986. The theory is based on the concept of IT acceptability, user accessibility and general availability of the information system (Davis, 1986). According to

Davis (1986), the theory's core objective is to predict the degree of acceptability of an information system and conduct more innovative research to make it more acceptable to the public.

For the system to be acceptable, it must address the basic objectives of the commercial banks which are perceived usefulness and ease of use (Ngumi, 2013). Due to the current ICT innovation in Kenya, the banks should come up with a good technology based platform in which they intend to offer their banking services. The adopted system should meet the guidelines issued by the banking regulator in order to attain its financial and customer base objective (Zipporah & Margret 2015).

## **2.2 Empirical Review**

### *2.2.1 Mobile Banking and Bank Performance*

Zipporah and Margret (2015) studied the relationship between growing investments in technology based bank innovation-mobile banking and bank financial performance in Kenya and established that there is significant positive impact on the banks financial performance.

Hiyam and Boutheina (2017), studied bank innovations in the field of mobile banking in Lebanese commercial banks and indicated that there is significant positive impact of mobile banking on profitability.

### *2.2.2 Agency Banking and Bank Performance*

Musau and Jagongo (2015) studied the utilization of Agency Banking on the performance of commercial banks in Kenya and study recommended that banks must focus on the agency security and training on cash handling.

Ogbebor (2014) examined the prospects of agency banking in increasing financial inclusion in Nigeria and established that agency banking has improved banking services in Nigerian banks.

### *2.2.3 Bank Performance*

Performance indicates how effective a commercial bank maximizes the available resources to generate revenue based on the primary mode of business (Dawood, 2014). In a study carried out by Gichungu and Oloko (2015) on relationship between bank innovations and performance of commercial banks in Kenya stated that performance is measured over a period of time and compared to the previous periods or across other banks operating in the same level of economy and regulations. Banks performance is measured by customer base growth, innovation effectiveness, financial performance and quality service delivery (Zipporah & Margret, 2015)

## **3.0 Research Methodology**

The research study adopted a descriptive research with a population of 99 bank staff and sample size of 77 bank staff using clustered sampling method from the eight commercial banks branches in Kitui Town and comprised of Co-operative bank, Kenya commercial bank, Equity bank, Family bank, National bank, Sidian bank, Absa bank and Post bank. In addition, customers sample where 10 customers from each bank whom were picked at random.

This data was collected by use of questionnaires and analyzed using qualitative and quantitative techniques and presented tables and figures. The test of significance was done using analysis of variance, ANOVA with a base aim of establishing the significance of the model. The study adopted a multiple regression model:  $Y = a + Q_1X_1 + Q_2X_2 + s$

Where: Y= Bank Performance;  $\alpha$ ,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$  and  $\beta_4$ =Constants

X1= Mobile Banking, X2= Agency Banking,  $\epsilon$ = Standard Error

**4.0 Results**

The staff response rate was 93.44% and customer response rate was 100%. The respondent’s employer distribution among the eight commercial banks within Kitui Town. Co-Operative Bank (12.3%), Kenya Commercial Bank (12.3%), Equity Bank (14%), Family Bank (12.3%), National Bank (14%), Sidian Bank (12.3%), Absa Bank (12.3%) and Post Bank (10.5%).The job designation of the respondents was Managers (14%), Operation Managers (10.5%), Mobile banking (14%), Agency banking(10.5), Tellers (12.3%) and customer service (12.3%).

*4.1 Process Innovation and Performance*

Table 1 presents the relationship between Process innovation and bank performance from the banks staff perspective.

**Table 1: Process Innovation**

<b>Innovation</b>	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
Mobile Banking	57	1	5	4.47	0.734
Agency Banking	57	1	5	3.61	1.473

Table 2 presents the relationship between Process innovation and bank performance from the banks customers’ perspective.

**Table 2: Process Innovation and Performance**

<b>Innovation &amp; Performance</b>	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
Mobile banking	80	1	5	4.05	1.242
Agency banking	80	2	5	3.79	.807

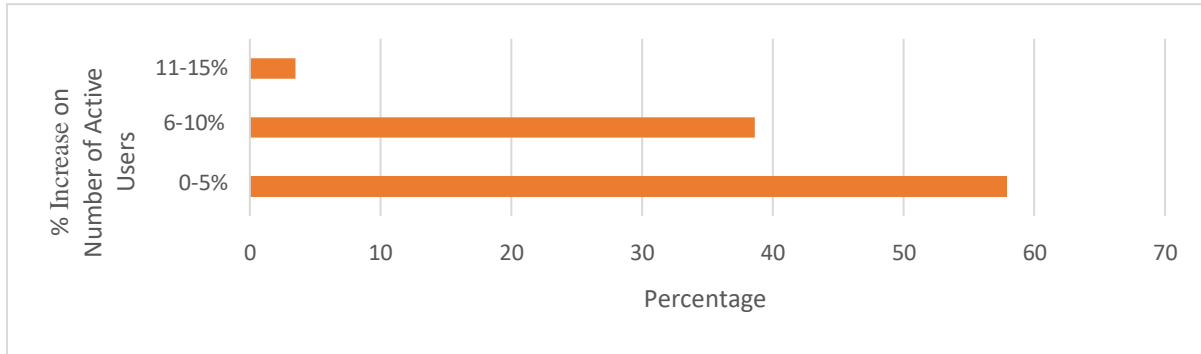
*4.2 Customer Banking Period*

The customer banking period was Less than 3years (18.8%), 3-5 years (35%), 6-10 years (21.3%) and 11 years and above (25%).

**4.3 Mobile Banking Innovation and Commercial Banks Performance**

The Mobile Banking App Download and Usage across the banks indicated 0-5% is 43.9 %, 6-10% is 50.9%, and 11-15% is 5.3%.

Figure 1 presents the percentage increase on number of active users among the numbers introduced to the mobile banking application over a period of 5 years.

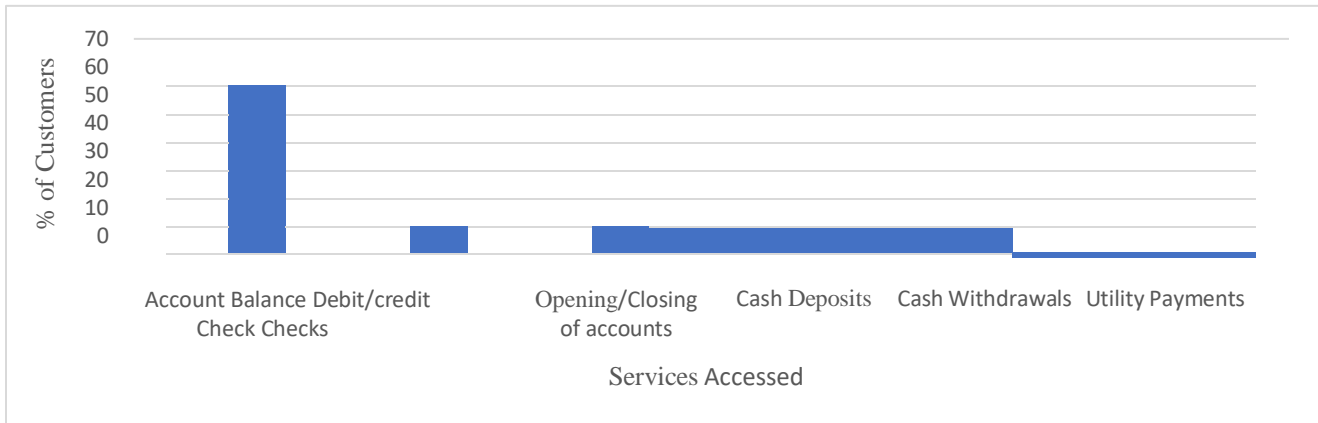


**Figure 1: % Increase on Number of Active Users Customer Number of Transactions**

The number of mobile banking transaction per week across all the commercial banks ranged on 0-5 (53.7%), 6-10 (29.9%), 11-15 (7.5%), 16-20 (6.0%) and More than 20 (3.0%)

**Services Accessed Using Mobile Banking**

Figure 2 presents the Services accessed using mobile banking by the registered customers.



**Figure 2: Services Accessed Using Mobile Banking Mobile banking challenges**

The challenges faced by mobile banking in its operations as reported by the bank customers included High System Delays (26.9%), High Charges (65.7%) and Technical Difficulties (7.4%)

Mobile Banking and Commercial Bank Performance

The table 3 presents the range of statements response from the bank staff on mobile banking in relation to bank performance

**Table 3: Mobile Banking**

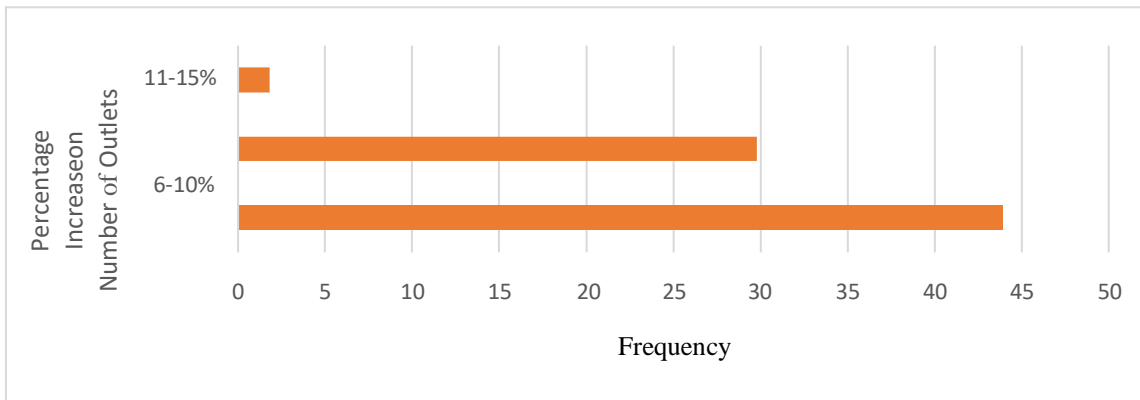
Mobile banking and performance	N	Min	Max	Mean	Std. Dev
Customers are trained on mobile banking	57	2	5	3.72	1.130
Customers are aware of mobile charges	57	2	5	3.70	1.085
Mobile services are available in all areas	57	3	5	4.04	.801
Bank has secure database	57	3	5	4.25	.689
Services available in all types of phones	57	2	5	3.84	.960

*4.4 Agency Banking and Commercial Banks Performance*

The study established that there is 75.4% availability of agency banking outlets and 83.8% of bank customers have access to agency banking services.

**Number of Agency Outlets**

Figure 6 presents the percentage increase on number of agency banking outlets within Kitui Town over a period of five years.



**Figure 6: Percentage Increase on Number of Outlets Average Turn-Around Time per Transaction**

The average percentage change in turn-around time per transaction using the agency banking system was 0-5% (44.2%), 6-10% (46.5%) and 11-15% (9.3%)

**Services accessed using Agency Banking**

Table 12 below presents the services customers’ access using the agency banking in Kitui town.



**Table 4: Services Accessed by Agency Banking**

Services using Agency Banking	Percent
Cash Deposits	64.2
Cash Withdrawals	35.8
<b>Total</b>	<b>100.0</b>

**Customer agency banking turn-around time**

The agency banking turn-around time per transaction by customers was 1-5 Minutes (71%), 6-10 minutes (13%) and undefined time (16%)

**Agency Banking and Commercial Bank Performance**

Table 5 presents the agency banking in relation to bank performance from their respective commercial bank

**Table 5: Agency Banking and Performance**

Agency banking aspect	N	Min	Max	Mean	Std. Dev
Enough agency outlets across Kitui town	43	2	5	3.74	.902
Agency outlets staff have enough training	43	2	5	3.88	1.028
Frequently uses the agency outlets	43	2	5	3.72	1.120
Bank provides operational materials	43	3	5	4.00	.816
Agency staff perform KYC	43	3	5	4.09	.684
Clear Link between agency and the bank	43	2	5	3.79	.914

*4.5 Bank Performance Customer- base Growth Rate*

The customer base growth in all commercial banks branches in Kitui Town was Very High Customer Growth Rate (45.6%), High Customer Growth Rate (43.9%) and Moderate Customer

Growth Rate (10.5%). The study established the most effective innovation on bank performance among the commercial bank branches in Kitui town which is Agency banking (14%) and Mobile banking (86%).

The contribution of process innovation on the financial performance across commercial banks was Very High (63.2%), High (8.8%), Moderate (21.0%) and Low (7.0%). The customer’s satisfaction in relationship of process innovation and quality of service delivery indicated Very Satisfactory (87.8%), satisfactory (10.4) and Poor (1.8%)

Table 6 presents the study model summary. From the study, the R2 with a value of 0.395 which measured the extent of variability of bank performance as predicted by mobile banking and agency banking.



**Table 6: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.629 <sup>a</sup>	.395	.373	1.783

a. Predictors: (Constant), Mobile Banking, Agency Banking

The study tested the relationship between the bank performance, mobile banking and Agency banking as presented in table 7. The regression model  $Y=9.058+0.891x_1+0.966x_2$ .

**Table 7: Coefficients Analysis**

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	9.058	1.649		5.492	.000
Mobile Banking	.891	.326	.083	.784	.777
Agency Banking	.966	.163	.632	5.938	.002

a. Dependent Variable: Performance

## 5.0 Discussion

### 5.1 Mobile Banking and Performance

The study's first objective was to determine the effect of mobile banking on performance of commercial banks branches in Kitui Town. The study established that mobile banking is the major process innovation which is adopted by commercial banks hence had the highest impact on the bank performance. This is supported in a study by Ongore and Kusa (2013). There is a significant average percentage increase in mobile banking apps download and usage which contributes to effective performance of the commercial banks according to Ngumi (2013). In addition, the study established that there is a positive average percentage increase on number of active users among the customers introduced to the mobile banking application.

The study identified that all bank customers are fully trained on mobile banking operations by qualified bank staff hence they are aware of mobile banking charges attached to various transactions. According to Nzyuko at el (2018), banks attach charges to some transactions like fund transfers, utility payments while other transactions are free like account opening and balance checks. Despite Kitui Town being a remote area, the mobile banking services are available in all areas in the County. Bank customers and staff can access the mobile banking service at any place at any given time. The study established that commercial banks have centralized secure database to ensure smooth operation for the customers to access their funds without any delay challenges.

According to Ongore and Kusa (2013), to ensure smooth operation by all customers, commercial banks have ensured that the service is accessible and available in all types of phones. Smart phones use mobile apps while the rest of the phones by use of USSD codes. The study also had questionnaires for the bank customers who were picked at random across the commercial banks branches in Kitui town.

From the study, new customers had registered for mobile banking to be able to access bank services and transaction numbers had significantly increased hence commercial banks received more revenue from mobile banking transactions which resulted to positive effect on performance. According to Koech and Makori (2014), bank customers use mobile banking to check account balance, checking account debit/credit, opening and closing of accounts, cash deposits, cash withdrawals and utility payments. The study findings established that bank customers can use mobile banking to check account balance, debit/credit checks, opening/closing of accounts, cash deposits, cash withdrawals and utility payments.

The mobile banking has some challenges which may contribute to reduced utilization. The challenges include the high cost of operations, system delays and technical difficulties. The challenges outlined in the study are in line with Mohamud and Mungai (2019) who indicated that mobile banking had challenges of system delays and high cost of operation.

### *5.2 Agency Banking and Performance*

The second objective of the study was to establish the effect of agency banking innovation on the performance of commercial banks branches in Kitui Town. From the study, six out of eight commercial banks offered agency banking except Absa and Sidian banks which indicates a good absorption of the product hence agency banking was a key innovative aspect significantly affecting the performance growth of commercial banks.

The study established that there is significant increase in number of agency outlets which was attributed to maximizing the potential agents who are a capable of operating the agency within the laid down procedure including the financial capital required. According to Kingori and Gekara (2015), banks have experienced less customer queues, reduced turn-around time for customers and reduced operational cost by employing less staff. In addition, there is a percentage decrease on average turn-around time per transaction across all transactions made using agency banking. The results indicated that the turn-around time relatively decreased due to upgrade of agency banking systems across the commercial banks.

The study established that there are enough agency outlets across Kitui Town in which customers can access some of the most common services. Banking services are very sensitive hence all agency outlets staff have enough training on how to do KYC (Know Your Customer) and establish fake currency as reported in a study by Musau and Jagongo (2015). In Kitui town, there is significant increase in the agency usage in the last five years. Commercial banks branches provide operational materials to agency bankers to enable them to run the business as supported by Mwenda and Ngahu (2016).

The study also determined the relationship between agency banking and performance according to the bank customers. The study established that customers in all banks with agency banking access the services provided by agency outlets. The services accessed by the customers included cash deposits, cash withdrawals, utility payments and account statement checks. According to Mwenda and Ngahu (2016), agency banking turn-around time per transaction reduces as a result of improved systems hence many customers preferred using the nearest agency than moving to the bank branch.

### *5.3 Process Innovation and Performance*

The overall objective of the study was to establish the effect of process innovation on performance of commercial banks branches in Kitui Town. This section explains the relationship between process innovation and bank performance in relation to customer growth, financial performance and service delivery performance. The study established that there was a positive customer base growth in all commercial banks branches in Kitui Town. Increased customer base leads to increased operational accounts and increased credit facilities hence increased financial growth of the banks. From the study, process innovation contributed to effectiveness on bank performance of commercial banks in Kitui Town. The effectiveness enabled banks to reduce operational cost and increased financial returns.

The study established mobile banking as the most effective process innovation on commercial banks performance in Kitui town followed by agency banking. The study established that process innovation positively affected the quality of service delivery of the banks' branches in Kitui Town. This is due to the real time operation of mobile banking and agency banking in which customers can access several bank services without physically visiting the bank branches. The study established high level of service satisfaction due to the process innovation by banks to the customers. This indicated that customers were satisfied with the process innovation introduced by commercial banks branches in Kitui town.

## **6.0 Summary, Conclusion and Study Recommendation**

### *6.1 Summary*

Commercial bank branches in Kitui town have experienced significant innovation changes for the last five years of operation. The innovations are mostly based on the service delivery which ensures the bank customers receive quality services by reduced time usage in all financial operations. Bank customers are in a position to monitor their accounts in terms of debits, credits, make utility payments and customer service through the innovations. However, the bank branches have witnessed challenges in implementing the innovations within the bank systems.

#### **6.1.1 Mobile Banking Innovation and Bank Performance**

The study established that for the last five years, there was significant increase in mobile banking apps download and usage which resulted to increase in number of active users among the new customers introduced to the mobile banking application. The study identified that bank branches have made a milestone to ensure customers have knowledge on mobile banking operation through regular trainings by the innovation champions in the bank. Bank customers are always aware on the mobile banking charges in various transactions on the platform.

In addition, mobile banking services are available in all areas with any kind of phone and secure database hence customers and staff can access the mobile banking service at any place at any time. The study established that bank branches receive significant revenue from mobile banking transactions since a fee is attached to the process. Finally, the study established that mobile banking was used by bank customers and staff for account balance check, debit/credit checks, opening/closing of accounts, cash deposits, cash withdrawals and utility payments.

However, mobile banking experienced challenges such as high charges, high system delays and technical difficulties.

#### **6.1.2 Agency Banking Innovation and Bank Performance**

The study established that majority of bank branches have developed agency outlets within the town which are accessed by customers in performing financial transactions. The study indicated that the outlets have significantly increased for the last five years due to the fact that banks are maximizing on the potential agents who are capable of operating the agency within the laid down procedure including the financial capital required.

Due to the successful establishment of agency banking, banks have experienced less customer's queues, reduced turn-around time for customers and reduced operational cost by employing less staff. The study established that banks have maintained reliable system which has resulted to decrease on average turnaround time per transaction across all transactions made using agency banking. The study also indicated that there are enough agency outlets across Kitui Town in which customers can access all the services with very well trained staff to perform the bank transactions on behalf of the commercial banks. Finally, the study established that services accessed by the customers include cash deposits, cash withdrawals, utility payments and account statement checks.

#### **6.2 Conclusion**

The study concludes that there is increased use of mobile banking innovation and a corresponding increase in performance of the commercial banks branches in Kitui town over the study period. The study depicts an increase in agency banking outlets within Kitui town hence reducing queues and staff cost in the banking halls. In conclusion, process innovation significantly improves the banks performance. Mobile banking and agency banking significantly affect the performance of commercial banks branches in Kitui town.

#### **6.3 Recommendations**

The study recommends that the bank branches should train staff, agency operators and customers on proper usage of the innovations. The banks should strengthen the application system for ease of customer transactions and address all the challenges experienced by customers during transactions. The agency outlets should be strategically located across the town and fully provide operational materials to the outlets.

#### **6.4 Areas of Further Studies**

Effect of mobile lending on commercial bank performance and contribution of stakeholder's in process innovation who include the CBK and Kenya Bankers Association. Further studies on this area may be done on all Kitui County Towns and National level.

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