RELATIONSHIP BETWEEN DIGITAL FINANCE TECHNOLOGIES AND PROFITABILITY OF BANKING INDUSTRY IN KENYA

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ABSTRACT

Many people still travel long distances to get to bank branches, which involves the cost of travel, as well as time spent for travel and waiting in long queues. To address these challenges, in 2010, Bank started its agency banking business model using mobile phone and point-of-sale (POS) technology. However, the adoption of technology into a firm requires high initial capital to invest which affects the profits of the firm in short run. This is the reason as to why this study was conducted with the main aim of investigating the relationship between digital finance technologies and profitability in banking industry. The study was guided by the following research objectives: to; establish the relationship between of operational efficiency and profitability; examine the relationship between market share and profitability; and assess the relationship between brand loyalty and profitability of Equity Bank. The study used descriptive survey research design. The desired sample size was 261 respondents. The study collected the information for the study using questionnaires and interview schedules. The study analyzed data quantitatively. Descriptive and inferential statistics was employed. Descriptively, data was analyzed using frequencies, percentage and means. Inferentially, data was analyzed using multiple linear regression analysis to test the statistical significance of the various independent variables. The main findings of the study were as follows: Findings of the study on Equitel digital information system operational efficiency revealed that majority of the respondents were of the opinion that digital finance technologies adopted have minimized operational costs hence impacting on overall Banks' profitability. The regression model revealed that there was a significant relationship between operational efficiency and profitability, there was a significant relationship between market share and profitability, and that there was a significant relationship between brand loyalty and profitability. In relation to H01: the study rejected the null hypothesis with a p value of (p≤0.05). Based on H02: the study rejected the null hypothesis with a p value of (p ≤ 0.05). Concerning H03: the study rejected the null hypothesis with a p value of (p ≤ 0.05). On profitability, the result was (mean=4.07) that digital finance technologies has enabled the increase of financial returns, (mean=2.1) were of the opinion that the level of shareholder value has greatly improved, (mean=2.13) of the responses were of the opinion that there is high share price, (mean = 2.25) of the respondents were of the opinion that the bank's capital capacity has expanded while (mean = 2.57) were of the opinion that generally, profitability of the company has greatly increased since introduction of digital finance technologies. This study will be of great importance to Equity Bank in identifying and monitor challenges facing electronic banking adoption in bid to earn profits and also evaluate the development and growth of Electronic banking. Academicians will also benefit from this research work since it will suggest possible solutions and strategies to the problems in electronic banking and have thorough knowledge of electronic banking.

Key Words: *digital finance technologies, profitability, operational efficiency, market share, brand loyalty*

INTRODUCTION

Banks' profitability is achieved by earning more money than what the bank pay in expenses (Bassett and Brady, 2011). The major portion of a bank's profit comes from the fees that it charges for its services and the interest that it earns on its assets. Its major expense is the interest paid on its liabilities. The major assets of a bank are its loans to individuals, businesses, and other organizations and the securities that it holds, while its major liabilities are its deposits and the money that it borrows, either from other banks or by selling commercial paper in the money market (Collier, Forbush, Nuxoll, & O'Keefe, 2015).

Measures of after-tax rates of return, such as the return on average total assets (ROA) and the return on total equity (ROE), are widely used to assess the profitability of firms, including Equity Bank. Bank regulators and analysts have used ROA and ROE to assess industry profitability and forecast trends in market structure as inputs in statistical models to predict bank failures and mergers and for a variety of other purposes where a measure of profitability is desired (Landau, 2014)

Technology has greatly advanced playing a major role in improving the standards of service delivery in the financial institution sector (Abreu and Mendes, 2012). The adoption of digital finance has brought an end to the days when customers would queue in the banking halls waiting to pay their utility bills, school fees or any other financial transactions (Berger &Deyoung, 2013). They can now do this at their convenience by using their ATM cards or over the internet from the comfort of their homes. Additionally due to the tremendous growth of the digital platform from such outlets as the mobile phone industry, most financial institutions have ventured into the untapped opportunity and partnered with mobile phone network providers to offer banking services to their clients, thus improving their profitability (Athanasoglou, Sophocles & Matthaios, 2014).

The banking industry in general has experienced some profound changes in recent decades, as innovations in technology and the inexorable forces driving globalization continue to create both opportunities for growth and challenges for banking managers to remain profitable in this increasingly competitive environment. Globally, the banking industries are now getting connected with the information technology facilities which make banking operation, service and business activities easier, faster, more efficient, and more effective for individuals and organizations alike to transact businesses (Goddard, Molyneux & Wilson, 2014).

Financial innovations such as those available in ATMs, phone banking, Internet banking, debit cards, credit cards, agency banking and smartcard applications are taking place at an overwhelmingly fast pace in the global banking industry (Grigorian & Vlad, 2013). Banks that were capable of adapting to the changes have been able to significantly improve their profitability since the technology contributes to robustness and financial profitability in the

industry. For example in Pakistan, the proliferation and penetration of internet has opened new horizons and scenarios for the retail banking industry. The retail banks are now providing their products and services through the electronic medium; e-banking. E-banking is considered to have a substantial impact on banks' profitability (Sumra, Manzoor, Sumra, & Abbas, 2011).

In Africa, today's banking landscape has not only grown fiercely competitive, but also developed facets that never existed earlier (Mattilia, Karjaluoto & Pento, 2015). One of these is the entry of non-banking players, especially from the tech, retail and telecom space, riding on nimble, cost efficient business models. Rapid evolution of technology, most visible across mobility, big data, social, artificial intelligence, Internet of Things (IoT) and cloud. Mobility is currently the most important theme for banks, closely followed by big data and social channels. These technologies are transforming the way consumers interact with banks and the way businesses are run. Banks that effectively use new technologies to better understand and serve their customers emerge as leaders in the industry and continue to gain a competitive advantage improving their profitability (Banan, 2015).

For example South Africa's banks are spending billions on technology as they integrate systems, introduce new apps, upgrade antiquated legacy systems and create cloud solutions. PwC's 2013 South African banking survey found that the big four banks Absa, First National Bank, Nedbank and Standard Bank each plan to spend R3bn-R5bn on technology in the medium term. Barclays Africa Group is spending R1.2bn on upgrading its network and investing in innovation and digital banking. Standard Bank spent R2.2bn last year, with similar levels forecast for financial 2014 and 2015. All this is in effort to advance digital finance with an effort to improve their profitability (Gillian, 2014).

The Kenyan financial sector has undergone tremendous changes in the last two decades. A lot of reforms have been undertaken in the sector that have led to proliferation of financial products, activities and organizational forms that have improved and increased the efficiency and profitability of the financial system (Mugambi, 2013). Advances in technology and changing economic conditions have created impetus for this change. All these developments coupled with changes in the international financial environment and the increasing integration of domestic and international financial markets have led to rapid financial innovation. Mobile services have been adapted to provide crucial banking services to customers in Kenya. The services received a good reception enabling banking institutions to reach the unbanked in the country especially in the rural areas where the services were not available before increasing bank coverage and profitability.

Equity Bank started its agency banking business model using mobile phone and point-of-sale (POS) technology. An "Equity Agent" is a commercial entity that has been contracted by Equity Bank to offer specific products and services on behalf of the bank at his/her outlet, and must be duly approved by the Central Bank of Kenya. This entity is then equipped with the skills necessary to provide basic banking services according to standards set by the bank (Duval, 2013). Currently, Equity Bank offers basic savings services through agency banking and in future it plans to offer a wide range of products and services to customers without their having to visit a branch. This will enable the customers to access fast, convenient and affordable banking. By the end of March 2013, over 2.3 million customers had registered for agency banking. Around 80,000 transactions are made each day at 6,892 agent outlets. These numbers are purely savings related transactions, deposits and withdrawals (Duval, 2013).

The bank introduced a paper-thin SIM cards to help its customers access the bank's mobile money service without needing to use dual-SIM phones. The bank's SIM cards consist of 0.1 millimeter thick film that can be layered on an active side of customers' original SIM cards, without affecting the customers' original service providers' network reception. The sim card provides voice and data services. Equity bank's move is set to unsettle both the telecoms and mobile money industry in the country (Okuttah & Wasuna, 2014). For now, it's not a matter of whether Equity will attract new customers or not-as the new SIM card technology is already exciting enough to attract them-but it is a matter of whether they can be able to keep them hooked on their service long enough before other mobile money service providers come knocking (Okuttah & Wasuna, 2014).

STATEMENT OF THE PROBLEM

Technology adoption is expected to bring about efficiency in service delivery which goes a long way in boosting the profitability of a firm. A fundamental assumption of most recent research in operations improvement and operations learning has been that technological innovation has a direct bearing on profitability and profitability improvement (Okiro & Ndungu, 2013).The notion is the same in the banking industry with banks incorporating it with the expectation of great returns. However, the adoption of technology into a firm requires high initial capital to invest which affects the profits of the firm in short run. This is caused by the need to repay the debts accrued by the firm in acquiring the technology. This affects the dividends received by the shareholders and casts doubts on the worthiness of the investment. For example the equity bank's first quarter of 2016 decreased significantly compared to 2015 first quarter as a result of the firm's investment into the Equitel digital information system (Kariuki, 2016). The lack immediate benefits and reduction of the dividend due to shareholders from the investment poses the question of whether the investment is worthwhile and if firms should indeed invest in the new technology. This study therefore aims to determine the benefits of digital finance technologies on profitability of Equity Banks.

GENERAL OBJECTIVE

The main objective of the study was to determine the relationship between benefits of digital finance technologies and profitability of Equity Bank.

SPECIFIC OBJECTIVES

1. To establish the relationship between operational efficiency and profitability of Equity Bank.
2. To examine the relationship between market share and profitability of Equity Bank.
3. To assess the relationship between brand loyalty and profitability of Equity Bank.

THEORETICAL REVIEW

Modern Portfolio Theory (MPT)

This study is guided by the Modern portfolio theory. MPT is a theory of finance that attempts to maximize portfolio expected return for a given amount of portfolio risk, or equivalently minimize risk for a given level of expected return, by carefully choosing the proportions of various assets. The major proponent of the theory is Markowitz. It provides the academic bedrock for diversifying portfolios (Markowitz, 2011). MPT allows investors to estimate both the expected risks and returns, as measured statistically, for their investment portfolios (Bhalla, 2010). Markowitz (2011) was among the first to quantify risk and demonstrate quantitatively why and how portfolio diversification can work to reduce risk, and increase returns for investors. By combining assets that are not perfectly correlated, the risks embedded in a portfolio are lowered and higher risk-adjusted returns can be achieved. The lower the correlation between assets, the greater the reduction in risk

Investors are under the delusion that their portfolios are diversified if they are in individual stocks, mutual funds, bonds, and international stocks. While these are all different investments, they are all still in the same asset class and generally move in concert with each other. When the bubble burst in the stock market, this was made painfully clear. Proper diversification according to MPT is in different asset classes that move independently from one another (Shleifer, 2000).

This theory is related to this study in that investment into the Equitel digital information system is meant to produce returns which are profit values. They should however and understand that a financial return for most of the financial sector is achieved through analysis of the portfolio. They should therefore be able to analyze the benefits of investing into the model whether it is bound to bring about more dividends and whether it is worth the while to invest in such a technology. MPT helps to understand the whole concept of portfolio analysis which will be used by equity to evaluate the profitability of their projects and also the need to involve the stakeholders in the analysis.

Innovation Diffusion Theory

According to Dillon and Morris (2013); Rogers (2015), the factors which influence the diffusion of an innovation include; relative advantage (the extent to which a technology offers improvements over currently available tools), compatibility (its consistency with social practices and norms among its users), complexity (its ease of use or learning), trialability (the opportunity to try an innovation before committing to use it), and observability (the extent to which the technology's outputs and its gains are clear to see). These elements are not mutually exclusive thus unable to predict either the extent or the rate of innovation diffusion. Moore and Benbasat (2011) built on the work of Roger (2003), amongst others Tornatsky and Klein (2002) and Brancheau and Wetherbe (2000) and expanded the array of innovation characteristics to seven. Three of the seven innovation characteristics are directly borrowed from Rogers: relative advantage, compatibility, and trialability.

The fourth characteristic, ease of use, is a close relative to Rogers' complexity. It is worth noting that both relative advantage and ease of use are subjective characteristics since they can be viewed differently depending on an individual's perceptions. Fishbein and Ajzen (2000) concur, attitudes towards an object and attitudes regarding a particular behavior relating to that object can frequently differ. Moore and Benbasat (2011) also derived three further characteristics. While Rogers (2003) included image as an internal component of relative advantage, Moore and Benbasat (2011) found it to be an independent predictor of adoption. Image is the self-perception that adopting an innovation could result in enhanced social status. By analyzing Rogers (2015) diffusion of innovation theory through the lens of the Dubin framework, some gaps in the theory emerge (Lundblad & Jennifer, 2015). Organizations are described as a social system, but within organizations, departments or teams can also serve as social systems. Yet the unique issues and elements of departments or teams within a larger organizational context are not addressed in terms of how these boundaries affect the adoption of innovation.

In addition, boundaries are not addressed for instances when diffusion of innovation occurs across organizations, such as between schools of a school district or hospitals and clinics within a health care delivery system (Lundblad & Jennifer, 2015). Specifically, the theory begins to describe the innovation-decision process within organizations, but not to the level of addressing whether and how the characteristics of an innovation interact to affect its adoption within organizations, or whether organizational type, size, or industry affect adoption. In addition, while there is an innovation-decision process described for individuals and within organizations, there is no description of how the variables interact when innovations are diffused across organizations (Lundblad & Jennifer, 2015).

In relation to this study, for diffusion of innovation theory in organizations, the only system state defined by the theory is what type of decision- making process is in place for adopting and implementing innovations, identified as optional, collective, authority, and contingent

innovation-decisions. Rogers' theory does not tell us whether the system states of organizations need to be in normal operating mode in order for the theory to apply, or whether the theory holds in all types of organizations or only in certain types.

Task Technology Fit (TTF) Theory

This theory contends that it is more likely to have a positive impact on individual profitability and be used if the capabilities of Information Communication and Technology (ICT) match the tasks that the user must perform (Goodhue &Thompson, 2014). Goodhue and Thompson (2014) mention the factors that measure task-technology fit as; quality, locatability, authorization, and compatibility, eases of use/training, production timeliness, systems reliability and relationship with users. The model is useful in the analysis of various context of a diverse range of information systems including electronic commerce systems and combined with or used as an extension of other models related to information systems outcomes.

According to the theory of task-technology fit, the success of an information system should be related to the fit between task and technology, whereby success has been related to individual profitability (Goodhue &Thompson, 2014) and to group profitability (Zagers & Buckland, 2015). For group support systems, a specific theory of task-technology fit was developed (Zigurs & Buckland, 2015) and later tested by and detailed the requirements of group support systems to fit group tasks.

For mobile information systems, task-technology fit has been shown to be generally relevant, but more specific questions regarding the applicability of task-technology fit to mobile information systems remain unanswered (Gebauer & Shaw, 2014). For various scenarios of task and technology, statistical significance has been established of a positive association between task-technology fit and information system success measures, such as use (Dishaw & Strong, 2009), and impact on individual profitability (Goodhue and Thompson, 2014) and on group profitability (Zigurs et al., 2009). The concept of task-technology fit promises to help identify aspects that are critical to support a given business task, and can, thus, contribute to the success of technology innovations (Junglas & Watson, 2013). One such innovation is represented by mobile technology to support an increasingly mobile workforce (Barnes, 2015). Upon applying the theory of task-technology fit to mobile information systems, however, it becomes apparent that previous studies have focused mainly on the functionality that is provided by the technology, and have paid less attention to the context in which the technology is being used (Perry, O'Hara, Sellen, Brown & Harper, 2011).

At the same time, however, usability studies suggest that the use-context may have a non-trivial impact on the conditions of task-technology fit (Perry et al., 2011). First, it can be observed that non-functional features, such as weight and size, play a more prominent role in mobile than in non-mobile use contexts (Gebauer & Ginsburg, 2013; Turel, 2013). Second,   functional

requirements may shift as business tasks are often performed differently in mobile versus non-mobile use contexts (Gebauer & Shaw 2014; Perry *et al.,* 2011; Zheng & Yuan, 2013).

In relation to this study, theory of task technology fit acknowledges that a technology such as the digital finance technology will bring about profitability if there is a fit between task and technology. The theory proposes use of technologies such as the mobile technology platforms to run the digital finance technologies to reach large market shares to increase the bank's profitability.

EMPIRICAL REVIEW

The rapid development of the technology infrastructure, in particular the growth in the number of personal computers, the increased quality of Internet connections, the more widespread use of the Internet in both homes and businesses, and the significant reduction in both the fixed and variable costs of the Internet connections in Kenya, have made it possible for the Internet to play a more central role in banks´ hence increasing profits of the banks. Brand loyalty from digital finance technologies of Profitability of Equity Bank has enabled economies of scale by changing in many industries. Digital finance technologies have been adopted and diffused faster than any technology in history, changing the way people interact with each other and the way banks conduct business with their customers.

According to study by Ching (2011) revealed that Equitel digital information system operational efficiency usefulness is a factor affecting the behavioral intention of mobile users to adopt mobile banking services. Meanwhile, the social norms were the only factor found to be insignificant in this study. Another study carried by Wangdur, (2013) noted that in particular, being able to deliver the much needed capacity precisely when and where it is required to areas where a large majority of users rely on the network. In urban areas, for example, it is difficult to keep pace with network growth for capacity demands at work, home and at play.

According to study by Koivu (2012) uptake of mobile phone in Kenya has been unprecedented. Mobile banking in Kenya affects market shares of organization, behavior and decision making of the entire economy. The trend of continued reliance on mobile devices to execute monetary transaction is steadily gaining momentum. Zimmerman (2010) study differed as it discovered that mobile banking in developing world was an object of skepticism among financial insiders while proponents argued that cell phones could revolutionize personal finance in poorer country, regulators warned of money laundering and most bankers worried that low customer balances wouldn't be worth transaction costs. From the above discussion of empirical literature, this study hypothesizes that mobile banking supports the delivery of digital finance technologies in an economy.

Donner and Tellez (2010) did a study on mobile banking and brand loyalty where they sought to link adoption, impact, and use. The study established that through offering a way to lower the

costs of moving money from place to place and offering a way to bring more users into contact with formal financial systems, m-banking/m-payments systems could prove to be an important innovation for the developing world. According to Aiferl, (2011) on brand loyalty noted that In such a competitive marketplace, we see content providers building networks, net neutrality discussions occurring, and many other signs indicative of being in the throw of a growth crisis.
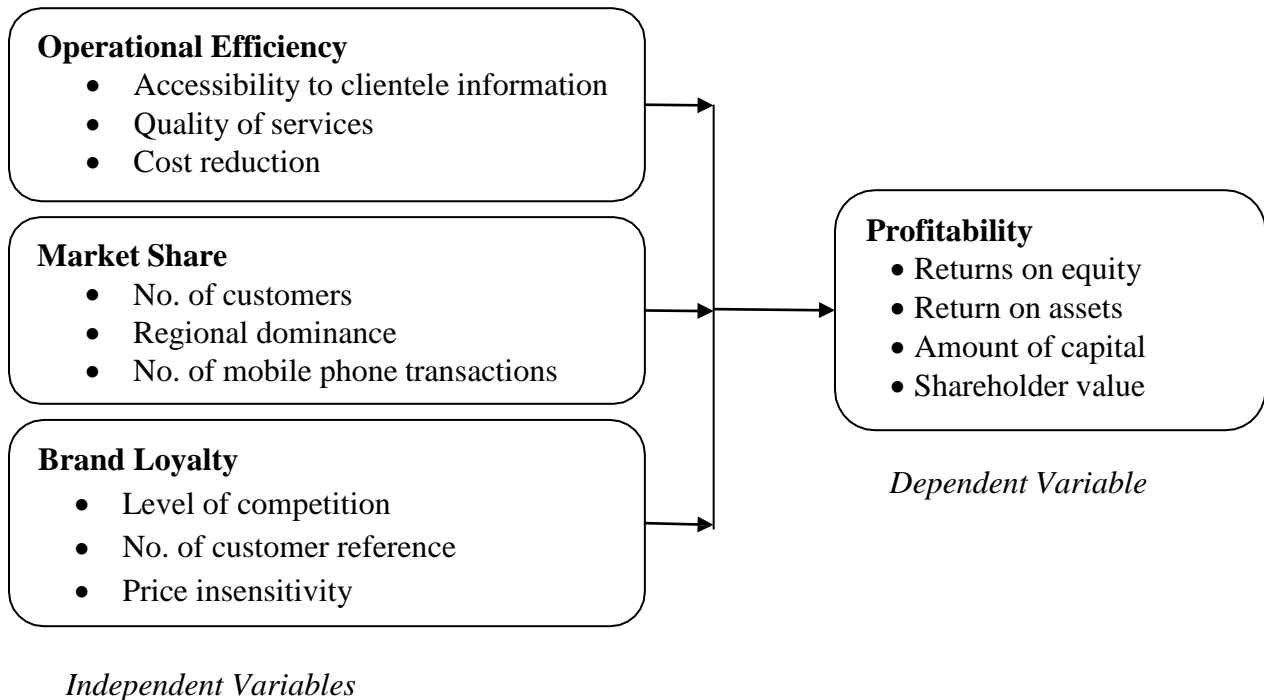
CONCEPTUAL FRAMEWORK

Operational Efficiency
- Accessibility to clientele information
- Quality of services
- Cost reduction

Market Share
- No. of customers
- Regional dominance
- No. of mobile phone transactions

Brand Loyalty
- Level of competition
- No. of customer reference
- Price insensitivity

Profitability
- Returns on equity
- Return on assets
- Amount of capital
- Shareholder value

Dependent Variable

Independent Variables

Figure 1: Conceptual Framework

RESEARCH METHODOLOGY

The study adopted the use of descriptive research design. Descriptive research is a type of research design that is used to explain the happenings within a certain area and it concerns the conducting of studies to collect data that describe the real phenomena of an applied system, an activity or changes affecting an organization. The target population was Equity Bank of Kenya. There are 173 Equity Bank branches in Kenya. The study focused on the 128 head office staff (finance and ICT departments), 170 Equitel staff, and 519 branch management level employees (branch manager, credit manager and operations manager). The total possible population was therefore 817. The sampling frame for this study consisted of all the licensed Equity Bank Branches in Kenya. The sample size of the study was calculated using the Fishers formula.

$$nf = \frac{n}{1 + \frac{n}{N}}$$

Where:

       nf = Sample size (when the population is less than 10,000).

       n = Sample size (when the population is more than 10,000); 384.

       N = Estimate of the population size; 817 Sample size for the respondents.

The desired sample size thus was 261 respondents. The study employed stratified and purposive sampling to select the respondents for the study. The sample population was stratified to the various categories to ensure that each category is represented and then the respondents were selected using purposive sampling procedure to identify the sample units with the information regarding the Equitel model. The main objective of a purposive sample is to produce a sample that can be logically assumed to be representative of the population.

The study collected the information for the study using questionnaires and interview schedules. By using self-administered questionnaires information about the Equitel digital information system and other related data was obtained. The study employed an interview guide as a primary tool of getting information. The interview guide was administered to the Equitel staff since they have more information to give concerning the Equitel Model. The interview schedule was basically a set of open ended questions which were asked to the respondents and feedback given based on their responses to the questions. The data from the interview schedule was transcribed for recording purposes. The study evaluated key points from the discussions in the interviews. A drop and pick later method was utilized to give respondents ample time to fill the questionnaires.

Prior to the actual study, pilot testing was carried out to test the validity and reliability of the research instruments. The questionnaires were validated by discussing it with two randomly selected senior managers of the two banks. Their views was evaluated and incorporated to enhance content and construct validity of the questionnaire. On the other hand, reliability was tested by use of twenty six questionnaires which was piloted with randomly selected bank employees who were not be included in the final study sample. The twenty six questionnaires was coded and input into Statistical Package for Social Sciences (SPSS) version 20 for running the Cronbach reliability test. The reliability of the questionnaire was tested using the Cronbach's alpha correlation coefficient with the aid of Statistical Package for Social Sciences (SPSS) software. The questionnaires were considered reliable if the results of the reliability test have a Cronbach Alpha correlation coefficient of 0.70, anything blow was considered unreliable.

The study analyzed data quantitatively. Descriptive and inferential statistics was employed. Descriptively, data was analyzed using frequencies, percentage and means. Inferentially, data was analyzed using multiple linear regression analysis to test the statistical significance of the

various independent variables. The study adopted the regression model for the inferential analysis of the data.

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \varepsilon$$

Where:

x= Independent variables - X_1 = operational efficiency; X_2 = market share and X_3 = brand loyalty. Y = Dependent variable (Profitability of Equity Bank); β = The unknown parameters; this may be a scalar or a vector. ε = Error of margin.

RESEARCH RESULSTS

The findings of the study are based on 260 responses which represent 99.61% response rate. These included head office staff (finance and ICT departments), Equitel staff and branch management level employees (branch manager, credit manager and operations manager) working in Equity Bank.

The study found that there is a very high level of accessibility to clientele information by bank as compared to paper work and other DIS which are less prompt, the Bank has benefited from mobile banking which has increased its service quality, while digital finance technologies adopted have minimized operational costs hence impacting on overall Banks' profitability. Digital finance technologies have been profitable from the time they were put in place while that Digital finance technology is hardly part of the Bank's books currently. According to these findings digital finance technologies adopted have minimized operational costs hence impacting on overall Banks' profitability. This implies that the digital finance technologies have improved the accessibility of banking services through phone withdraws and sending of money where customer do not have to travel to the bank entity to make any transaction hence the taskforce entrusted with serving the customers on sending and withdraw services has been greatly reduced which has significantly reduced operational cost.

The study results revealed that digital finance technologies adopted by the bank has enabled acquire a considerable number of customers and share, the bank is currently leading in several regions in terms of the number of customers using the bank's mobile transfer platform, while digital finance technologies has enabled offer variety of additional series which have translated to higher profits. The bank is now able to serve customers more quickly and faster due to digital finance technologies while the Bank's increase of market shares is effectively handled by the digital technologies. These findings reveal that digital finance technologies have enabled great number of transactions which have translated to higher profits. This implies the digital finance technologies has been able to provide new products such as instant loan facilities which are reliable at low interest rate hence encouraging customer to borrow constantly therefore increasing the bank returns in term of profits earned from the interest charged.

The study results revealed that digital finance technologies have enabled the bank achieve high competitive advantage of finance, brand loyalty skills and experience in digital finance technologies have enhanced, finally the number of customer referrals have increased since the adoption of mobile banking type of DIS. The Bank is now able to dictate transaction costs in the market due to digital technologies introduction while the bank provides discounts to customers due to cost savings from digital technology adoption. From these results, digital finance technologies have enabled the bank achieve high competitive advantage of finance. This implied that the digital finance technologies has cost advantages that bank may obtain due scale of operation with cost per unit of output generally decreasing with increasing scale as fixed costs incurred during the analogy era of service provision are spread out over more units of output provided by the digital finance technology of mobile banking services.

The study also found that digital finance technologies have enabled the increase of financial returns, the level of shareholder value has greatly improved, there is a high share price. The Bank's capital capacity has expanded and Profitability of the company has greatly increased since introduction of digital finance technologies. The results reveal that there is a very positive level of return on Asset. This implies that in comparison to previous year's introduction of digital finance technologies have increased returns which are reflected in term of net profit. According to study by Hunkar, (2012) on technology adoption by bank impact on profitability agreed with the finding of the study that there is increased return as a result of reduction of operational cost and management cost which is eliminated as a result of introduction of digital finance technologies.

Table 1: Correlations between the Study Variables

Correlations				
		Operational efficiency	**Market shares**	**Brand loyalty**
Operational efficiency	Pearson Correlation	1	-.460[**]	.353[**]
	Sig. (2-tailed)		.000	.000
Market shares	Pearson Correlation	-.460[**]	1	-.468[**]
	Sig. (2-tailed)	.000		.000
Brand loyalty	Pearson Correlation	.353[**]	-.468[**]	1
	Sig. (2-tailed)	.000	.000	
	N	260	260	260
**. Correlation is significant at the 0.01 level (2-tailed).				

Source: Researcher's Survey (2017)

The study findings indicated that there was a significant relationship between Equitel digital information system operational efficiency and profitability (p=0.000); there was a significant relationship between Equitel mode; there was a significant relationship between Equitel digital information system market shares and profitability (p=0.000) and that there was a significant relationship between Equitel digital information system brand loyalty and profitability (p=0.000). This implies that profitability is a factor of Equitel digital information system operational

efficiency, market shares and brand loyalty. This means that for an organization to achieve targeted profits a combination of these factors would be appropriate.

Profits has significantly increased as a result of the combination of this factors as a results of deepening and widening the market reach while at the same time allowing benefits of economies of scale, while reducing sovereign risks and impact of national market shocks. Harmonization of micro economies and policy pursuits within the region have resulted in converging with minimal divergence as reflected by growth rates, interest rates, exchange rates and inflation. This market dynamic has allowed ease of execution of a common Group strategy in a seemingly single market environment.

Table 2: Regression Analysis on Digital Finance Technologies and Profitability

Coefficients[a]						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	.108	.230		.470	.638
	Operational efficiency	.331	.030	.584	11.023	.000
	Market share	.258	.037	.387	7.067	.050
	Brand loyalty	.184	.035	.289	5.247	.012
a. Dependent Variable: Profitability						

Source: Researcher's Survey (2017)

The study results indicated that in the regression model 69.2% of the data was used and the overall model was significant at p=0.000. This shows that the regression model was correctly computed. From the regression model it was deduced that;

Whereby: $F = (4, 259)$ Profitability = 0.108 + 0.584 (Operational efficiency) + 0.387 (Market share) + 0.289 (Brand loyalty) + 0.230 (Standard Error).

The regression equation indicated operational efficiency contributed 58.4% to profitability; market share contributed 38.7% while brand loyalty contributed 28.9% to profitability. The regression model further revealed that there was a significant relationship between operational efficiency and profitability (p=0.000); there was a significant relationship between market share and profitability (p=0.050) and that there was a significant relationship between brand loyalty and profitability (p=0.012).

These findings could be interpreted to mean that the banking industry has benefited from the profound changes in technology adoption, the innovations in technology has enabled bank reduce the cost of management, and exploit opportunities involved in the competitive environment in order to increase profitability. This also implies that the proliferation and penetration of digital finance technologies has opened new horizons and scenarios for the

banking industry. The retail banks are now providing their products and services through the electronic medium banking which has substantial impact on banks' profitability.

The study rejected the null hypothesis with a p value of $(p \leq 0.05)$. The finding from the regression showed that there was a significant relationship between brand loyalty and profitability of Equity Bank. This indicates banks availing the digital finance technologies on mobile phone increased affordability and cut down the cost of operation therefore gaining competitive advantage.

CONCLUSIONS

The study concluded that digital technology reduces the cost of operations as the system perform activities that were done by staff efficiently and effectively through the installed digital finance technologies, the digital finance technology also has minimized the time cost incurred by customers initially when withdrawing and sending money as this functions are performed automatically vial phone when the required.

The study also concluded that digital finance technologies enhance service delivery through easy accessibility of customer financial information and efficient management of the bank financial position information through the mobile technology.

The study also concluded that digital finance technology has been able to reach many customers as a result of it efficiency in financial related service delivery, the digital technology has enabled client to access services from any location via their phone. The study finally concluded that digital finance technologies enhances loan access as the customer does need paper work hence making the financial accessibility easier

RECOMMENDATIONS

The study recommends that bank management should perform through comparison among the digital finance technologies available in order to assess the cost and the end returns. This enables the bank to gain maximum profit from a low cost and efficient digital finance technology. Therefore bank should select skilled ICT personnel with relevant knowledge on digital finance technologies and bestow them with the responsibility of identifying most appropriate digital finance technologies; and the study recommended that maximum resources should be invested in digital finance technologies in order to reap maximum returns. The management of the bank should allocate sufficient funds for maintenance and upgrade of digital finance technologies during the budgeting process.

Moreover the research study recommends that the study also recommended that banks management should control and make use of benchmarks provided to monitor the progress of the digital finance technologies and perform SWOT analysis more regularly in order to improve on the weakness that may exist. Through the progressive monitoring process the management is

able curb future failure in the digital finance technology operational problem; and the study finally recommended that bank management should provide further training and education forum to teach people on how the technology operate in order to equip their customers with skills and knowledge about the digital finance technologies services. The training should be performed by professional individuals with maximum knowledge on the operational efficiency of digital finances technologies.

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