



INFLUENCE OF MOBILE FINANCIAL SERVICES ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KISUMU COUNTY, KENYA

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Abstract

Kenya has a vibrant financial sector, low financial inclusion at 52%, with Kisumu County being at 50.85%. This low financial inclusion could accelerate commercial banks expansive use of digital financial services intended to enhance bank performance. The noticeable digital financial service delivery platform widely embraced is the Global System for Mobile communications (GSM) platform. Currently, banks have greatly diversified into Mobile Financial Services (MFS) leading to development of innovative products such as m-banking, m-saving, m-credit, m-payment among others. Despite this robust innovation in banking sector, the industry financial performance decline in the FY2016/2017 at an average of 12.34% on Profitability, 5.79% on Return on Asset (ROA) and 5.19% on Return on Investment (ROI). This contradict the industry

innovation trends, thus creates dilemma in the real value strategic service/product innovation has on financial performance. Therefore, this study analysed the influence of MFS on financial performance of commercial banks in Kisumu County, Kenya. Findings revealed $R^2 = 0.595$, $F_{cal} (36.045, p=0.000)$; and regression coefficients: m -credit services ($\beta_2 = 0.466$), m -payment ($\beta_4 = 0.385$), m -banking ($\beta_1 = 0.347$) and m -saving ($\beta_3 = 0.297$). The study concluded MFS significantly influence financial performance of commercial banks in Kisumu County, Kenya.

Keywords: m-banking, m-saving, m-credit, m-payment, bank, financial performance

INTRODUCTION

Technological and digital innovation has often been credited with having significant strategic implications for business: shifting the competitive landscape and changing the market dynamics in an industry. Today, digital innovation has created modern business models and technological concepts that have transformed the financial industry providing customers with easy-to-use financial services, independent of location and time, and at continually decreasing costs. Among the key structural changes driving this innovation are expanding internet based economy, use of mobile devices and development of digital finance products, which provide basis for product diversification and financial inclusion especially among the low income consumers (Digital Finance Institute [DFI], 2016; Bank, 2001).

Digital Mobile Finance Services (MFS) describes the broad range of financial services (payments, credit, savings, remittances, insurance and financial information) accessed and delivered through GSM mobile platform (Blach, 2011). MFS have significantly expanded the delivery of basic financial services via affordable, convenient and secure environment to the public at large, and more particularly the poor through technology.

World Bank [WB] (2017) estimates: approximately 2 billion people do not use formal financial services; 50% of adults in the poorest households are unbanked. Conversely, Global Financial Index (GFI) reported that 10.7% of the world's six billion people lived on less than USD 1.90, out of which 389 million – more than half of the total number of the world's extreme poor, and more than the poor in other regions combined, live in Sub-Saharan Africa (World Bank, 2015). These majority of the poor are locked out of the formal financial system, with little or no access to formal financial services that can help them increase their incomes and improve their lives. This explains the low level of financial inclusion in emerging economies in Africa Sub-Saharan states, Kenya included and the high level of poverty rate.

The Kenya financial service sector have shown tremendous transformation towards financial inclusion in the last decade. Findex (2014) shows that in Kenya, 75% of adults have a formal account, According to (Heyer & King, 2015), this impressive transformation of financial sector could be attributed to sector innovation, with MFS taking the lead. Despite this, 76.7% of the Kenyan population still live within 5km of a financial access point according to the (Bill and Melinda Gates Foundation ; CBK ; FSD Kenya, 2014). As a result, average density of financial access points in Kenya is still below the global rate for effective financial inclusion, despite the vast innovation and widespread use of mobile phones.

The low financial inclusion could accelerate commercial banks expansive use of digital MFS, intended to enhance bank performance. This could be true as use of MFS among commercial banks in Kenya is on the rise and more banks adopt the digital platforms. In the contrary, financial performance of most banks is on the decline, with industry performance for the FY2016/2017 reporting a decline in operating profit from Ksh 110,331 Million to Ksh 104,578 Million; ROA from 3.3% to 2.7%, and decline in ROE from 24.6% to 20.8%. This forced most banks to scale down their operations. Past studies on MFS have concentrated on development of digital products or bank diversification and financial performance. Moreover, these studies have reported inconsistent results, with no clear understanding on the contribution of m-banking services, m-saving services, m-credit services and m-payment services; to financial performance of commercial banks in Kisumu County. Therefore, this study attempted to address this important knowledge gap.

Purpose of the Study and the Research Hypothesis

The purpose of this study was to determine the influence of Mobile Financial Services on financial performance of commercial banks in Kisumu County, Kenya. To achieve this, the study developed a null non-directional hypothesis stated below:

H₁: Mobile financial service does not significantly influence financial performance of commercial banks in Kisumu County, Kenya.

THEORETICAL FRAMEWORK AND REVIEW OF EMPIRICAL LITERATURE

Theoretical Framework

A theory is a generalization about a phenomenon and, an explanation of how or why something occurs. The study was based on the Theory of Financial Innovation (TFI) as proposed by Silber in 1983. TFI is premised on the idea that benefit expansion of money related foundations is the key reason of financial inclusion (Sekhar, 2013). Accordingly, financial innovation, as a critical motivating force of the financial system; can lead to better economic competence and enhanced

economic advantages derived from the new and frequent changes. TFI define financial developments by coming up with new ways of production or technological solutions which appeals to or targets previously untapped customers. In the context of the study, TFI theory demonstrates a primary thoughts behind innovations, that is, new solutions to current challenges (Ionescu, 2012). Proponents of the theory have reported innovation to promote growth of financial entities through improved allocation, efficiency and a reduction of financial and administration costs (Radcliffe & Voorhies, 2012); enhance financial markets liquidity, ensure the allocation of resources to insufficient areas as well as improving the accessibility to emerging prospects (Tuesta, Sorensen, Haring, & Cámara, 2015).

Empirical Literature Review

Plethora of action researches has been conducted at national and international arena on mobile banking and the performance of commercial banks. Tchouassi (2012) reported poor, vulnerable and low-income households in Sub-Saharan Africa (SSA) countries often lacked access to bank accounts and faced high costs for conducting basic financial transactions. In addition, mobile phone presented a great opportunity for the provision of financial services to the unbanked. The study concludes policy and regulatory innovation derails mobile banking services a reality. Similarly, Donner and Tellez (2008) reported m-banking/m-payments systems as significance innovation for the developing world economic development. Ching et al (2011) found that perceived usefulness, perceived ease of use, relative advantages, perceived risks and personal innovativeness as factors affecting the behavioural intention of mobile users to adopt mobile banking services in Malaysia. In addition, the social norms were the only factor found to be insignificant.

In Kenya, Mutua (2010) regressed mobile transfers against bank return on assets. He reported mobile banking growth as motivated by the convenience, however, the growth exhibited a weak positive relationship with financial performance of commercial banks in Kenya. Thus, the study recommended policy review to create mobile banking awareness. From the above review discussion of the mobile banking services, it is evidence that limited research has been conducted on mobile money services as a digital financial service. Close scrutiny of review also reveals that, although the link between mobile finance services and firms' performance is established, none of the study categorically pinpointed how the following element of mobile financial services: M-banking, M-saving, M-credit and M-payment; individually contributed to financial performance and in particularly, the moderating effect of financial inclusion. This study therefore seeks to fill this research gap.

RESEARCH METHODOLOGY

Research Designs are plans and the procedures for research, which span the decisions from broad assumptions to detailed methods of data collection and analysis (Cooper & Schindler, 2008). In order to determine the influence of MFS on financial performance of commercial banks, a correlational research designs was adopted. According to (Cooper & Schindler, 2008), correlation design describes in quantitative terms the degree to which variables are related. The study target population was drawn from commercial banks that operates in Kisumu County. Unit of analysis comprised 160 respondents (branch managers, operation manager, product managers and finance manager) from all 43 branches of 30 commercial banks operating in Kisumu County (KBA, 2017). Census sampling method was employed due to the small size of target population as proposed by (Cooper & Schindler, 2008), and stratified simple random sampling techniques was used to select respondents. Primary data was obtained via use of structured questionnaires, secondary data collection financial performance reports of sampled banks.

Both descriptive and inferential statistical tools were used to analyse the data collected. The study conducted Karl Pearson's correlation analysis to establish the nature and strength of relationship between the components or constructs MFS and financial performance of commercial banks in Kisumu County, Kenya.

Multiple Regression model was adopted to estimate the change contribution of MFS constructs on financial performance. Analysis of Variance (ANOVA) was conducted to test for the model fit at 95% level of significance. Finally, parametric test t-test statistics was used evaluate the significance of beta coefficient and the acceptance/rejection criteria was based on p value, that is, less than 0.05 at 5 % level of significance. Pre-diagnostic test was conducted on data collected. The results of Kaiser-Meyer-Olkin measures (KMO) on the instrument for the variables were greater than 0.5 and not above 1, hence acceptable. In addition, the Bartlett's Test of Sphericity had p-values = 0.000 for all the variables, less than 0.05, thus indicated the factors were valid and suitable as there would be high significant correlation between the study variables. Therefore, the two test (KMO and Bartlett's Test) no collinear relationship exist among the explanatory variables and data series was normally distributed, with a linear relationship between the independent variables and the dependent variable.

Model Specification

The study employed multiple regression analysis to establish the contribution factor of MFS constructs (the independent variable) on financial performance (dependent variable) of

commercial banks in Kisumu County. This following regression model equation was developed and tested.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \quad \dots\dots\dots \text{Equation i}$$

Where Y = Financial performance of commercial banks

β_0 = Y-intercept (Constant value)

X_1 = m-banking services

X_2 = m-saving service

X_3 = m-credit services

X_4 = m-payment services

$\beta_1, \beta_2, \beta_3,$ and $\beta_4,$ =the estimate of the population regression coefficient of m-banking services, m-saving services, m-credit services and m-payment services respectively.

ε = Regression error term

ANALYSIS AND FINDINGS

Correlation

Results for Parsons Correlation analysis are shown in Table 1

Table 1: Pearson Correlation Results

| Constructs of Variables | | m-banking | m-payment | m-credit | m-saving | Financial Performance |
|-------------------------|---------------------|---------------|---------------|---------------|---------------|-----------------------|
| m-banking | Pearson Correlation | 1 | | | | |
| | Sig. (2-tailed) | | | | | |
| m-payment | Pearson Correlation | .204* | 1 | | | |
| | Sig. (2-tailed) | .039 | | | | |
| m-credit | Pearson Correlation | .322** | .540** | 1 | | |
| | Sig. (2-tailed) | .001 | .000 | | | |
| M-saving | Pearson Correlation | .362** | .042 | -.163 | 1 | |
| | Sig. (2-tailed) | .000 | .672 | .101 | | |
| Financial Performance | Pearson Correlation | .498** | .603** | .583** | .267** | 1 |
| | Sig. (2-tailed) | .000 | .000 | .000 | .006 | |

*. Correlation is significant at the 0.05 level (2-tailed).

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

Findings from Table 1 revealed a strong and significance positive correlations: $r=0.498$ between m-banking and financial performance of commercial banks; $r=0.603$ between m-payment and performance of commercial banks; and $r=0.583$) between m-credit and performance of

commercial banks, all significance at 95% level of confidence. In addition, m-saving and performance of commercial banks reported a weak positive correlation ($r=0.267$) but significance at 95% confidence level. These findings revealed that the m-payment has the highest correlation with financial performance of commercial banks in Kisumu County, followed by m-credit, m-banking and m-saving in that order.

Regression Results

The model summary result for regression result depicts is shown in Table 2.

Table 2: Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .772 ^a | .595 | .579 | .72588 | .595 | 36.045 | 4 | 98 | .000 |

a. Predictors: (Constant), m-payment, m-saving, m-banking, m-credit

The result of the regression indicated that the four predictor of MFS (m-banking, m-saving, m-credit and m-payment) explained 59.5% of the variance in financial performance of commercial banks in Kisumu County, Kenya ($R^2= 0.595$). This implies that the model 59.5% of variation in financial performance of commercial banks can be attributed to m-banking, m-saving, m-credit and m-payment. The remaining 40.5% are explained by other factors not considered in the mode. Result for Analysis of Variance (ANOVA) is shown in Table 3.

Table 3: ANOVA^a

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1 | Regression | 75.970 | 4 | 18.993 | 36.045 | .000 ^b |
| | Residual | 51.637 | 98 | .527 | | |
| | Total | 127.607 | 102 | | | |

a. Dependent Variable: Financial performance

b. Predictors: (Constant), m-payment, m-saving, m-banking, m-credit

Table 3 revealed a higher $F_{cal} = 36.045 > F_{critical} = 3.933$ and significance ($p=0.000 < 0.05$) at 95% level of significance. This implies that the model was fit for the study; and m-banking, m-saving, m-credit and m-payment of the MFS are good predictor of financial performance of commercial banks in Kisumu County. Lastly, regression of coefficients results is shown in Table 4.

Table 4: Coefficients^a

| Model | Unstandardized | | Standardized | t | Sig. | 95.0% Confidence Interval for B | |
|--------------|----------------|------------|--------------|-------|------|---------------------------------|-------------|
| | B | Std. Error | Beta | | | Lower Bound | Upper Bound |
| 1 (Constant) | 1.827 | .550 | | 3.324 | .001 | 2.917 | .736 |
| m-banking | .347 | .115 | .229 | 3.022 | .003 | .119 | .575 |
| m-credit | .466 | .111 | .353 | 4.192 | .000 | .245 | .686 |
| m-saving | .297 | .096 | .227 | 3.083 | .003 | .106 | .488 |
| m-payment | .385 | .084 | .356 | 4.604 | .000 | .219 | .550 |

a. Dependent Variable: Financial performance

Results from Table 4 revealed a constant value ($\beta_0 = 1.827$) which implies variation change on financial performance of commercial banks in Kusumu County which does not depend on the predictors. In addition, m-banking services significantly predicts ($\beta_1 = 0.347$, $p = 0.003 < 0.05$) performance of commercial banks in Kisumu County, Kenya; m-credit significantly predicts ($\beta_2 = 0.466$, $p = 0.000 < 0.05$); m-saving significantly predicts ($\beta_3 = 0.297$, $p = 0.003 < 0.05$) and m-payment significantly predicts ($\beta_4 = 0.385$, $p = 0.000 < 0.05$). Regression results coefficients further revealed that m-credit services had the highest contribution ($\beta_2 = 0.466$), followed by m-payment ($\beta_4 = 0.385$), m-banking ($\beta_1 = 0.347$) and m-saving ($\beta_3 = 0.297$) in that order. Thus the most MFS contributor to financial performance of commercial banks in Kisumu county, Kenya is m-credit and the least one is m-saving.

The test for null hypothesis was conducted using parametric t-test statistics. Findings shows that all the construct of MFS calculated t statistic (m-banking=3.022, m-credit=4.192, m-saving= 3.083 and m-payment=4.604) were greater than t critical ($t_{crit} = 1.96$) and with corresponding $p < 0.05$. therefore, the study failed to accept the null hypothesis which stated that MFS has no significance influence on financial performance of commercial banks in Kisumu County, Kenya.

DISCUSSION

The purpose of the study was to determine the influence of MFS on financial performance of commercial banks in Kisumu County, Kenya. Four MFS product, namely m-banking, m-saving, m-credit and m-payment, were assessed. Findings revealed a strong and significance positive correlations of MFS construct (m-banking = 0.498, m-payment = 0.603, m-credit = 0.583, m-saving = 0.267) with performance of commercial banks in Kisumu County, Kenya. This finding is consistent with the findings of Donner and Tellez (2008) who reported a strong a significance

correlation $r=0.46$ between m-banking/m-payments systems and bank product development. Similarly, study findings also corroborates with Ching et al (2011) found a significance relationship between perceived usefulness and ease of use with non-interest financial performance.

The result of the regression indicated that the four predictor of MFS (m-banking, m-saving, m-credit and m-payment) explained 59.5% of the variance in financial performance of commercial banks in Kisumu County, Kenya ($R^2 = 0.595$). In comparison, 34.6% and 49.4% were reported by Donner and Tellez (2008) and Ching et al (2011) respectively. Thus the study variation did not deviates a lot from existing findings. Further results from regression coefficients revealed that m-credit services had the highest contribution ($\beta_2 = 0.466$), followed by m-payment ($\beta_4 = 0.385$), m-banking ($\beta_1 = 0.347$) and m-saving ($\beta_3 = 0.297$) in that order. This implies m-credit has high contribution change factor while m-saving has the lowest. This findings corroborates. This was also in agreement with Ching et al (2011), however in contradiction with Mutua (2010) who reported m-banking insignificance contribution factor on financial performance of commercial banks.

CONCLUSION AND SUGGESTIONS

The study concludes that MFS significantly influence financial performance of commercial banks in Kisumu County, Kenya. The MFS product that contributed highest influence is m-credit followed by m-payment, m-banking and finally m-saving in that order. Based on this conclusion, the study recommends that commercial banks should embrace digital financial services, especially MFS as a means to product diversification. Coupled with the low financial inclusion rate and wider accessibility of mobile network coverage within in Kisumu County, the study suggests or recommends that commercial banks should channel innovative strategies towards expansion of m-credit services, m-payment services, m-banking and m-saving services primarily to the unbanked customers. Thus, this could accelerate commercial banks expansive use of MFS to enhance their performance.

Finally, the study propose further research to explore other digital financial products (example e-financial products, card financial products e.t.c.) effect on commercial banks financial performance and a further analysis of the moderating effect of financial inclusion on the relationship between digital financial products and commercial bank financial performance.

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