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Financial Technology and Customer Control over Financial Data in Deposit Taking Savings and Credit Co-Operatives in Baringo County, Kenya

Dr. Ambrose Jagongo

Lecturer, School of Business, Finance, Kenyatta University, Kenya

Priscah Jelagat Rutto

Student, School of Business, Finance, Kenyatta University, Kenya

Abstract:

The ever-changing advances in technology create new business propositions in form of financial technology. Financial technology as a new invention allowing delivery of financial services competes with traditional systems of financial service delivery. The objectives were to establish the relationship between financial technology and customer control over financial data in deposit taking Sacco's. The study used a simple randomized ex-post facto design. In this study, the population was infinite hence; the study targeted all the customers who visited Boresha and Skyline Sacco between 8.30a.m to 4.30p.m during the month of September 2019. Primary data was collected using structured questionnaires. In order to test the significance of the association between attributes, inferential statistics such as the Pearson Product-Moment correlation and Regression analysis was used. The result of the study shows that there is a significant positive effect of lending technology on customer control over financial data of the Sacco's. The study also concludes that investment technology significantly affects customer control over financial data. Sacco's that intends to increase its customer control over financial data could invest in improving its use of financial investment technology since it would result in an increase in performance. The study also recommends Sacco's to increase investment in mobile banking users, and the entire mobile banking technology.

Keywords: Financial technology, customer control, financial data

1. Introduction

Technologies that are ever emerging requires that senior management strategists and those in power of financial services should manage with care and consideration. These technologies revolve around business process changes, standards and adoption, information security business value and investments and can be examines from the point of view of economic theory, (Yoris & Robert, 2007).

Technology is changing the operations of financial industry. The management and accounting system of banking institutions as well as customer service delivery by the banks has been influenced by technology. The ever-changing technological advances are creating entirely new business innovations, such as financial technology. According to Manta, (2019), financial inclusion is directly affected by the increasingly relevant global changes in financial health. The researcher further states that Fin Tech has brought small and medium entrepreneurs and their needs closer to banking service provisions. This has however contributed to the active global financial inclusion of many non-bankers. According to this study, at the international level, examination of the potential risks that financial technology could pose to the financial stability globally, begun in April 2016, by the G20 Financial Stability Board (FSB). The board is currently conducting another exercise that focuses on the influence of digitization and financial technology on banking sector and its possible implications for the banking sector.

Higgins, (2019) exploited a natural experiment causing exogenous shocks to the use of a financial technology over time. The researcher combined administrative data on the debit card rollout with a combination of Mexican micro data on both retailers and consumers. The study found out that the shock to debit card adoption has significant effects on financial technology adoption on small retailers. That the market has adopted point-of-sale (POS) terminals to accept card payments, which in turn has led other consumers to adopt cards. Specifically, the number of other consumers with debit cards increased by 21 per-cent.

Financial technology as a new entrant to the market allows delivery of financial services by competing with ancient methods of financial service delivery. The financial technology services available aims at delivering financial services relating to currency exchange, trading and investment, crowd funding, lending, personal finance, payments, and remittances and equity. It is changing how money move from one person to another. It is growing and its adoption in increasing at an increasing rate while seeking to give customers more financial literacy on how to make smarter financial decisions, offer new avenues for loans, diversify payment options and encourage investments. Fin Tech, also refers to financial innovations that is brought about by technological advancement through new financial services, new business

models, and new software and applications that have a substantial influence on provision of financial services and the growth and development of the financial industry, (Bates, 2017).

Stamegna & Karakas, (2019) during European Parliamentary Research Service briefing pointed out that the industry of financial technology includes organizations using systems that are based on technology for the provision of either financial products or services directly. The researchers further stressed out that the industry is growing at a high rate as can be seen in Europe based companies that invested in Fin Tech up to \$ twenty-six billion during the first six months of the year 2108. This industry of financial technology come along with benefits like job creation, inventions and innovations but has shortcomings relating to consumer protecting issues, cyber-crimes and consumer's data protection issues. The European Union's law and policy makers have embraced and planned various ways to counter these multi-disciplinary shortcomings.

Customer service and new distribution channels have emerged due to the modification of landline, adoption of smart cellular devices and mobile broadband networks through electronic banking websites and the emerging mobile banking applications. Day to day operations of consumers have been affected by the use of simple, unambiguous and available digital. Online sites and mobile applications allow competitors in digital world to target wider and broader markets. This however, makes the organizations to enjoy advantages like economies of scale that does not require the implementation and maintenance of extensive network of physical branches hence offering an opportunity that new givers of financial services are exploiting with competitive digital distribution model. Digital channels also reduce the costs incurred by customers in changing financial service providers and improves the ability to compare products and services offered by different providers, (Fernández, Pablo, & Ortún, 2018).

It is believed that banking is crucial and essential to economic growth and development. Banking industry should not lack behind in its capability with respect to product combinations, capital, technology and innovation in order to fulfill their role. According to (Auka, Bosire, & Matern, 2013), customers care and individualized attention is more significant to a financial institution than providing the customer with a conducive business environment. The rapid changes in information technology and telecommunications arena have continuously disrupted and revolutionized the banking industry. Over the past few years, financial service delivery has experienced great changes due to emergence of financial technology. Introduction of communication technologies and computers have brought a major impact as it allows individuals to share information with each other in ways that assist the functioning of traditional face to face, written modes and telephonic. These technologies use both global and always up communication infrastructures that enable a 24-hour activity and synchronous as well asynchronous interactions as among organizations, groups and individuals, (Lee, 2007). These technologies have been adopted in the financial industry where innovations such as financial technology have been developed and adopted to allow customers control over bank data and financial decisions.

2. Literature Review

According to Robbins, (1966), economic development was taken to mean increase in the size of annual production or capital whatsoever the case with the level of population. Economic development may also refer to rise in complexity, and in the combination of several different functions. Financial industry can be referred to as information industry, because financial services like investment decisions, payment and settlement and risk management are based on wide and broad information processing ranges. There are inventions that have been discovered recently in information technology like distributed ledger technology (DLT) and block chain that have had a potential significant effect on the basic infrastructure for financial activities, that is, ledgers and money. From economic theory point of view, such influences of information technology on ledgers and money raise a lot of issues. Therefore, if new creations in information and financial technology leads to efficient and effective use of funds, it will finally lead to growth in the economy.

According to Östman, (2009), many fields of the social sciences are intentionally fragmented and have their special way to control problems. Also, several fields related to accounting are partial fragments. Basically, financial accounting, management accounting and control are different disciplines altogether. Individuals have distinguished lives conditioned by physical and biological circumstances. The interests and possibilities of individuals towards satisfying family and personal functions vary from time to time. The world is also a unique and the usual inhabitation of human beings as dictated by physical and biological factors operates primarily irrespective of the views human beings have over them.

Financial regulation guides how transactions involving money take place from time to time. When a payment is made with respect to the regulations and performed from a hand held and portable device, it is referred to as a mobile payment. This occurs when customers employ the use of hand held device, specifically, mobile phones, to pay for services and goods other than using coins, cards or checks. According to European commission in Directive, (2013), electronic money is a claim stored electronically by the issuer, and which has monetary value and is given out once funds have been received, for the main reason of paying for bills, and is accepted by legal or natural persons except the issuer. Under this definition, electronic money means any type of electronically stored value that serves as an option to cash. This could cover anything from Bitco in to gift cards to any values stored by way of Venmo. Traditionally electronic money is distinguished from account held money in two important ways. First, it does not earn interest often, and secondly it is often not covered and regulated under financial protections. Payment technology has led to more competition in markets using electronic payments, providing customers with more and better choices of accessing different types of payment services and service providers.

Financial infrastructure has been driven by the growing and ever-changing introduction of mobile phones, to all developed nations in a number of emerging economies, and is offering a changing and dynamic pool of financial innovations. Mobile money also known as electronic money refers to a broad and wide spectrum of financial services that

are technology enabled and can be accessed through a mobile or smart phone. Currently, the leading uses of most mobile money services includes but is not limited to bill payments, airtime purchases and remittances. On the other hand, account held financial services like withdrawals, bill payments or deposits can be referred to as mobile banking. Peer to peer money transfers that are done online makes it possible for consumers to easily and quickly send money to each other, without having to involve themselves with the tiresome and long process of transferring physical cash or writing and mailing a check. As long as there is a strong internet connection and perhaps international mobile roaming for authorization purposes, online money transfers are possible at any location at any time. This means that it is not characterized by the location where the consumer authorizes the transfer, for instance paying rent to a roommate based in US using an app works exactly the same way whether one thousands of miles away or is in the next room, (Shrier, Canale, & Pentland, (2017).

Kang, (2018), conducted a research on mobile payment in Fin Tech environment. The study focused on security challenges, trends and services. The study surveyed the recent and upcoming mobile financial technology payment services and grouped them based on the forms of service available to suggest security challenges and requirements to ensure that better and securer services could be provided in the future. First, the study defined the payments systems that have been in existent and the emerging Fin Tech payment services by doing a comparison between them. The researcher also analyzed and categorized recent FinTech payment services and classified Fin Tech service providers into Operating System makers, Hardware makers, financial institutions and payment platform providers to show their common characteristics. Finally, it explained the measures that Fin Tech payment services need to put into consideration and security challenges that the present and future mobile may bring along. The study concluded that financial technology payment services were encountered in the perspective of authorization, mutual authentication, privacy, integrity and availability. The study focused on security challenges which is a major aspect of customer control over financial data.

Okiro & Ndungu, (2013), conducted a research on the impact of internet and mobile banking on performance of financial institutions in Kenya. The study sought to establish the impact of internet-banking and mobile banking on performance where a survey was conducted on 30 financial institutions in Nairobi. The study also identified and determined the extent of use of internet and mobile banking in financial institutions. The study found that the most used internet banking service by the customers is inquiring for their account balances while the least is payment of bills through online methods. The mobile banking service that was mostly used was cash withdrawal whereas the least was mobile purchasing of commodities from the research, it can be seen that payment technology is least commonly used by customers. This however relates to the study at hand as it aids in establishing the relationship between payment technology and customer control over financial data in financial institutions.

Xiao, Hedman, & Runnemark, (2015), researched on use of payment technology. The study was based on theory of consumption value perspective. This research strove to provide a theoretical explanation of the use of payment technology by investigating the way customers perceive on the various values of consumption with different payment technology and their decisions to choose a particular mode of technology. The research was a based on information from Northern European country known as Denmark that had established payment technologies in form of payment cards, cash and Internet banking. Following a focus group of defining and identifying consumption values associated with each payment technology, national statistics agency in the country then conducted a survey. Preliminary results showed that for the use of different payment technologies, different consumption values played a critical role. The study is related to this research since it focused on customer perception with regard to a particular technology of payment and decision on what technology to use.

According to Hockey, (2016), most investors (79%) claim that they're completely fine with technology using information and previous behaviors about them to make recommendations. Based on their past behaviors, they also find the recommendations useful (with 34% saying occasionally useful and 58% saying usually useful). Most investors in this case prefer analyzing all of their data in a computer ability to make the best recommendations. Investors want the most increased linking of their information to develop unique strategies and are open to companies using computer's ability to do so. They also believe that computers are able to do a smarter job of providing simple, minimized taxes, quick, tailored analyses, customized portfolios with regular updates and optimized returns.

3. Methodology

A research design is a systematic way of ensuring that the required data is collected, analyzed and reported accordingly. This study was conducted in a survey like form; where simple randomized ex-post, facto design was used to investigate the relationship between financial technology and customer control over their financial data. Regression analysis was done to determine the relationship between financial technology and customer control over financial data in deposit taking Sacco's in Baringo County, Kenya. The regression model was important in measuring the effect of using financial technology on customer control over financial data indicators. The basis of this regression model is to determine the effect of unit increase/ decrease in each financial technology indicator on the customer control indicators. The regression equation is:

$$C_c = \beta_0 + \beta_1 \times X_1 + \beta_2 \times X_2 + \beta_3 \times X_3 + \epsilon_i$$

Where, $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4$ are known parameters

C_c is the customer control as a Dependent Variable

β_0 is constant or the C_c intercept when the value of X is zero

X_1 lending technology

X_2 Payment technology

X_3 investment technology

ε_i is an error term

The study targeted the customers who visited Boresha Sacco and Skyline Sacco, Eldama Ravine head offices during the month of September 2019. The subject of interest was account holders in the Sacco's using financial technology to control their financial data. Simple random sampling procedure was used to select the size of the customers who represented the entire population of men and women visiting Boresha and Skyline Sacco's. This gave each customer in the population an equal and independent chance of being selected. According to Chase, Aquilano, and Jacobs, (2001) customers arrival differ from time to time and if it is a small portion at a given time, it is termed as infinite population. In this study, the arrival population was considered infinite. A sample of 384 respondents was selected. Primary data was collected using structured questionnaires. The questionnaires comprised of closed-ended questions to elicit facts or statements from respondents. The use of questionnaire was relatively quick in collecting information from the respondents

4. Results and Discussions

The study used a multiple linear regression to establish how Lending technology, Payment technology and Investment technology influences the customer control over financial data. The model summary presented in the table below

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.378 ^a	.143	.134	.28365

Table 1: Model Summary

a. Predictors: (Constant), Investment Technology, Lending Technology, Payment Technology

The model summary indicates that there was a weak relationship between the observed and predicted values of the dependent variable due to an R-value of 0.378. This implied that the model is relevant and can be applied in a study seeking to establish the effects of Investment technology, Lending technology, and Payment technology on Customer control over financial data. R Square of 0.143 implies that 14.3% of the variation in dependent variable was explained by the independent variables of the study. It was therefore established that 14.3% of the changes in the Customer control over financial data could be attributable to Investment technology, Lending technology, Payment technology. Adjusted R Square on the other hand showed the expected level of improvement of the model in adding more predictor variables in the model. This therefore implied that adding more predictor variable to the model would improve the model less than expected due to an Adjusted R-Square value of 0.134, which is less than the R Square. A standard error of estimate of 0.28365 implied that the regression model was accurate in its prediction since this value was low.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.034	.133		22.901	.000
	Lending technology	.164	.035	.269	4.739	.000
	Payment technology	.088	.025	.201	3.517	.001
	Investment technology	.038	.035	.060	1.066	.287

Table 2

a. Dependent Variable: Customer Control over Financial Data

$$Y=3.034+0.164X_1+0.088X_2+0.038X_3$$

Holding lending technology, payment technology and investment technology constant, the customer control over financial data would be 3.034 units. Independent variables from the regression equation reveal that a unit increase in lending technology led to an increase in customer control over financial data by 0.164 units. This implies an increase in the lending technology would positively affect the customer control over financial data of the Sacco's; this depicts a positive relationship between the two variables. In addition, a unit increases in payment technology led to an increase of customer control over financial data by 0.088 units. This implies a positive relationship between the payment technology and customer control over financial data. In addition, a unit increase in investment technology led to an increase in customer control over financial data by 0.038 units; this depicts a positive effect of investment technology on customer control over financial data. The study used unstandardized beta coefficient.

The results of the study show that there is a significant positive effect of lending technology on customer control over financial data of the Sacco's. The significance was concluded based on the p value being less than the alpha value. The study therefore concluded that there is statistically significant effect of lending technology on customer control over financial data. The results of this study were consistent with empirical results for other empirical studies that were undertaken previously. Hernando & Nieto (2005) undertook a study to identify the impact of adoption of transactional websites on financial performance of 72 banks in Spain. The study found that there was a significant impact of adoption of transactions that are conducted through banks websites on financial performance

5. Conclusion

Payment technology has a positive correlation with customer control over financial data, which showed that Sacco's customers enjoyed internet payment of services, and thereby they could be able to remain loyal to their Sacco easily. The customers therefore have maximum use of internet such as mobile payments for the services. The study also concludes that investment technology significantly affects customer control over financial data. Sacco's that intends to increase its customer control over financial data could invest in improving its use of financial investment technology since it would result in an increase in performance.

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