JSESD006: Evaluating the Effectiveness of Electricity Prepayment System: A Case Study

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Abstract

This study evaluated the effectiveness of the electrical energy prepayment system at a public energy utility company. By examining the trending results, the investigation assessed how the electrical energy prepayment system impacted revenue collection and profitability. Convenience and snowball sampling were used to select 80 respondents who made up the sample for the study. It was established that frequent and unplanned downtime of vending machines impacted negatively on income generation. The study revealed that regardless of associated challenges, the prepayment system was convenient as compared to the conventional billing system method. It was also found that there was a positive relationship between electrical energy prepayment and revenue generation, therefore making it convenient to control money owed to the case study company. The study recommended that the firm should cultivate high levels of information communication and technology (ICT) know-how among its customers, develop and train a technical team, as well as renovate and upgrade power generation plants to address power shortages. The study revealed the areas that have to be addressed by the electricity utility organisation in its implementation of prepayment initiatives to enhance income generation from its extensive customer base. These include, among others, a strong supporting software system, a strong training and development programme for technical team members, and renovation and upgrading of power producing plants.

Keywords: efficiency, energy, saving, sustainable, tobacco

Introduction

In recent years, much has been written about electrical energy prepayment systems. Zimbabwe adopted the concept of a prepaid electricity metering

model in 2012 as a way of reducing ballooning debt owed by both household and industrial clients (Ropa, 2015). This study seeks to consider the effectiveness of the electricity prepayment system in the country. Ogujo and Otasowie (2010) observed that the introduction of prepaid electricity meters increased revenue collection in Nigeria. In Zimbabwe, the concept of a prepaid system is fairly new, and no research has been officially carried out to determine the efficiency of the system in terms of its impact on income generation for the State-owned company (Schnitzler, 2008). The available studies only make reference to some Asian and Western countries (Thun & Muller, 2010). Therefore, research on prepaid electricity meters has been largely done from a developed countries' perspective, with little regard to upcoming economies and their experiences.

The case study organisation is a subsidiary company of the power energy utility firm in the country. It is responsible for transmitting and distributing power to all electrical energy users. In line with its mandate which is to provide power under the Electricity Act (Chapter 13.05 of 2008), the firm has a widely varied range of customer base as its clients. The firm has been facing challenges with its billing system and shrinking revenue base. This has been partly a result of electrical energy power losses. The entity faces challenges in its income collection processes (ZESA, 2018), and its losses are evident at several stages right from generation, transmission and distribution. It is generally at the distribution level that the majority of avoidable losses occur. All electrical power distribution companies operate with some acceptable degree of losses, and the case study organisation is not an exception. Ropa (2015) notes that the State-owned corporation was once owed more than a billion USD by both household and corporate customers. It is, therefore, against this background, that the study seeks to consider the effectiveness of the electrical energy prepayment system at the case study company.

Background

Due to transformer vandalism and theft, and non-payment from clients, the case study company has been working to improve its financial condition over the years. The company has developed an electrical prepayment system to boost revenue collection and control power theft and non-payment of monthly bills, Ropa (2015). The company's financial situation, however, remains poor. According to (ZESA, 2018), the company is receiving far less income than it should, given the rise in its client base that has not been matched by an increase in revenue. It was also revealed that the company had been suffering from non-technical losses, which hurt its performance.

In light of this, the purpose of this study was to assess the effectiveness

of the power prepayment system. This study looks at how the prepayment metering scheme affects service delivery and revenue collection. The findings will help policymakers at the company determine how they can better manage the electricity prepayment system. Employees should have the opportunity to express their experiences and opinions about the prepayment system. These opinions will be useful in determining whether the adoption of a prepaid billing system would lower revenue collection challenges. Reduced revenue collection effort would simply translate to increased efficiency and cash inflows for the electricity provider.

Electricity prepayment system review

According to Nyangweso et al. (2013), all along and until recently, power bill payments in Kenya were made after the usage of electricity. However, due to a significant increase in customer non-payment of power bills, the firm under study decided to gradually deploy prepaid meters as a means of reducing the frequency of defaulters.

Motivation for Prepayment System

Consumers who pay for power before using it are known as prepaid customers. Smart meters are regarded as a first step toward allowing consumers to control their energy consumption at the household level (Chou & Yutami, 2014). Energy information displayed on a display system can have an impact on how people utilise energy in their homes (Wood & Newborough, 2007). Interventions such as a home electricity payment system may also have a substantial impact on energy use decisions (Yamamoto et al., 2008). A prepaid meter is a gadget that monitors the amount of electricity used by a household. It works by subtracting the quantity of energy consumed from the amount of energy purchased, and the supply of electricity is cut off when the residual units equal zero (Contreras, 2010). Users must pay first before consuming power under this system. In contrast to the concept of a post-paid system where one consumes electricity first and then pays later, the prepayment system exists to empower clients and provide them with the capacity to control and monitor their costs without running the danger of large bills. A post-paid meter is a device that calculates the amount of electricity used by a home, a business, or an electrically powered device. The electric meters installed at a client's premises are typically used by the electrical providers for billing purposes. Meter readings are taken every three months, and the billing for the other months is based on estimates. More than half of all low-income families have struggled to pay their electricity bills. Prepaid metering in Tanzania is regarded as the metering of the future in all

utilities (Mushi, 2014), provided that its implementation is well planned and executed. Telecommunication firms, in addition to Tanzania's energy supply utility (TANESCO), are already selling prepaid mobile phone services.

The culture of non-payment of debts by residents and other stakeholders has resulted in a rise in the amount of money owed to local governments for services performed. Debt collection in disadvantaged areas has failed due to individual debtors' economic circumstances. It was observed that traditional credit billing after power use has drawbacks since it allows for incurred debts. This denies an organisation rapid access to much-needed revenue because clients consume electricity before paying. It generates meter reading costs, including salary and gasoline for vehicles used by people who go out into the field to gather readings, as well as costs related to bill distribution. Billing, credit control, meter reading and bill delivery all take a lot of time. Traditional credit billing does not encourage users to budget for their real energy consumption, resulting in many customers not paying their bills. Smart meters are regarded as a first step towards allowing consumers to control their energy consumption at household level (Chou & Yutami, 2014).

Benefits of Prepaid Meters

Mohammedi (2015) defines the prepayment system as a method in which a client pays for power usage before utilising it. According to Zahedi (2010), such systems allow clients to utilise electricity only when they have credit in their account, and when that credit is depleted, the supply is automatically cut off. The goal of installing prepaid meters for home usage is to improve revenue collection and customer service. Due to large consumer debts, electrical utility businesses have revenue generation and collection issues (Ogujor & Otasowie, 2010). According to Casarin and Nicollier (2009), while prepaid meters improve revenue collection from domestic consumers, they lower revenue creation because they depend on reliability. Consumers are becoming more conscious of how they use electricity.

Human handling should be eliminated from all billing procedures to prevent fraud and billing problems, according to Misra and Kingdom (2012). Prepayment is a good way to increase collections. This suggests that prepayment may be preferable to invoicing after service consumption or usage. The advantages of prepaid meters to the power utility business, according to Mushi (2014), include the ability to track individual transactions, detect fraudulent activity and give complete management reporting. Prepayment systems may provide a better awareness of how much energy is spent, allowing for more control over energy use and budget management from the consumer's perspective (Tewari & Shar, 2003).

Consumption and payments are in sync through the use of prepaid meters. The key to revenue collection using the post-paid system, according to Ontomwa (2014), is debt collection, credit control, effective management, customer care and management. These scholars, however, allude to the fact that a prepaid system aids in the elimination of post-paid system flaws. Prepayment systems may save energy providers money on metering, billing and disconnection and reconnection because payment is made before consumption. This results in a considerable increase in revenue collection and a reduction in working capital. Prepayment systems may provide a better awareness of how much energy is spent, allowing for more control over energy use and budget management from the consumer's perspective.

Prepaid metering is sometimes accepted by power distributors to address supply-side concerns such as lower collection costs, fewer bad debts, and more efficient cash flows, all to improve the company's financial condition (Ackah, 2015). Nyangweso et al. (2013) claim that in most nations where prepaid meters have been introduced, the supplier's revenue collection has improved. Customers on prepaid systems are said to use 24.2% less electricity than the average customer before the advent of prepaid systems.

Challenges of Prepayment System

Nonetheless, recent research suggests that prepaid meters are not always a well-received innovation in some parts of society, to the point that society as a whole is hesitant to implement the system in some circumstances (Tewari & Shah, 2003). Furthermore, a scarcity of skilled labour may result in failure to meet new mechanical or technical issues, causing local consumers to be short-changed. Furthermore, the problem could get worse if the majority of residents circumvent or by-pass the prepaid meters. According to Blair and Burton (1987) the situation may deteriorate if the power utility fails to identify the moment a meter is tampered with or by-passed.

However, the introduction of prepaid meters may increase the cost of connecting new customers and negative revenue generation. Prepaid metering continues to face a number of issues throughout Africa, including frequent system failures, dishonest staff, a shortage of prepaid metering expertise and power theft, which have resulted in the additional cost of establishing a meter inspection department. Domestic prepaid customer electricity theft may or may not be related to the deployment of domestic prepaid meters. As a result, the purpose of this research is to assess the effectiveness of the electricity prepayment system.

Methodology and materials

The study used a descriptive research approach, in which data was obtained from respondents via questionnaires that asked them to answer a series of questions on their views, opinions and feelings about the case study firm's prepaid meter system. Secondary data was gathered from existing sources such as case study company records and articles, while primary data was gathered utilising tools such as surveys. The researchers were able to obtain a better knowledge of the underlying reasons, opinions and motivations behind the case study organisation's prepayment system as a result of this. A quantitative strategy was also used in this study. A combination of quantitative and qualitative research methodologies enhanced the study's examination of diverse issues.

The study's elements were chosen depending on their availability for the study. Key employees and managers from the case study organisation, domestic consumers, farmers, Small and Medium Entrepreneurs (SMEs), industrialists and manufacturing workers made up the research study's target respondents. The respondents were given a total of 65 questionnaires to complete. Face-to-face contact also benefitted the researchers because it allowed them to explain the study's objective and the relevance of the potential respondent's involvement in person. In this study, the SPSS 16.0 version programme meme was utilised to analyse data.

Case of study of power utility organisation

Overview

The key responsibilities of the case study power utility organisation are to design, operate and maintain transmission and distribution infrastructure. The company's mandate, according to its 2015 Annual Report, is to design, construct, operate and maintain the country's transmission and distribution facilities. The company is in the business of selling power and related services. It ensures that electrical supply and demand match on a minute-by-minute basis, among other things. On the technical side, the organisation is in charge of transmitting and distributing electricity.

During switching operations of any equipment connected to the national grid, the corporation also monitors the power system and assures the safety of workers and equipment. For sale to local clients and trading on the Southern African Power Pool (SAPP), the corporation buys power in bulk from internal sources as well as from neighbouring nations. The case study firm implemented prepaid meters in 2012 to enhance revenue collection. According to the ZETDC (2018), the company was having difficulties

collecting revenue in its process of distributing and retailing electricity to end-consumers through the use of a post-paid system.

However, income issues persisted in 2014, two years after the prepaid meters were installed, as seen in Table 1. The case study firm's Managing Director indicated that the power utility is facing loss of potential revenue due to theft and vandalism, equipment tampering and non-payment by customers who are by by-passing the prepaid meter system

Table 1: Sales revenue trend (Power Quarterly Bulletin, 2014)

Year	Actual Sales (US$)	Target Sales (US$)	Variance (%)
2012	156,388,106	211,419,370	-26.03
2013	165,148,218	224,241,620	-26.35
2014 (1st half)	86,998,412	100,245,937	-13.22

Despite the fact that actual revenue grew a year after the prepaid meters were introduced, the electric utility company did not meet its sales targets in 2012 and 2013, as well as the first two quarters of 2014. The highest acceptable degree of deviation for revenue collection, according to internal set targets, is -7 %. Therefore, the deteriorating trend as shown in the table was cause for concern and, despite the initiative's commissioning, not much has been collected to date.

Operational Challenges

Increased power shortages continue to plague the organisation, resulting in a demand-supply mismatch. Low water levels at the Kariba Hydro Power Station, generating limits at the Hwange Thermal Power Station, and a foreign currency constraint on importing energy from neighbouring nations with excess power, have all contributed to this scenario. In order to balance the available power supply and demand, the power shortage is being controlled through load shedding. Consequently, the power company is losing potential customers to alternative power sources such as solar and liquefied petroleum gas for domestic and industrial use (CCZ, 2013). Electricity is a vital component of manufacturing that enables technical advancements and, as a result, promotes the economy through income generation. By 2018, approximately 615,000 subscribers, largely domestic consumers, had been

switched to the prepayment platform, with another 100 awaiting conversion from the old system (*Newsday*, 2018). Medium and large industrial customers are yet to migrate to the smart metering platform, even though these 40,000 customers account for 60% of all electricity sales.

Case Study Firm Performance and Debt Management Trends

Despite its efforts to recover outstanding debts, the company was owed US$275.43 million after the 2016 reporting period, as shown in Table 2. Due to efficient debt collection methods to reign in the debts, the debt increased from US$182.12 million in 2014 to US$238.08 million in 2015. The receivables had risen to US$182.12 million in 2014, up from US$144.31 million in the previous year's similar period.

Table 2: Debtors and provisions (Annual Reports 2013 - 2016)

Year	**2016**	**2015**	**2014**	**2013**
Debtors (US$)	275.43m	238.08m	182.12m	144.31m
Provision (US$)	5.25m	22.15m	37.58m	46.7m
Provision (%)	2%	9%	20%	32%

However, it was highlighted that with the installation of prepaid meters, the yearly provision for credit losses as a percentage of outstanding power debtors has decreased dramatically, from 32% in 2013 to 2% in 2016. In this way, smart meters aided in the reduction of debt due to the company by potential defaulting consumers. According to the data presented in Table 2, the power utility company has had major operational issues in attempting to attain profitability throughout the last four financial quarters (ZETDC, 2018).

Table 3: Revenue and expenditure (Annual Performance Report, 2016)

Year	**2016**	**2015**	**2014**	**2013**
Revenue (US$)	128.7m	125.9m	13.8m	122.3m
Expenditure (US$)	(148.3m)	(144.7m)	(141.4m)	(139.8m)
Surplus/(Deficit) (US$)	(19.6m)	(18.8m)	(17.6m)	(17.5m)

Table 3 shows that revenues climbed from US$122.3 million in 2013 to US$128.7 million in 2016, but the company fell short of operational expenditures, which went from US$139.8 million in 2013 to US$148.3 million in 2016, resulting in a deficit for all of the years under consideration. The organisation's revenue comes from the sale of power, and the provision of power-related services, while overtime, credit losses and fuel are the key cost drivers. According to Dike (2015), the main issue facing the energy business in many developing countries is low revenue production, which stems from unlawful electricity use, which is mostly caused by meter manipulation and bypassing, as well as direct connection to low voltage distribution lines.

Domestic users, farmers and SMEs, on the other hand, said that the billing system was far better than prepayment because of the high rates of electricity theft, which resulted in lower revenue collection.

Findings and discussion

Questionnaire Response Rate and by Category

Table 4 reveals that the participants were given 65 questionnaires, 56 of which were filled out and returned. As a result, the response rate to the questionnaire was 86%. This means that the study sample was large enough to represent the entire population, as suggested by Wiesma (1995), who asserted that a return rate of 70% is the minimum acceptable rate for questionnaires.

Table 4: Questionnaire response rate

Distributed Questionnaires	Received Questionnaires	Response Rate
65	56	86%

The response rate was deemed adequate for drawing conclusions and making recommendations about the evaluation of the electricity prepayment system. The majority of respondents were degree holders, indicating that they were literate enough to reply to the surveys, according to the research findings. According to the findings, the majority of respondents had 6 to 10 years of job experience. This indicates that the respondents were aware of the topic under investigation since prepaid meters were first implemented six years ago.

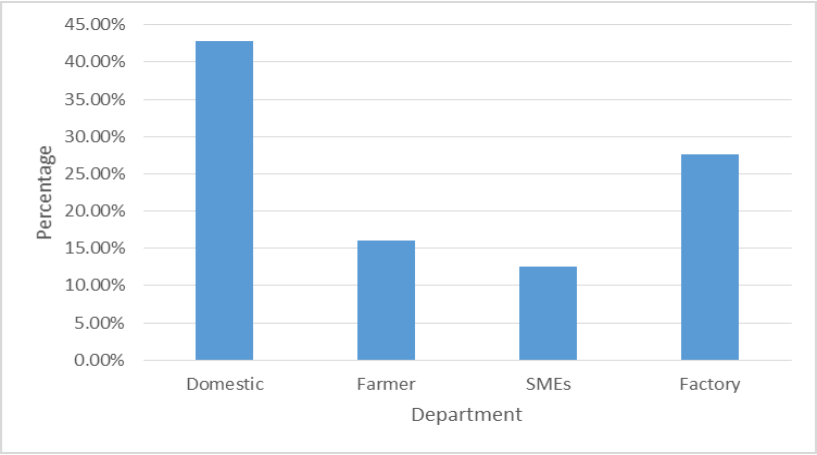


Figure 1: Response by consumer category

Fig. 1 shows that the domestic consumer sector accounted for 42.80% of the participants. Farmers accounted for 16.10% of the respondents, while SMEs and factories (industrial) accounted for 12.50% and 27.60% of the participants, respectively. The bulk of the participants were from the domestic sector, with the SMEs making up the smallest group.

Electricity Prepayment Challenges

Unreliable power supplies

It was shown that 7.1% of respondents strongly disagreed with the statement that the power supply is unreliable. Only 17.9% of those polled agreed that the power supply is unreliable. 23.2% of the study's respondents believe that power supply is unreliable, while 51.8% of those polled were unsure whether or not the power supply was unreliable. The majority of respondents, according to the findings of the study, were unsure whether or not the power supply was unreliable. While the majority of customers were satisfied with service time, the study found that a significant number of consumers believe the power supply is inconsistent.

When the prepayment metering system was deployed, it was discovered that the power supply was unreliable, making it difficult to measure the benefits of the new system. The corporation loses money as a result of the increasing power outages and the resultant load shedding to consumers. The UNDP (2010) also observed that owing to a lack of power generation

capacity, most families and industries in the country were subjected to three to five hours of load shedding every day. In light of this, the newly implemented system is considered inefficient. Since they were affected by load shedding, all residents, farmers, SMEs and factory workers stated that there is no difference between the prepayment and conventional systems. The participants also expressed their dissatisfaction with the fact that they were unable to conduct business owing to power outages, despite the fact that the prepayment system was implemented six years ago.

Prepaid meters' inadequacies

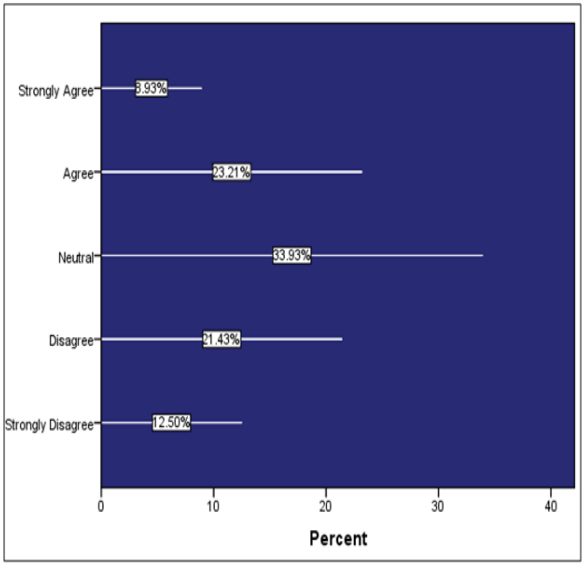


Figure 2: Responses to change back to post-paid system

Fig. 2 shows that 12.5% of respondents strongly disagree that if given the choice, they would prefer to return to the post-paid system. If given the opportunity, 21.43% of respondents disagreed that they would prefer to return to the post-paid system. If given the opportunity, 23.21% of respondents said they would return to the post-paid system, while 8.93% of respondents strongly agreed that they would like to return to the post-paid system. If offered the option, 33.93% of respondents said they were undecided about switching back to the post-paid system.

According to the data, the majority of respondents were undecided about switching back to the post-paid system if given the opportunity. Blair and Burton (1987) suggest that when implementing a prepayment system, the demands of both the power utility organisation and the domestic prepaid consumers must be considered. According to Lawal and Aremu (2012), a critical examination of present revenue management business models and processes should be conducted in order to successfully deal with strategies to satisfy domestic customers. While some users prefer the prepaid system, the majority would want to switch back to the post-paid system if given the opportunity.

Installed prepaid meters, according to the majority of residential consumers examined, are prone to frequent malfunctions. The research findings are consistent with literature, as Stoner (2009) states that in India, there have been numerous reports of domestic prepaid meters breaking down, with domestic prepaid customers having to wait several days for their problems to be resolved. This situation has resulted in domestic prepaid customers having unaccounted access to electricity with the help of power utility staff.

Vending machine breakdown

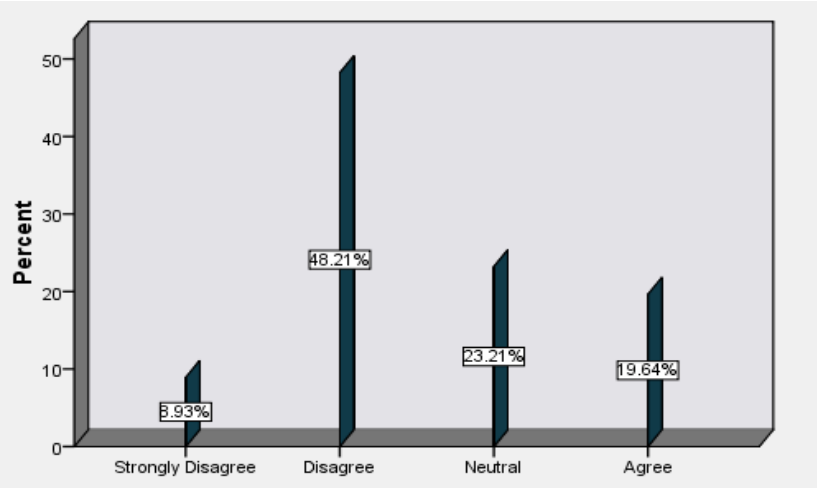


Figure 3: Responses on ready availability of token when needed

As shown in Fig. 3, 8.93% of respondents strongly disagree that prepaid vouchers and tokens are readily available when required. Prepaid coupons

and tokens are not readily available when needed, according to 48.21% of respondents, while 23.21% of those polled were unsure if prepaid vouchers and tokens were readily available when they were needed. Only 19.64% of those polled believed that prepaid vouchers and tokens were readily available when they were needed.

The majority of respondents disagreed that prepaid vouchers and tokens were readily available when needed, according to the study's findings. Before introducing such a system, power utility companies must ensure adequate infrastructure and resources, as a loss of service may damage domestic prepaid customers' faith, leading them to transfer to other sources of energy, even if the switching costs are considerable. Unexpected downtime has a negative impact on income, reputation and loyalty. Lost business with domestic consumers both in the short- and long-term, employee overtime costs and, in some situations, the value of lost data, are all costs associated with network outages. Furthermore, in farming, manufacturing and SMEs, outages have a detrimental impact on labour productivity due to idle time.

Resulting Benefits

Savings to the consumers

Because of the installation of the prepaid residential meters, the majority of domestic users stated that they now pay less for electricity. The findings of the study are consistent with literature, as studies in Nigeria by Casarin and Nicollier (2009) suggest that customers are becoming more conscious of how they use electricity. Consumers become sensitive in their electricity use, according to Ogujor and Otasowie (2010), and the degree of sensitivity is determined to some extent by the effectiveness and efficiency of the power utility provider in providing the desired service. The study findings show that prepaid power customers such as farmers and SMEs believe they are paying more since the introduction of prepaid meters, which causes them to consume electricity more sparingly.

All farmers stated that there is no limit to the amount of electricity that can be purchased. However, the majority of household customers were unsure if there was a limit on how much electricity they could buy. According to Casarin and Nicollier (2009), while prepaid meters improve revenue collection from domestic consumers, they lower revenue creation which is dependent onpower generation equipment and availability of electricity. The majority of SMEs and home consumers are now reducing their electricity consumption, according to the survey.

Revenue generation improvement

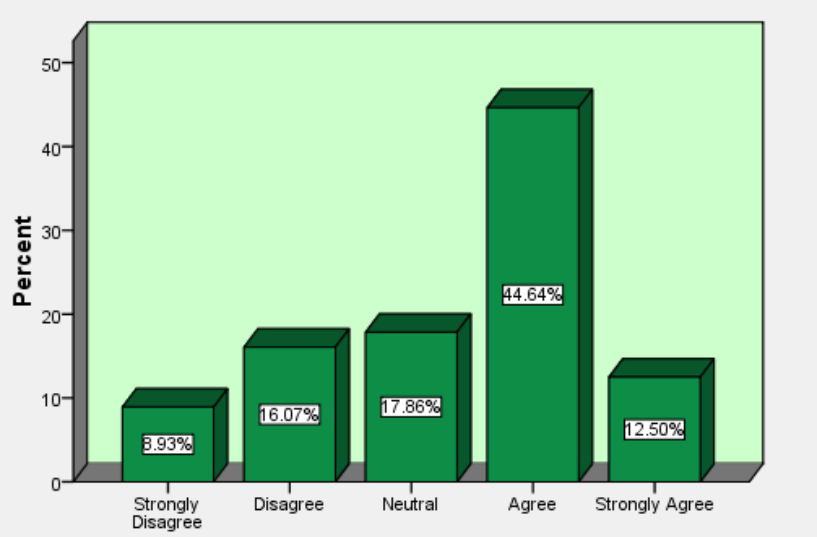


Figure 4: Response to revenue generation improvement

Fig. 4 shows that 8.93% of respondents strongly disagree that the introduction of residential prepaid meters has enhanced income generation, according to the poll. The implementation of home prepaid meters has enhanced revenue generation, according to 16.07% of respondents. The adoption of home prepaid meters has enhanced revenue generation, according to 44.64% of respondents. 'Findings show that 12.50% of respondents strongly agree that the adoption of home prepaid meters, has enhanced revenue generation. Only 17.86% of those polled were unsure whether or not the introduction of household prepaid meters had boosted revenue generation. According to the findings, the majority of respondents believe that the implementation of residential prepaid meters has enhanced income generation.

The management of the case study firm stated that new meters make it easier to control electricity, resulting in increased revenue. Reading meters and invoicing, as well as printing and distributing statements to customers, have all been reduced by the entity. According to Ogujor and Otasowie (2010), the adoption of prepaid meters is a move aimed at improving and increasing revenue generation and collection. The researchers discovered that a prepaid meter system makes it easier to reduce arrears and unpaid bills, as

well as reduce overheads because no meter reading is required, resulting in lower electricity costs and increased efficiency.

Convenience of prepayment system and debt management

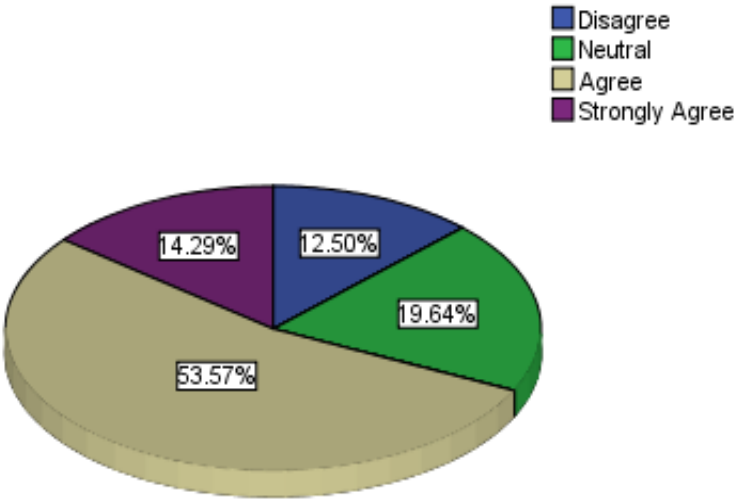


Figure 5: Responses to debt management improvement

Fig. 5 shows that 53.57% of respondents agree that the introduction of prepaid meters has improved consumer debt servicing. 'Findings show that 19.64% of study respondents were neutral on whether the adoption of prepaid meters has improved consumer debt servicing. The study shows that 14.29% of respondents strongly agree that customer debt servicing has improved since the adoption of prepaid meters. While 12.5% of respondents disagreed that the introduction of prepayment meters had helped consumer debt servicing, the majority of respondents feel that the implementation of prepaid meters has improved debt payments, according to the conclusions of the study.

Prepaid meters, according to all employees of the case study company, are superior to the traditional billing system since they face fewer administrative issues. Customers would previously refuse to pay their bills, resulting in a debt of more than US$600 million. Of this debt, 60% was owed by residential

customers and 40% by business customers, while the company needed money to keep its distribution and retailing infrastructure running. Consequently, the company had difficulty repaying its overseas obligations. The study found that other than load shedding, the prepayment approach is more convenient than traditional billing because it allows users to pay even using their phones.

Recommendations

The prepayment system can be a successful revenue management tool if its flaws are addressed, according to the data collected and analysed in this research study. The prepaid meter system should adopt a robust software with watertight controls in place.

The case study company should find a way of persuading its clients to have a positive attitude toward information technology. It should also do the same with its management staff, encouraging them to look at company problems through the eyes of customers, and automating routine processes to boost customer satisfaction. Senior executives should implement a system-wide awareness and training programme to educate managers and non-managerial personnel about how to use the system.

To aid in resolving technical issues when the need arises, a strong training and development programme for technical team members should be implemented. These people should be trained on new technologies on a regular basis to ensure that they have the necessary skills. There is a need to improve customer interface in order to increase staff empathy. This will ensure that consumers are assisted, any difficulties with prepaid meters are addressed, and feedback is provided promptly.

An outside company could be recruited to inspect the prepaid meters in operation and assess the overall system's functionality. The expert should not be part of those who worked on the prepaid meters' design and development. This helps to improve the prepaid meters' reliability and lower the risk associated with revenue collection. Electric gadgets are utilised by humans, and thus are vulnerable to human tampering, according to Isidore (2006). When firms create revenue-collection devices, they should be built in such a way that if they are tampered with, the company is promptly notified.

The prepaid meters should be designed and configured in such a way that they enter a tampering mode if they are tampered with. Without the utility staff to attend to this gadget once it enters this mode, it becomes inactive for use. To get the meters out of the tamper mode, the company can create secret codes.

Power producing plants should be renovated and upgraded by the utility company. This will allow the firm to meet consumer power demands while

reducing load shedding. The utility will lose money if there is less electricity generated. They should also consider installing prepaid meters for all customers, excluding those with high demand in order to reap the full cost savings associated with the prepayment system.

Smart meters should be upgraded to monitor from a central location, meter tampering, and consumption. With smart metering technology in place, employees will find it much more difficult to engage in fraudulent activities, and political influence, corruption and bribery will become a thing of the past. Because the prepayment system has been deployed in stages, it is recommended that the system be fully implemented across the country to increase the number of consumers. Both consumers and the utility are likely to benefit as a result of this. With these measures in place, the company's revenue will rise, and it will be able to repay its debt.

Conclusion

The implementation of prepaid household meters enhanced income generation and made it easier to manage electrical power obligations, according to this study. However, the implementation of prepaid meters did not result in a reduction in the firm's overall expenditure or salary bill. It was also discovered that prepaid vouchers and tokens are difficult to come by. Most consumers were undecided about switching back to the post-paid system, which provided an opportunity for the company to improve customer service. Customers tampering with prepaid meters is one of the most common challenges mentioned. Prepaid residential consumers are still facing load shedding and are unable to fully benefit from the prepayment scheme without a steady supply, according to the findings. Poor financial management control systems and the country's economic downturn have been identified as the primary drivers of the company's revenue decline. Prepaid meters, according to consumers, lowered electricity use and, as a result, reduced bills. The prepayment system has improved the firm's revenue management by increasing accountability, accuracy and timeliness. The study also discovered that there is a link between the electricity prepayment system and income production.

Further research into the efficiency of new information technology in generating competitive advantage for the organisation might be done, as information technology solves business problems in novel and highly effective ways. More research can be done on how employees' behaviour changes as a result of the installation of new technology.

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