

EFFECT OF ELECTRONIC BILLING SERVICE ON CUSTOMER SATISFACTION AT KENYA POWER COMPANY

A CASE OF NAKURU COUNTY, KENYA

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Abstract

The Kenya Power Company has embarked on an ambitious undertaking of electronic billing to replace postal mailing of bills. In this regard, it was important to examine the influence of e-billing service and customer satisfaction in order to establish whether benefits accruing from the service are merely limited to Kenya Power Company or transcend to the firm's customers. The study specifically assessed the effect of timeliness and ease of use of electronic billing service on customer satisfaction. The study adopted descriptive survey research design. The target population constituted 104 employees. A sample of 70 respondents was obtained using stratified random sampling method. The study used a structured questionnaire to collect data. The questionnaire was pilot tested before it was used to collect data for the ultimate study. Data analysis was facilitated by the use of Statistical Package for Social Sciences software. Data were analyzed using both descriptive and inferential statistics. Timeliness and ease of use were found to be positively related to customer satisfaction. Ease of use had the greatest effect on customer satisfaction. It was recommended that timeliness should be upheld, and that the e-billing system should be easy to use.

Keywords: Customer satisfaction, ease of use, electronic billing, Kenya Power Company, timeliness

INTRODUCTION

Globalization and technology advancements are potentially confronting the way business is conducted. The fierce competition coupled with customer demands has driven the adoption of technology in nearly all industries. Today, the internet persists as a critical channel for selling virtually all goods and services (Parasuraman, 2005). The dynamic changes in the field of information technology and communication has created an array of new business opportunities than challenges. It is worth noting that one of the opportunities is electronic billing and electronic payment (Johnson, 2009). The two are parts of electronic commerce. Whaling (2000) observes that e-billing is an electronic delivery and presentation of financial statements and bills, invoices and any other related information that focuses on business to consumer billing and payment. It can also be seen as the sending of bills and invoices by use of electronic mail or short text messages through mobile phones and payment of bills by e-mail or mobile text messages. E-billing has been widely used in many industries ranging from financial service providers to telecommunication companies and utilities (Kerr, 2000).

It is asserted that e-billing enables suppliers to not only generate but also to submit electronic bills rather than use the brick and mortar bills. Customers can electronically view their bills as well as advance payments (Bart, 2001). PayAnyBill (2000) identifies two types of e-billing that is Electronic Invoice Presentment (EIP) and Electronic Bill Presentation and Payment (EBPP). EIP allows customers to view their bills online or but payments are effected in the traditional manner using paper bill payments. EBPP enables retail customers and corporate accounts accessing multiple lines of service to understand and keep track of their current and past charges. Consumers are e-mailed the link to locate the resource or are sent a short text message on procedures to follow.

It is claimed that identifying customer satisfaction is crucial for customers, firms and governments. Almassawi (2012) argues that satisfaction is subjective and therefore it is inappropriate to treat it as a single-stimulus factor but should be treated as a multi-stimulus factor. Customer satisfaction has been a subject of study especially by marketing scholars (Eshghi, Kumar & Gangui, 2008). According to Kotler and Keller (2009), satisfaction relate to the feeling of pleasure or disappointment resulting from comparing a products perceived performance in relation to expectations. Hansemark and Albinsson (2004) view customers' satisfaction as the feeling or attitude of customers towards a product or service upon its consumption. Banker, Potter and Srinivasan (2000) argued that when performance matches or exceeds expectations, the customers become satisfied. Almassawi (2012) noted that such factors as payments and savings were the most significant factors that determined customer satisfaction and retention in mobile telecom industry in Bahrain.

The Kenya Power Company previously called Kenya Power and Lighting Company (KPLC) is a limited liability company that transmits, distributes and retails electricity to customers throughout the country. The company manages electric metering, licensing, billing, emergency electricity service and customer relations (Makowenga, 2013). According to Kenya power (2009), the demand for electricity has grown at an annual average rate of 5.3% from 2008 to 2013 and is expected to accelerate to over 10 % yearly as a result of the implementation of the Vision 2030 projects. KPLC strategic plan 2009/10 to 2013/14 comprises of operational objectives that help the company realize its strategic plan. Supply quality improvement was one of the major objectives which impacts largely on customer satisfaction, enhanced sales and revenue and improved operational cost saving and operational performance.

The increased demand for electricity has necessitated the company to put in place strategies such as outsourcing of some of its activities in order to realize the connectivity targets (KPLC, 2012). Some of the outsourced strategies include construction and maintenance of power lines to contractors and way leaves acquisition. As a result of the poor customer service at the company, the power company took strong initiative to automate most of its business processes in order to effectively and efficiently delivery electricity services to the consumers and remain competitive in the country (Atebe, 2001). With the roll out of data network and wide area network coupled with such products as e-bill and easy-pay, consumers are able to access the KPLC network and perform transactions such as billing queries, payments, customer applications for new supply connections and customer service. As a result of electronic billing program, enhancement of bill payment and reduction in the queues in banking halls, cost savings of postage and envelopes have been realized (Johnson, 2009).

Statement of the Problem

Hitherto, there have been concerns of escalated costs incurred by the Kenya Power company when processing monthly bills for millions of its customers. These include printing costs and mailing costs which according to the firm have been in the tune of Kshs 1 billion every year. On the part of customers, only few own postal addresses while majority have to rely on friends and affiliate institutions such as schools to access the bills. The satisfaction rate has therefore been low relative to the billing process. To counter the foregoing particularly the costs involved, the Kenya Power company embarked on an ambitious undertaking of electronic billing to replace postal mailing of bills. Yet, it remained unclear regarding the customer satisfaction levels relative to the e-billing service provided by the Kenya Power company. Therefore, it was important to examine the influence of e-billing service on customer satisfaction in order to establish whether

benefits accruing from the service are merely limited to Kenya Power Company or transcend to the firm's customers.

General Objective

To assess the effect of electronic billing service on customer satisfaction at Kenya Power Company in Nakuru County

Specific Objectives

- i. To analyze the effect of timeliness of electronic billing service on customer satisfaction at Kenya Power Company in Nakuru County.
- ii. To determine the effect of ease of use of electronic billing service on customer satisfaction at Kenya Power Company in Nakuru County.

Research Hypotheses

H₀₁: There is no significant relationship between timeliness of electronic billing service and customer satisfaction at Kenya Power Company in Nakuru County.

H₀₂: There is no significant relationship between ease of use of electronic billing service and customer satisfaction at Kenya Power Company in Nakuru County.

THEORETICAL FRAMEWORK

This section focuses on theories and models relative to electronic billing service and customer satisfaction. The technology acceptance model (TAM) and assimilation theory are reviewed.

Technology Acceptance Model

The Technology Acceptance Model (TAM) was developed by Davies (1989). TAM states that perceived ease of use (PEOU) and perceived usefulness (PU) are the two most important factors in explaining individual user's adoption intentions and actual usage. Davis defines PU as the degree to which a person believes that using a particular system will enhance his or her job performance. It is further stated that whereas, PEOU refers to the degree to which the person believes that using the system will be free from effort. According to Masinge (2010), TAM has been extensively tested and validated and is a widely accepted model, which can be modified or extended using other theories or constructs.

The TAM can be used in the context of electronic billing service and customer satisfaction. This is because electronic mobile service requires a technological platform including mobile phone and internet for it to be feasible. Therefore, there is the crucial aspect of

ease of use of the technology in order for electronic billing service to be embraced by customers at Kenya Power Company. In the event the technology is perceived to be complex to be used, then the service would not be embraced since the customers are likely not to find any satisfaction from it.

Assimilation Theory

Assimilation theory is based on Festinger's (1957) dissonance theory. Dissonance theory posits that consumers make some kind of cognitive comparison between expectations about the product and the perceived product performance (Peyton, et al., 2003). This view of the consumer post-usage evaluation was introduced into the satisfaction literature in the form of assimilation theory. According to Anderson (1973), consumers seek to avoid dissonance by adjusting perceptions about a given product to bring it more in line with expectations. Consumers can also reduce the tension resulting from a discrepancy between expectations and product performance either by distorting expectations so that they coincide with perceived product performance or by raising the level of satisfaction by minimizing the relative importance of the disconfirmation experienced.

However, the theory has been criticized by various scholars. Payton et al (2003) argues that the approaches adopted by the theory assumes that there is a relationship between expectation and satisfaction but does not specify how disconfirmation of an expectation leads to either satisfaction or dissatisfaction. Second, the theory also assumes that consumers are motivated enough to adjust either their expectations or their perceptions about the performance of the product. A number of researchers have found that controlling for actual product performance can lead to a positive relationship between expectation and satisfaction. Therefore, it would appear that dissatisfaction could never occur unless the evaluative processes were to begin with negative consumer expectations.

EMPIRICAL REVIEW

In this section, a review of empirical studies hitherto conducted in respect of electronic billing service and customer satisfaction is covered. Specifically, the review focuses on empirical studies relevant to timeliness, ease of use, and satisfaction derived from electronic billing service.

Timeliness of Electronic Billing Service

Timeliness involves the readiness of employees or organizations to provide services in a prompt manner as and when needed, for instance, mailing bills, calling customers immediately among

others (Zhao & Saha, 2005). Yang and Fang (2004) conducted a study on the relationship between online service quality dimension and customers satisfaction. The study focused on online securities brokerage services. The results of the content analysis of 740 customer reviews indicated that timeliness in terms of stock quote update and account update was a major factor in customer evaluation of service quality which determined their satisfaction. Zhao and Saha (2005) noted that timeliness or responsiveness was crucial in the service quality in internet banking and largely influenced customer satisfaction in Lulea, Sweden.

In yet another study, Dai, Haried and Salam (2011) looked into antecedents of online service quality commitment and loyalty. The study aimed at examining the role service quality dimensions play in developing service enjoyment, commitment and loyalty in internet mediated environment. The analyses of the 772 US consumers indicated that service content quality and service delivery quality were crucial factors that affected consumers' service enjoyment. In particular, timeliness of the service was found to have a significant effect on online service delivery quality and satisfaction of customers. Jun and Cai (2001) echoed the above findings when they found that access and timeliness of internet banking services in terms of responsiveness and reliability influenced the quality of bank services.

An investigative study on electronic service quality was conducted in South Africa (Beneke, Acton, Richardson & White, 2011). The study focused on the key dimensions and the discriminatory power in the residential property sector. In the study, it was ascertained that, in an e-service environment, there is an intrinsic lack of real time interaction and as such there would be likelihood that purchasers would be discouraged in using online services. It was further noted that timeliness in respect to timely responses and communication between customer and company in an online sphere was fundamental for the effectiveness of electronic service use by property buyers.

In a study conducted on the internet banking service quality in Johannesburg, it was noted that timeliness security, information accessibility were important tenets for an online system quality (Molapo, 2008). In the study, since online system services do not involve face to face interaction, it was emphasized that courtesy and timeliness of the flow of information between the customers and the involved companies be maintained in order to enhance the relationship between the parties and ensure effective and efficient purchase and delivery of services.

In Kenya, a study was conducted on the technological innovation and customer satisfaction at Kenya power and lighting company (Kiarie, 2014). The study purposed to determine whether the technological innovation introduced at the company had any effect in customer satisfaction. It was noted that the technological innovation introduced included query

bill, online pay bill request, online pay bill, online tracking service among others. In the study it was also noted that the services for receiving short text messages for billing was timely. However, the electronic billing service was perceived expensive as it was not accessible for non-internet users. For the corporate customers who had access to the internet, electronic billing was an effective way to effect payments and resulted in customer satisfaction.

Ease of Use of Electronic Billing Service

In Jordan, Sattam (2013) carried out a study on factors that affect the use of e-services from user perspectives. The study focused on the major factors that affected utilization and satisfaction of users of electronic services offered by Al-Balqa University. The study was a survey and involved a total of 610 participants. Data was collected using a questionnaire. According to the study's findings, reliability, responsiveness, information quality, security, and usability affected user's satisfaction and intention towards the e-services. The study recommended that universities' management ought to be alive to the realization that any bad experience with website design, navigation, and functionality could affect satisfaction and perception towards the electronic services offered.

More recently, an empirical study was conducted by Yusup, Hardiyana, and Sidharta (2015). The study revolved around user acceptance model on e-billing adoption whereby the point of interest was tax payment by government agencies. As such, the study aimed to determine the user's perception of e-billing in paying taxes. The study focused on 17 firms in the textile and garment sector in Bandung, West Java, Indonesia. The results of the study indicated that there existed a significant effect of perceived ease of use on the attitude and the intention to use the e-billing service. The study, therefore, inferred that indeed e-billing based services are likely to be one way of enhancing services rendered by government agencies in facilitating the payment of taxes.

Regionally, Dlodlo (2015) embarked on a study regarding the use of m-payment services in South Africa. The author employed a value-based perceptions approach. The study acknowledged that albeit the efforts of many enterprises in making extensive investments in resources in order to improve service experience, long-term post-adoption of mobile payment services by consumers has hitherto remained elusive. In light of the foregoing, Dlodlo's study examined consumers' perceptions of mobile payment value and the corresponding influence on e-service trust, user satisfaction and continuance intention to use m-payment platforms. The study employed quantitative survey approach where data were collected from a representative sample of 269 m-payment users in South Africa. The study established that there existed a

positive and significant relationships between value, trust, satisfaction and continuance intentions.

Previously, Naidoo (2007) carried out an empirical study on consumer adoption of an aggregated electronic bill presentment and payment (EBPP) solution in South Africa. The study adopted the technology acceptance model (TAM). The study aimed to identify the major factors that influence the acceptance of an aggregated EBPP solution in the country. One of the specific objectives revolved around perceived usefulness. The study adopted online survey design to collect data from a sample of 81 respondents. The collected data was analyzed using linear regression. The study revealed that TAM was highly significant explanatory power in influencing adoption of EBPP. In tandem with the study findings, it was indicated that consumers who value the aspect of 'time savings' were likely to be the early adopters of EBPP. Concern for privacy and the perceived advantage to hitherto methods of paying bills online were eminent. However, a majority (96.3%) of the respondents indicated willingness to adopt EBPP with 58% indicating regular levels of usage.

An empirical study was conducted by (Mbogo, 2010) on the impact of mobile payments on the success and growth of micro-business whereby the point of focus was M-Pesa in Kenya. The study adopted a survey research design and employed questionnaires to collect data from the sampled respondents. The study employed the theory of TAM. After analyzing the data collected, it was revealed that the convenience of the money transfer technology in addition to accessibility, cost, and support related to the behavioral intention to use and actual usage of the mobile payment services. The study concurred with earlier observation that ease of use has a direct effect on perceived usefulness and the two are likely to determine the user's attitude towards use that is behavioral (Viehland & Leong, 2007).

Satisfaction of Electronic Billing Service

In Pakistan, Zafar, Zaheer, Rahman and Rehman (2011) examined the impact of online service quality on customer satisfaction. The authors focused on the banking sector. Their study came up with and tested a model for customer satisfaction based on service quality in electronic banking. The study employed a structured questionnaire to collect data from sampled e-banking customers of private sector banks in the country. The findings of the study revealed that service quality dimensions had a significant impact on customer satisfaction in e-banking. It was recommended that the firms ought to enhance web service quality in order to achieve customer satisfaction.

In addition, an empirical investigation of customer satisfaction with technology mediated service encounters in the context on online shopping was undertaken by Lee and Joshi (2007).

The study relied on suggestions fronted by Meuter, Ostrom, Roundtree and Bitner (2000) and the factors proposed by Jarvenpaa and Todd (1997). An empirical analysis of the data collected established relative importance of different factors in online service encounters for customer satisfaction. The factors that occasioned customer satisfaction included delivery performance, time saved, website functional properties, internet familiarity and price saved.

Chinomona and Sandada (2014) studied customers' perceptions on ESKOM's pre-paid billing system and the effects on their satisfaction and trust. The study used a sample of 151 respondents from whom it collected data. The study acknowledged that there have been scanty studies particularly in developing countries of Southern Africa focusing on the role of electricity pre-paid system performance on customer satisfaction and trust. According to the results of the study, the performance of ESKOM prepaid billing system positively influenced the customers' satisfaction and trust significantly.

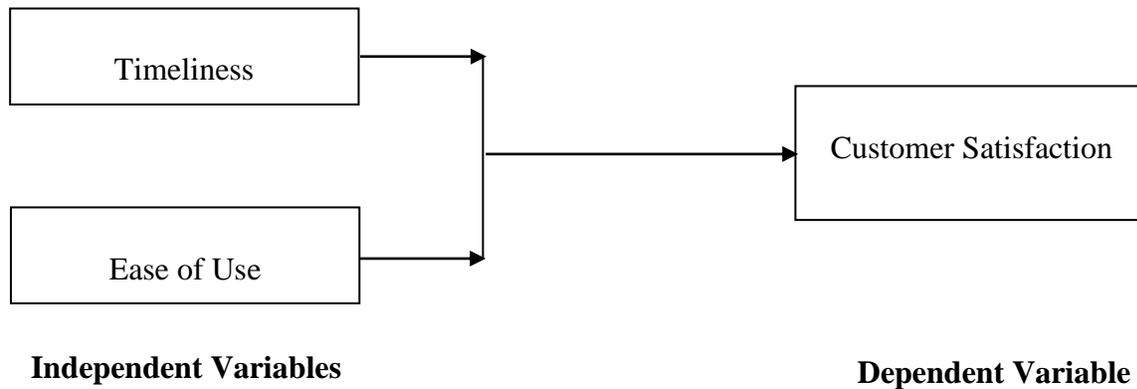
Furthermore, Onyedimekwu and Oruan (2013) empirically evaluated customers' use of electronic banking systems in Nigeria. The authors asserted that e-banking systems encapsulate internet banking, personal data assistants (PDAs), mobile banking, automated teller machines (ATMs) amongst others. The study focused on empirically evaluating customers' use of electronic banking systems. A total of 240 questionnaires were employed to collect data across Omoku town and Rivers state in Nigeria. The study noted that most of bank customers were not satisfied with ATM service quality particularly in terms how banks handle their customer complaints.

In Kenya, Marete, Gommans and Gongera (2014) evaluated e-banking services and their influence on customer satisfaction. The study was delimited to National Bank of Kenya. The study employed a descriptive research design. Both primary and secondary data were used. According to the study findings, it was found that more customers were satisfied with most dimensions of e-banking service. Precisely, assurance was found to be the highest priority of the customers in engaging in online transactions of e-banking. In addition, the study established that collectively, e-banking factors predicted overall customer satisfaction.

A study by Wasua and Wanyoike (2015) examined the effect of smart technology on performance of energy sector in Kenya. The study targeted 132 management staff entrusted with handling smart technology in the energy sector. The study noted that SCADA (Supervisory Control and Data Acquisition) enables firms to manage power outage and as such maintain continuous intake of power supply. This leads to increased billing, improved revenues and customer satisfaction. The study concurred with Fiserv's (2012) earlier observation that mobile technology gives billers the ability to offer customers multiple mobile interactions and as such enhance customer satisfaction.

Conceptual Framework

Figure 1: Conceptual Framework



In the framework, it is indicated that there are two sets of study variables which are independent and dependent variables. Independent variables are two and include timeliness and ease of use of electronic billing services. On the other hand, customer satisfaction is the dependent variable. It is hypothesized that there exist relationships between each of the independent variables and customer satisfaction and that relationship is influenced by internet and mobile services providers.

METHODOLOGY

Research Design

The study adopted descriptive survey research design. This is in line with Kothari's (2008) assertion that descriptive studies examine respondents' opinions regarding certain phenomena under study. In addition, the study was a survey in that not only was it carried out at a particular point in time but it also involved respondents drawn from various branches of Kenya Power Company. Descriptive research was also preferred in that it allowed the researcher to examine issues as they were without manipulation of variables.

Target Population

The target population encapsulates all individuals to whom the results of the study are generalized (Kothari, 2004). The study targeted all employees attached to the customer service department at all branches of Kenya Power Company in Nakuru County. There was a total of 104 staff working in this department.

Sampling Frame

A sampling frame describes an exhaustive list of all members of the target population from which the sample is derived. Table 1 outlines the sampling frame.

Table 1: Sampling Frame

Branch	Customer service Department Employees
Nakuru Head Offices	60
Naivasha	21
Molo	14
Gilgil	9
Total	104

Sample Size Determination

Given that the target population is relatively small, then sampling was necessitated. In this respect, Nassiuma's (2008) was adopted to calculate the size of the sample as shown below.

$$n = \frac{NC^2}{C^2 + (N - 1) e^2}$$

Where:

- n = Sample Size
- N = Target Population
- C = Coefficient of Variation ($21\% \leq C \leq 30\%$),
- e = Precision Level ($2\% \leq e \leq 5\%$)

Therefore,

$$n = \frac{104 \times 0.20^2}{0.20^2 + (104 - 1) 0.05^2}$$

$$n = 69.92$$

$$n = 70 \text{ respondents}$$

Sampling Technique

In order to ensure fair representation of participants, the study adopted stratified random sampling method. The method was chosen due to the fact that the Kenya Power Company branches vary in terms of employees working in the customer service department and that there was homogeneity within each branch given that the duties of these employees are similar across all branches

Research Instrument

The study used a structured questionnaire to collect data from the sampled respondents. According to Mugenda and Mugenda (2009), questionnaires are recommended for use in data collection in survey studies. The instrument was structured in a way that enabled collection of data relevant to study variables; both independent and dependent. A five point Likert scale characterized the questionnaire.

Pilot Testing

A pilot study was carried out amongst a few employees of Kenya Power Company attached to the customer service department within Nakuru County. These respondents did not participate in the main study to avoid compromising the findings. The purpose of this study was to determine any probable weaknesses in the research instruments by assessing both its validity and reliability.

Validity of the Research Instrument

Validity testing is carried out in order to ensure that the research instrument measures what it is purposed to measure (Kimberlin & Winterstein, 2008). The present study determined the content validity of the instrument by consulting the assigned university supervisor.

Reliability of the Research Instrument

Reliability is a measure of the instrument's consistency. There are various methods of assessing reliability of the research instrument. However, the current study adopted the Cronbach alpha which is the most widely used and recommended test of internal consistency of an instrument (Kimberlin & Winterstein, 2008). The reliability threshold was alpha equal to or greater than 0.7 ($\alpha \geq 0.7$)

Table 2: Reliability Test Results

Variable	Test Items	Alpha Coefficient
Timeliness	5	0.820
Ease of use	6	0.831
Customer satisfaction	5	0.842

As indicated in Table 2, all the study constructs returned alpha values greater than 0.7. Therefore, the research questionnaire was found to be reliable for data collection in the main study.

Data Collection Procedure

In collecting data, the researcher first obtained an introductory letter from the University. The researcher then sought the consent of the management of Kenya Power Company in Nakuru County to be allowed to collect the requisite data. The questionnaires were administered by the researcher on the sampled respondents through their respective departmental heads. The filled questionnaires were collected through the same channel after one week.

Data Analysis Approach

The filled questionnaires were keenly scrutinized to ensure that they were filled accordingly. This was followed by data coding, processing and analysis with the aid of the Statistical Package for Social Sciences (SPSS) version 21 software. Data were analyzed using both descriptive statistics and inferential statistics. Pearson correlation analysis was used to illustrate relationship between each independent variable and the dependent variable. On the other hand, multiple regression analysis was employed to address the research hypotheses in addition to illustrating the extent to which electronic billing service influences customer satisfaction at Kenya Power Company. The following multiple regression model was adopted.

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$ Where:

Y	=	Customer satisfaction
β_0	=	Constant
X_1	=	Timeliness
X_2	=	Ease of use
ε	=	Error term
β_1, β_2	=	Régression Coefficients

ANALYSIS AND FINDINGS

Response Rate

The sample size constituted 70 employees working with the customer service department of Kenya Power in Nakuru County. This implies that a total of 70 questionnaires were duly issued. From this number, 56 were successfully filled and collected from the respondents. This translated to 80.0% response rate. The relatively high response rate was attributed to the fact that the questionnaires were administered by the researcher in person.

Descriptive Statistics

Timeliness of the Electronic Billing Service

The study further investigated the views of the respondents in respect to the timeliness of electronic billing service. The results of the analysis are displayed in Table 3.

Table 3: Descriptive Statistics for Timeliness

	n	Min	Max	Mean	Std. Dev
Billing through emails is fast	56	1	5	4.14	1.368
Billing through text messaging is fast	56	4	5	4.71	.456
Electronic bills are received in good time	56	4	5	4.71	.456
Customers respond to electronic bills faster than postal bills	56	4	5	4.71	.456
Dispatching electronic bills in bulk is faster than postal bills	56	4	5	4.57	.499

It was found that respondents strongly admitted (mean \approx 5.00; std dev $<$ 1.000) that billing through text messaging is fast; electronic bills are received in good time; customers respond to electronic bills faster than postal bills; dispatching electronic bills in bulk is faster than postal bills. It was also agreed (mean = 4.14; std dev = 1.368) that billing through emails is fast.

Ease of Use of Electronic Billing Service

In line with the third objective, the study sought the views of the respondents in respect to the ease of use of electronic billing. The findings are summarized in Table 4.

Table 4: Descriptive Statistics for Ease of Use

	n	Min	Max	Mean	Std. Dev
I am conversant with ICT	56	1	5	4.00	1.427
I am conversant with electronic billing system	56	3	5	4.29	.706
Customers have access to internet	56	1	3	2.29	.889
Customers own mobile phones	56	1	5	3.57	1.305
Customers are able to access emailed bills	56	1	3	2.29	.706
Customers are able to retrieve bills through their phones	56	3	5	4.29	.889

The respondents concurred (mean \approx 4.00; std dev \approx 1.000) that they are conversant with ICT and electronic billing system; customers own mobile phones; and customers are able to retrieve bills through their phones. Respondents disagreed (mean \approx 2.00; std dev $<$ 1.000) that customer have access to internet and are also able to access emailed bills.

Customer Satisfaction

The study analyzed the opinions of the respondents on the subject of customer satisfaction with the e-billing service. Their views are displayed in Table 5.

Table 5: Descriptive Statistics for Customer Satisfaction

	n	Min	Max	Mean	Std. Dev
Customers' complaints have reduced since introduction of e-billing service	56	4	5	4.29	.456
The number of customers visiting our offices has reduced drastically since adoption of e-billing service	56	2	4	3.43	.735
We have started receiving more compliments since e-billing was introduced	56	3	5	4.14	.645
The number of disconnections has reduced since adoption of e-billing service	56	3	5	4.00	.763
Bills are currently paid faster than before	56	3	5	4.00	.763

The respondents generally agreed (mean \approx 4.00; std dev $<$ 1.000) with the view that, customers' complaints have reduced since introduction of e-billing service; they have started receiving more compliments since e-billing was introduced; the number of disconnections has reduced since adoption of e-billing service; and that bills are currently paid faster than before. It, however, remained unclear (mean = 3.43; std dev = .735) whether the number of customers visiting their offices had reduced drastically since adoption of e-billing service.

Inferential Statistics

Relationship between Timeliness of E-billing Service and Customer Satisfaction

The influence of timeliness of e-billing service on customer satisfaction was also assessed. Table 6 shows the pertinent correlation results.

Table 6: Relationship between Timeliness and Customer Satisfaction

		Customer Satisfaction
Timeliness	Pearson Correlation	.353**
	Sig. (2-tailed)	.008
	N	56

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

The findings indicated a positive, weak and statistically significant relationship between timeliness of e-billing service and customer satisfaction ($r = 0.353$; $p < 0.01$). The findings implied that customers were satisfied with the timeliness of e-billing service. In other words,

customers drew satisfaction from perhaps the responsiveness of the service, fast billing and timely receipt of their bills. The more e-billing service enhanced timeliness, the more satisfied the customers were likely to be, and the reverse is true.

Relationship between Ease of Use of E-Billing and Customer Satisfaction

The study further sought to establish whether there existed a relationship between ease of use of e-billing and customer satisfaction. The findings of the analysis are illustrated below in Table 7.

Table 7: Relationship between Ease of Use of E-billing and Customer Satisfaction

		Customer Satisfaction
Ease of Use	Pearson Correlation	.649**
	Sig. (2-tailed)	.000
	n	56

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

The study established that there existed a positive, strong and statistically significant relationship between ease of use and customer satisfaction ($r = 0.649$; $p < 0.01$). This meant that ease of use of e-billing service largely determined customer satisfaction. The results further suggested that the more customers used e-billing with ease then there was a great likelihood the more they became satisfied. The result implied that greater customer satisfaction can be achieved with the ease in which users or customers can navigate to retrieve bills, make payments or even raise concerns about their bills.

Effect of E-Billing Service on Customer Satisfaction

The study further examined the general effect of e-billing service on satisfaction of Kenya Power Company's customers. Table 8 outlines the results of coefficient of determination and correlation.

Table 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.656 ^a	.430	.385	.40058

a. Predictors: (Constant), Timeliness, Ease of Use

The correlation ($R = 0.656$) between electronic billing service and customer satisfaction was found to be positive and strong. This implied that the more the adoption of e-billing services by

Kenya Power Company's customers, the greater the likelihood that they were to be satisfied. The results ($R^2 = 0.385$) also indicated that 38.5% of customer satisfaction could be explained by e-billing service.

Table 9: ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	6.170	4	1.543	9.613	.000 ^a
Residual	8.184	51	.160		
Total	14.354	55			

a. Predictors: (Constant), Timeliness, Ease of Use

b. Dependent Variable: Customer Satisfaction

Table 9 illustrates the results of the analysis of variance (ANOVA). The results indicate that there was a significant combined effect of transparency, cost implication, ease of use, and timeliness of e-billing service on customer satisfaction ($F = 9.613$; $p < 0.05$).

Table 10: Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
1 (Constant)	1.901	.704			2.701	.009
Timeliness	.114	.163	.122		.703	.485
Ease of Use	.484	.119	.648		4.064	.000

a. Dependent Variable: Customer Satisfaction

According to the results indicated in Table 10, the following regression model:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$ is interpreted as follows:

$Y = 1.901 + 0.114X_1 + 0.484X_2$ Where:

X_1 and X_2 represent timeliness and ease of use of e-billing services while Y represents customer satisfaction.

The regression analysis findings indicated that customer satisfaction was affected by 0.114 timeliness and 0.484 ease of use of e-billing service. It implies that ease of use was the most fundamental aspect of e-billing service in addressing customer satisfaction at Kenya Power Company. Moreover, the second null hypothesis was rejected ($t = 4.064$; $p < 0.05$); while the first hypothesis failed to be rejected ($t = 0.703$; $p > 0.05$). The findings underscore the greater importance of ease of use of e-billing service in addressing customer satisfaction in comparison

to timeliness of the system under study. As such, it is important for the Kenya Power Company to ensure that the system is easy or is perceived to be easy by customers.

Summary

Respondents strongly admitted that billing through text messaging is fast; electronic bills are received in good time; customers respond to electronic bills faster than postal bills and dispatching electronic bills in bulk is faster than postal bills. It was further agreed that billing through emails is fast. Timeliness of e-billing service and customer satisfaction had a positive, weak and statistically significant ($r = 0.353$; $p < 0.01$) relationship even at 0.01 significant level.

The respondents concurred that they were conversant with ICT and electronic billing system; customers own mobile phones; customers were able to retrieve bills through their phones. They were however uncertain of the notion that customers have access to internet and are able to access emailed bills. The study established that there existed a positive, strong and statistically significant relationship between ease of use and customer satisfaction ($r = 0.649$; $p < 0.001$). It was concurred that customers' complaints had reduced since introduction of e-billing service and their firm had started receiving more compliments since e-billing was introduced; the number of disconnections has reduced since adoption of e-billing service; bills were paid faster than before. The view that customers visiting their offices had reduced drastically since adoption of e-billing service however remained unclear.

CONCLUSIONS

It was concluded that e-billing service timeliness is crucially vital for customer satisfaction. That is, the responsiveness of the system both to the customer and KPC, ability dispatch lots of bills faster and timely receipt of bills by customers at their convenience. The study supported the findings by a study conducted by Kiarie (2014) where the author found that the services for receiving short text messages for billing was timely. The study inferred that most customers own mobile phones and such enabled them to retrieve their bills from their phones. It was further concluded that personnel working at the customer service department in KPC were conversant with ICT and electronic billing system. Ease of use of electronic billing system was cardinal for achieving customer satisfaction. The study concurs with the Johnson's (2009) study results that had indicated that e-billing service was easy to use in facilitating a sure a way of receiving and paying bills. The study concludes that e-billing service has considerable consequence on customer satisfaction at Kenya Power Company in Nakuru County. The more customers adopted the service, the higher the chances of them being satisfied with the billing of Kenya Power Company.

RECOMMENDATIONS

The study recommends that the timeliness observed in e-billing service at KPC should be upheld in order to achieve its effectiveness and efficiency and consequently result to customer satisfaction. For customers to be satisfied with a new electronic system, it should be easy to use and navigate through. As such the study recommends that the e-billing service system should be simplified for customers to understand and KPC should accord the necessary support structures for the system to be easily used.

LIMITATIONS AND FURTHER STUDIES

The study faced a couple of challenges. The instrument that was used to collect data consisted of close-ended questions which implied that there was a limitation in getting open opinions of the respondents. Moreover, some of the respondents were not willing to participate in the study. Regarding the research instrument, it was ensured that it was able to capture data relevant to all study objectives. Respondents were advised on the importance of their participating in the study in that their company was bound to benefit from the findings thereof.

The study suggests some areas of further research regarding e-billing in Kenya. These are: the effect of e-billing on the performance of Kenya Power Company; A survey of the challenges affecting e-billing service at Kenya Power Company. It is also important to examine the relationship between e-billing service and customer satisfaction in other sectors such as health.

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