THE RELATIONSHIP BETWEEN MOBILE MONEY TRANSFER AND BUSINESS PERFORMANCE: A CASE OF KENYA POWERS' ADOPTION OF MPESA

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Abstract

Technological advancement has brought about the evolution of mobile money transfer, which has revolutionized the way businesses make payments or receive payments. For any firm to survive in today's business environment and continue being competitive lies on its game strategy of adopting technology to increasing income, reducing cost reduction and gain a competitive advantage. The general objective of the study was to evaluate the relationship between mobile money transfer and performance of Kenya Power Company. The specific objectives of the study was to investigate level of adoption of mobile money transfer in Kenya Power, to establish impact of mobile money transfer in business performance of Kenya Power, and to establish the challenges face by Kenya Power as a result of adopting mobile money transfer. The study used descriptive analytical approach, which reflects the social phenomenon to be studied. The population of the study was employees of Kenya Power, head office. The study considered all the departments since MMT is used in all the departments. Stratified random sampling was used to select 115 respondents. This study was conducted using both primary and secondary data. Primary data was collected through administration of questionnaires. The data collected was analyzed using descriptive statistics with the help of SPSS version 21. The study concluded that at Kenya Power has implemented mobile money transfer technology. The company uses mobile money transfer to pay electricity bill, purchase token, makes payment to suppliers using MPESA, collect revenue from customers and to transact with business partners. The study also concluded that MMT has a positive impact on performance of Kenya Power. Mobile money transfer enable customers to buy token easily, ensures the timely provision of services to customers, and enables clients to get a mini-statement of their transactions with Kenya Power. It has led to economic growth and promoted empowerment of employees. Further, the study concluded that Kenya Power has faced challenges in MMT implementation which include lack of customer trust and limited ability to partner with large corporations. The organization also faces the following challenges ; stringent regulatory requirements with significant compliance burdens the organization, delays in transferring money, shortage of skilled manpower, cultural and psychological resistance from customers, lack of financial and technical capacity, and lack of skills required to make mobile money transfers by customers. From the findings of the study, the researcher recommends that Kenya Power should fully implement mobile money transfer in all the company operations to enhance service delivery and improve performance.

Keywords: *Technology, Mobile money transfer, business performance.*

INTRODUCTION

Advancement in information technology over the past years has changed the way organizations operate and conduct their business (Al-Jabri, 2012). Technological advancement has brought about the evolution of mobile money transfer, which has revolutionized the way businesses make payments or receive payments. For any firm to survive in today's business environment and continue being competitive lies on its game strategy of adopting technology to increasing income, reducing cost reduction and gain a competitive advantage (Thompson and Strickland, 1993). Mobile Money Transfer (MMT) is an innovation to transfer money using the Information and Communications Technology (ICT) infrastructure of the Mobile Network Operators (Mbiti, 2011).

Before the introduction of Mobile Money Transfer Service (MMTS), also referred to as mobile banking, Money Transfer Services (MTS) globally were done formally through means like commercial banks, that have been serving mainly businesses that operate across borders and continents; within and between the developed countries. Electronic transfer of funds through the internet and tools such as credit cards were also used. In Kenya, money transfer services were by entities that fall in three categories: formal providers (that include commercial banks and the Kenya Postal Corporation (POSTA), by semi-formal providers (like, courier and bus companies), and by informal services or means (for instance, by bus conductors and friends). POSTA previously offered Telegraphic money transfer, through money order that could provide same day or overnight delivery (Kabucho, Sander & Mukwana, 2003).

The Kenya vision 2030 proposes intensified application of science, technology, and innovation to raise productivity and efficiency across its three pillars (economic, social and political) on which it is based. Mobile Money Transfer Service (MMTS) is one of the advances in the ICT sector that may improve the efficiency of businesses if properly used. The launch of mobile money transfer service M-Pesa by Safaricom, a Mobile Network Operator in Kenya, in March 2007, quick adoption of the service by many Kenyans through subscription to M-Pesa was noted. The growth of M-Pesa users has been rapid over the years. Within eight months of its launch, M-pesa had 900, 000 subscribers (Omwansa, 2009). Now, subscribers are over 23.1 Million (Safaricom, 2015).

Kenya Power company has adopted different strategies to improve business performance and gain competitive advantage. Mobile money transfer is amongst the operational strategies it has adopted to add value to the services being delivered. Energy is identified in Kenya Vision 2030 as infrastructure enablers of the social economic pillar. Affordable, sustainable, and reliable energy for all citizens is an important factor in realization of the Vision (Ministry of Energy, 2011). To meet the increasing energy demands and government policy of connecting 200,000 households per annum without having to increase fixed cost, the company had to outsource some of its main activities like survey, design, and construction of electricity lines.

Statement of the Problem

Even though Kenya Power still remains a monopoly in distribution of electricity in Kenya, the environment under which it is operating in is rapidly changing forcing the company to adopt the latest technological advancements that is driving the business sector (Lafferty & Roan, 2012). The introduction of the mobile money transfer services has revolutionized the way the financial services industry conducts business, empowering organizations with new business models and new ways to offer 24 hour accessibility to their customers. The real time money transfer over the mobile phones enables individuals in areas with no demand to acquire demand within seconds.

A number of researchers have done studies related mobile money transfer. For example, Kigen (2011) studied the impact of mobile banking on transaction costs of microfinance institutions using a survey of microfinance institutions in Nairobi. He found that mobile banking drastically reduced the transaction costs of microfinance institutions (MFI) thereby increasing the penetration level of the MFIs. Otieno (2008) studied challenges in the implementation of mobile banking information systems in commercial banks in Kenya and established that the key challenges included high levels of online insecurities, fraud and low acceptance by the market. Wilkison and Sundelelowotz (2007) argue that there are direct and indirect links between the exponential growth of mobile telephony and the rate of economic growth in Africa.

Wambari (2009) studied mobile banking in developing countries using a case study on Kenya where he established that m-banking has a positive impact on transfers, payments, deposits and withdrawals in financial transactions of small businesses. None of these studies focused on mobile money transfer payments and impact on business performance. This study sought to fill the gap by evaluating the relationship between mobile money transfer and performance of Kenya Power Company. The study sought to answer the following questions; what extent has mobile money transfer been adopted in Kenya Power? What is the impact of mobile money transfer in business performance of Kenya Power? What are the challenges facing Kenya Power because of adopting mobile money transfer?

Objectives of the study

The objectives of the study will include;

1. Investigate level of adoption of mobile money transfer in Kenya Power

2. Establish impact of mobile money transfer in business performance of Kenya Power

3. Establish the challenges face by Kenya Power as a result of adopting mobile money transfer

Literature Review

Theoretical Review

Systems Theory

Ludwig von Bertalanffy first proposed system Theory in 1945. The theory has been used as an analytical approach to understand how complex physical, biological, economic and social systems operate. According to Lomerson (2007), a system is a set of several independent and regularly interacting or interrelating units or subsystems that work together to accomplish a set of pre-determined objectives. System theory offers a framework for identifying the subject entity, creating a formalized model of the entity and thus aiding the ability to study the entity by which groups of elements and their properties may be studied together in order to understand results.

The basic benefit of the system approach is that it incorporates many concepts of system theory such as inputs, outputs, boundaries, feedback and control, useful in understanding business situations, especially with MMT. Mobile Money Transfer(MMT), being a sub system uses appropriate information practices in order to achieve customer acquisition, customer loyalty, cost savings channel optimization and value capture (Epstein, 2004). The system dependent uncertainty may arise either from the open technological infrastructures or from the transaction specific characteristics of the trading parties (Krauter, 2003). The risks associated with the system-dependent uncertainty enhance the role of trust in the Money transactions carried out in online (virtual) environments. Thus, system theory may be applied to understand Mobile Money Transfer, (Epstein, 2004).

Process Theory

A process theory approach by Markus (2000), is used in this research to understand the importance of the diverse critical success factors for online systems, a projects in this case the Mobile Money Transfer implementations and upgrades. This theory organizes the series of procedures that lead to an online system (Mobile Money Transfer success). The series are chartering, project, shakedown, and onward and upward. The chartering phase focuses on the business case for the Mobile Money Transfer and identifying the solutions constraints. The

Mobile Money Transfer comprises of services propelled by online system configuration and rollout where the system is integrated with other communication tariffs in the business arena. The system performance in terms of onward and upward to enhancement of the Mobile Money Transfer and its relevant business processes to fit the changing business needs.

SERVQUEL Model

Parasuraman et al., (1985), developed Service Quality (Servqual) model. The model was based on the theory relating service quality to the clients' satisfaction. According to Lewis and Booms (1983), it is a measure of how well the service level of an organization matches customers' expectations. The SERVQUAL represents service quality as the discrepancy between a customer's expectations for a service offering and the customer's perceptions of the service received, requiring respondents to answer questions about both their expectations and their perceptions. SERVQUAL helps to identify clearly the impact of quality dimensions on the development of customer perceptions and the resulting customer satisfaction (Parasuraman et al., 1988).

Service quality is the customer's satisfaction or dissatisfaction formed by their experience of purchase and use of the service (Parasuraman et al., 1988). To measure service quality, Parasuraman identified five dimensions of service quality (SERVQUAL) that must be present in any service delivery. SERVQUAL include reliability, responsiveness, assurance, empathy, and tangibility. Reliability refers to the ability to perform the promised services dependably and accurately. Responsiveness is the willingness to help customers and provide prompt service; assurance refers to the knowledge and courtesy of employees as well as their ability to convey trust and confidence; empathy is the provision of caring, individualized attention to customers, and tangibility is the appearance of physical facilities, equipment, personnel, and communication materials (Parasuraman et al., 1988).

Empirical Review

According to Mallat (2007), mobile payments are offered as new payment services to a retail market characterized by a multitude of competing providers such as banks and telecom operators. It is also characterized by diverse and demanding groups of adopters consumers and merchants whose critical mass in terms of adopting the system is essential for the success of the service, challenges regarding regulation and compatibility of different payment systems. Ernst & Young (2010) observed that MMT has various synonyms such as mobile wallet, mobile financial service, and mobile payment and can be defined as services that allow electronic money transactions over a mobile phone and allow applications such as account access, money transfer, and mobile commerce.

Mobile Money Transfer services (MMT), are undergoing rapid adoption in many markets, in response to steady increase in remittances, the worldwide ubiquity of cell phones, and the need for an electronic P2P payment alternate to paper-based mechanisms like cash and checks. More than a billion people worldwide do not have access to traditional financial services, particularly in developing countries, though they have

mobile phones (Pickens, 2009). As of 2009, 68 percent of the world's population had mobile subscriptions (ITU, 2009). MMT functions in a very easy and simple method. MMT services enable customers to use their phone like a bank account and a debit card. The customer's credit their accounts at a local authorized agent and can then transfer the money to another person's phone or use for other transactions such as making loan repayment, paying bills, or redeeming it as cash.

MMT is at an early stage of development in Kenya but leading in the world. It is designed to bring the economic advantages of having a savings and money transfer facility to those with small, irregular or cyclical incomes (Pulver, 2009). M-Pesa application is installed on the SIM cards of customers and works on all handset brands. It is free to register and the user does not need to have a bank account. Safaricom receives fees for withdrawals and transfers. The transfer facility was quickly adapted up for use as an informal savings account system and electronic payment mechanism for bills, goods, and services. Kenya is at the forefront of the mobile money revolution with M-Pesa, the number of agents in the country increased by 40 percent in 2013. It is estimated that 24.8 million subscribers use mobile money services, like M-Pesa, in Kenya (Communication Commission of Kenya, 2013).

Jensen (2007) and Aker (2010) established that the introduction of mobile phones reduced price

distribution in fish markets in India and grain markets in Niger respectively. In these instances the mobile phone technology has increased information flows, which has resulted in price reductions. In contrast, the development and introduction of M-pesa in Kenya can be viewed as a disruptive technology (Bower and Christensen, 1995) or a "creative destruction" (Aghion and Howitt, 1992), where M-Pesa revolutionized the money transfer industry. M-Pesa became the leading money transfer instrument within 2 years of its inception. The dominance of M-pesa can also be observed in the financial statements of the competitors. Gikunju (2009) examines the financial statements of the Postal Corporation of Kenya and establishes that revenues and profits for its PostaPay money transfer service declined rapidly after the introduction of M-Pesa and suggests that Western Union's and Money Gram's profits have also declined over the same period.

Mobile money transfer services involves a complex ecosystem of governments, nongovernment organizations, regulators, banks, and service providers, with many interests, strategies, and business models. What remains as one of biggest challenges for implementers of MMT is the complex grouping of significant up-front investment. It include marketing; building a well distributed and large enough network of agents with the needed cash liquidity; and operational prowess to quickly scale such initiatives to be large enough to take advantage of positive network effects to continue to grow to profitability.

According to Zutt (2010), mobile money has achieved penetration across all age groups which is a phenomenal achievement of new technology unlike others which often focuses on a certain age group. Despite this, older customers are more likely to use the service only to receive money. The usage is highest in subscribers between the ages of 25 to 29 and reduces thereafter. But even amongst the oldest Kenyan (above 65 years), half use mobile money. In addition, women are less likely than men to use mobile money, and are more likely to only receive and not send funds, a finding by Zutt (2010). He further posited that in 2009, mobile money was initially concentrated among the wealthy in Kenya but has since grown rapidly to include the poor. Other demographic information related to mobile money usage indicates that it is highest among urban Kenyans, but with substantial penetration among rural residents. From August 2009, 47% of rural Kenyan adults and 69% of urban Kenyan adults had used mobile money (Zutt, 2010).

Morawczynski, (2009), did a study on the adoption, usage and outcomes of mobile money services using the case of M-PESA in Kenya. He noted that since being launched in 2007, the service has seen phenomenal

growth in Kenya. Over 7.5 million users, or 34% of the adult population, have registered with M-PESA. The analysis was presented from two perspectives. First, the socio-technical systems framework was used to present M-PESA as a complex system rather than an isolated application. This perspective made it clear that M-PESA grew rapidly because it had a dedicated team of system builders. These individuals took numerous strategies to enroll the elements and maintain the stability of the entire system. They further worked to engineer the social, economic, legal and political environments of the technology. The analysis showed that a whole industry for mobile money developed as a result of M-PESA's success.

Jensen (2007) and Aker (2010) find that the introduction of mobile phones reduced price dispersion in fish markets in India and grain markets in Niger respectively. In these instances the mobile phone technology has increased information flows, which has resulted in price reductions. In contrast, the development and introduction of M-pesa in Kenya can be viewed as a "disruptive technology" (Bower and Christensen, 1995) or an example of "creative destruction" (Aghion and Howitt, 1992), where M-Pesa revolutionized the money transfer industry. M-Pesa became the dominant money transfer mechanism within 2 years of its inception

Kakooza, (2008) argues that technology is not a major barrier for mobile money services, the applications and platforms need to be both Telco-grade in terms of uptime and responsiveness, and bank-grade in terms of accuracy, security, and audit ability. This is evidence when one is paying a bill, either water bill or electricity bill, it so convenient that you just pay like you are making a phone call. The challenge is that payments made today will not have been knocked off three weeks later from your account so the next invoice will include what was paid and the subsequent bill making matters worse. Until this is synchronized, customers will continue lining up in the banks now that most cash offices have been closed.

Conceptual Framework

Independent Variable   **Dependent Variable**
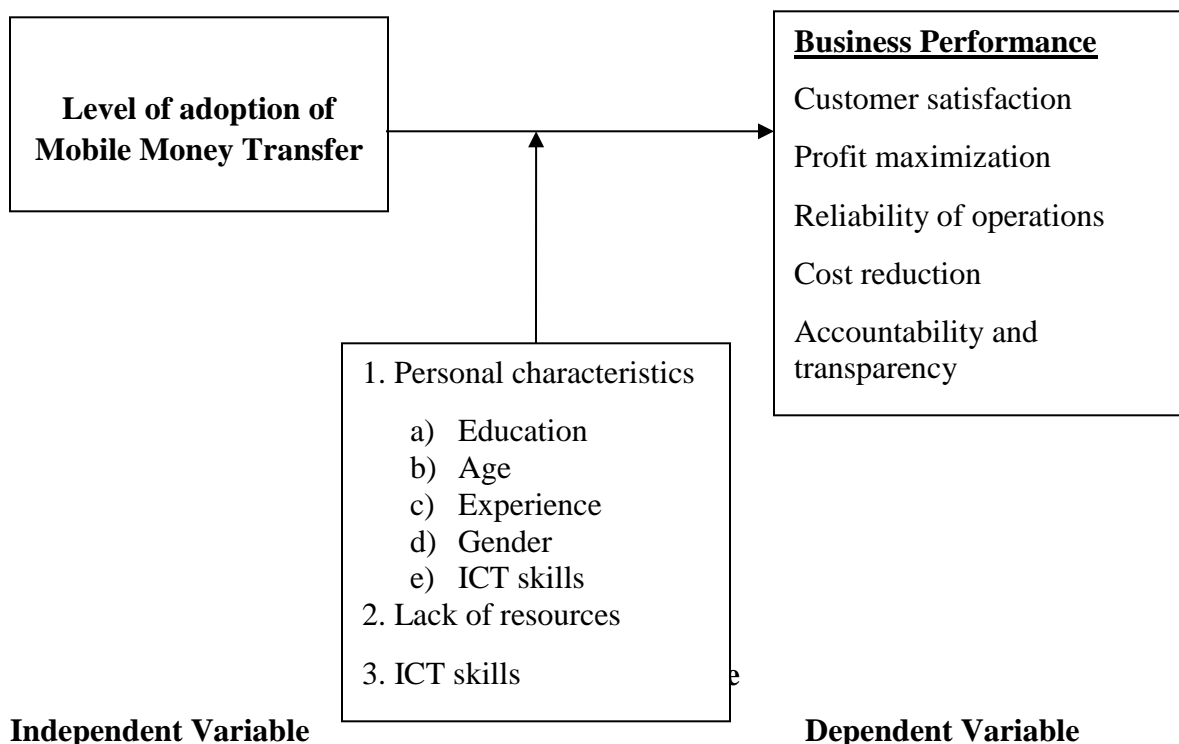
(Source: Researcher, 2017)

Research Methodology

The study used descriptive analytical approach, which reflects the social phenomenon to be studied. According to Mugenda and Mugenda (2003), descriptive survey is used to obtain information concerning the status of the phenomena to describe what exists with respect to variables in a situation, by asking individuals about their perceptions, attitudes, behavior, or values.

The population of the study was employees of Kenya Power, head office. The study considered all the departments since MMT is used in all the departments.

Stratified random sampling was used to select employees of KP. The researcher used sample size determination table for continuous data with margin error of 0.03 developed by Bartlett, Kotrlik, & Higgins to determine the sample size. From the table, 115 respondents was selected. There are approximately 2400 employed by KP. This study was conducted using both primary and secondary data. Primary data was collected through administration of questionnaires. Questionnaires were used to obtain important information about the population. The questionnaires was divided into four parts. Part A focused on the demographic data of the respondents, Part B contained questions on the extent to which KP has adopted MMT, and Part C sought data on the impact of MMT on business performance, while Part D contained questions on the challenges experienced by KP in the implementation of MMT. The questionnaires were administered by drop and pick method.

The data collected was analyzed using descriptive statistics with the help of SPSS version 21. The researcher used percentages, frequencies, and inferential analysis to establish the relationship between performance and Mobile money transfer. Data collected was presented using tables.

Findings

The respondents strongly agreed that Mobile money transfer is used to pay electricity bill (mean of 4.83) and Mobile money transfer is used to purchase token (mean of 4.72). They agreed that Kenya Power makes payment to suppliers using MPESA (mean of 3.83), Kenya Power collects revenue from customers using Mobile money transfer (mean of 3.80) and that business partners transacts using Mobile money transfer (mean of 3.75). However, the respondents were undecided on shareholders being paid dividends using Mobile money transfer (mean of 3.12).

The respondents strongly agreed that Mobile money transfer enable customers to buy token easily (mean of 4.82), MMT ensures the timely provision of services to customers (mean of 4.69), and that Mobile money transfer enables clients to get a mini-statement of their transactions with Kenya Power (mean of 4.66). The respondents agreed that MMT has led to economic growth (mean of 4.33) and promote empowerment of employees (mean of 4.28). the respondents were undecided on whether it has led to increase of visibility of all financial activities related to procurement of goods and services (mean of 3.09), provides quicker reference and audit trail (mean of 2.95), and that Mobile Money Transfer reduce cartels, collusion, and rigging (mean of 2.89). They disagreed that Mobile banking reduces corruption and fraud (mean of 2.31).

The respondents were asked to indicate the level they agree to the challenges facing MMT implementation at Kenya Power. They strongly agreed that lack of customer trust and limited ability to partner with large corporations were the main challenge with a mean of 4.32. The respondents also agreed that the organization faces the following challenges stringent regulatory requirements with significant compliance burdens the organization (mean of 4.10), delays in transferring money (mean of 4.08), shortage of skilled manpower (mean of 3.89), cultural and psychological resistance from customers (3.74), lack of financial and technical capacity

(3.65), and lack of skills required to make mobile money transfers by customers (3.59). The respondents were undecided on whether long identification procedure and high cost of transactions challenges face MMT implementation at Kenya Power with a mean of 3.26 and 3.12 respectively.

Test of assumptions of regression Analysis

Regression analysis can only be performed once the assumptions of normality, linearity, independence, and multicollinearity are not violated. Several tests were conducted as shown in the following subsections.

Normality: A normality test was conducted to determine whether the sample data follows a normal distribution. A normal probability plot was constructed and the Kolmogorov-Smirnov (K-S) test conducted. The Normal P-P Plot of Regression Standardized Residual shows a plot of expected normal value against the actual (observed) normal value. A normally distributed data will be shown when actual values line up along the diagonal line joining the lower left to the upper right. On the other hand, the K-S test has a null hypothesis that data follows a normal distribution and an alternate hypothesis that data does not follow a normal distribution. Null hypothesis will be rejected if p-value < 0.05. Normality holds if we fail to reject null hypothesis (Motulsky, 2010).

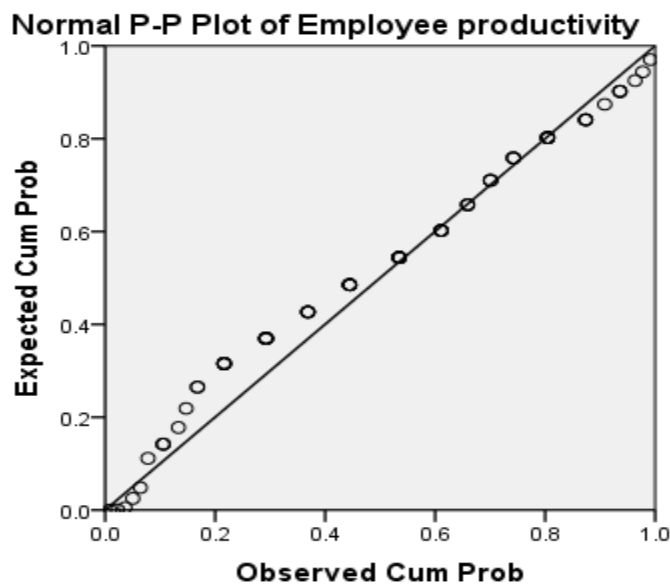**Figure 4.1 Normal P-P Plot of Regression Standardized Residual**


Table 4.1 One-Sample Kolmogorov-Smirnov Test

Career growth		
N		72
Normal Parameters	Mean	3.2650
	Std. Deviation	.59302
Most Extreme Differences	Absolute	.074
	Positive	.052

	Negative	-.074
Test Statistic		.074
Asymp. Sig. (2-tailed)		.200

From table 4.1, p-value > 0.05 hence we fail to reject null hypothesis and we concluded that the data follows a normal distribution. Furthermore, the normal P-P plot reveals that actual values fits perfectly on the diagonal line confirming the assumption that the data has a normal distribution.

Linearity: The study tested the existence of a linear relationship between the dependent variable (employee productivity) and each of the independent variables (job design, workplace environment, career growth and employee remuneration). Scatter plots were used in examining these relationships and the results displayed in Figures 4.2 below. The associated linear equation generated is presented.

Figure 4.2 Scatterplot
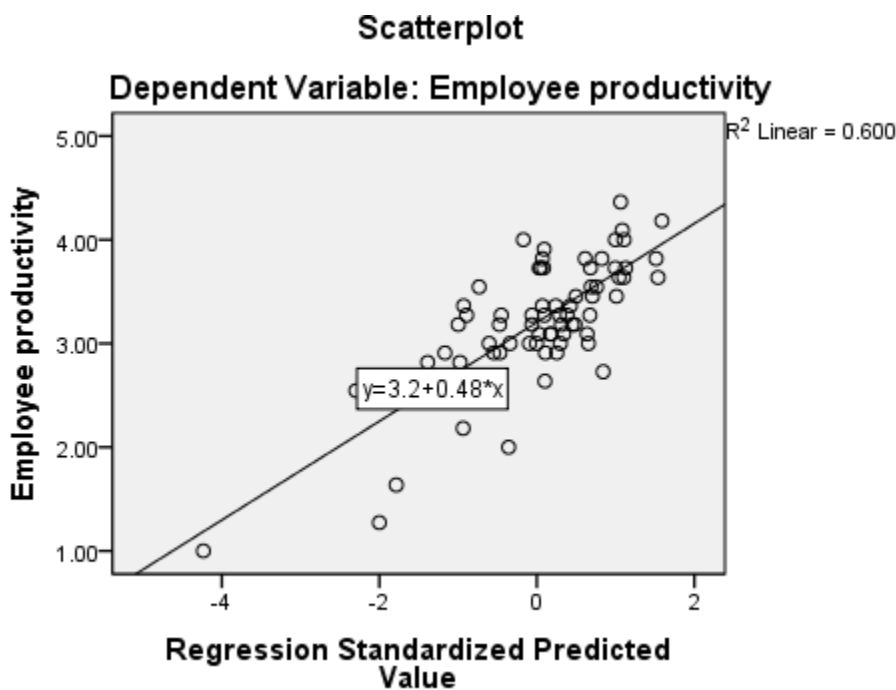
The associated linear equation is given below:

y = 3.2 + 0.48x

The coefficient of determination R^2= 0.600, shows the linear model provides a relatively good fit. Moreover, a straight line in the plot above comfortably fits through the data; hence a linear relationship exists. The study established that the data set does not violate the assumption of linearity and proceeded with linear regression analysis.

Regression

Regression analysis was done to predict the business performance based on customer satisfaction, profit maximization, reliability of operations, and cost reduction.

Table 4.2 Regression coefficients

Model	Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1 (Constant)	2.729	.646		4.224	.000	1.433	4.025
Customer satisfaction	.468	.329	.468	1.421	.161	-.192	1.128
Profit maximization	.363	.286	.364	1.268	.210	-.211	.937
Cost reduction	.088	.285	-.096	-.309	.758	-.661	.484
Reliability of operations	-.104	.308	-.103	-.336	.738	-.722	.515

Source: (SPSS Output, 2017)

$Y = 2.729 + 0.468X_1 + 0.363X_2 + 0.088X_3 - 0.104X_4 + \varepsilon$

Where Y is the business performance, and ε is the error term of the model.

X_1 = Customer satisfaction

X_2 = Profit maximization

X_3 = Cost reduction

X_4 = Reliability of operations

Positive effects were reported on customer satisfaction, profit maximization, and cost reduction.

Negative effect was reported on reliability of operations.

ANOVA test was carried out to establish the relationship between mobile money transfer and performance of Kenya Power Company at 95% confident level. The results are indicated in Table 4.3;

Table 4.3 Anova

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	12.028	7	1.718	6.256	.013
Residual	26.009	8	3.251		
Total	38.037	15			

Source: SPSS Output, 2017)

Analysis of Variance (ANOVA) consists of calculations that provide information about levels of variability within a regression model and form a basis for tests of significance. Significance exist between the response and predictor variables if P-value < 0.05. As shown in table 4.3, P-Value = 0.013 < 0.05 hence we reject null hypothesis and we have sufficient evidence to conclude that there is a significant linear relationship between mobile money transfer and performance of Kenya Power Company.

Conclusion

The study concluded that there is a significant linear relationship between mobile money transfer and performance of Kenya Power Company. Kenya Power has implemented mobile money transfer technology. The company uses mobile money transfer to pay electricity bill, purchase token, makes payment to suppliers using MPESA, collect revenue from customers and to transact with business partners

The study also concluded that MMT has a positive impact on performance of Kenya Power. Mobile money transfer enable customers to buy token easily, ensures the timely provision of services to customers, and enables clients to get a mini-statement of their transactions with Kenya Power. It has led to economic growth and promoted empowerment of employees

Further, the study concluded that Kenya Power has faced challenges in MMT implementation which include lack of customer trust and limited ability to partner with large corporations. The organization also faces the following challenges ; stringent regulatory requirements with significant compliance burdens the organization, delays in transferring money, shortage of skilled manpower, cultural and psychological resistance from customers, lack of financial and technical capacity, and lack of skills required to make mobile money transfers by customers.

Recommendations

From the findings of the study, the researcher recommends that Kenya Power should fully implement mobile money transfer in all the company operations to enhance service delivery and improve performance.

The study also recommends that regulators should lessen restrictions in adopting mobile money transfer to allow companies adopt new innovations such as MMT. The regulators should also have in place security policies to protect the users of mobile money transfer technologies.

Suggestions for further Studies

The study recommends further study on effects of mobile money transfer on performance of Kenya Power using secondary data to accurately predict the relationship among the variables.

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