



**CHALLENGES FACING PERFORMANCE OF E-PAYMENT SYSTEMS IN GOVERNMENT MINISTRIES IN KENYA; A
CASE OF MINISTRY OF ENERGY AND (PETROLEUM (MOEP)**

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ABSTRACT

An E-payment system in the government ministries has created a wide array of benefits and challenges. An E-payment system encourages privacy, integrity, efficiency, acceptability and convenience. However, e-payment system remain unnoticed by the customers and certainly under used albeit their availability. The systems are either slow or at times not operational at all.

The general objective of this study was to establish the challenges facing performance of the E-payment system in government ministries in Kenya, a case of MOEP. The research questions were constructed from the specific objectives. The study used descriptive research design. The study used stratified sampling, purposive sampling and random sampling. Stratified sampling was used to identify the study units. The study concluded that the challenges facing performance of the E-payment system in government ministries in Kenya, a case of MOEP include; Lack of adequate and reliable infrastructure, inadequate skills due to low levels of computer literacy. Breakdowns and unprecedented delays, bureaucracies with respect to specimen signatures and authentication, Lack of legal and institutional frameworks in governments on E-payment s, Integration issues, Lack of knowledge and awareness son E-payments, Lack of trust in electronic payments. The study recommended that the challenges facing performance of E-payment system in government ministries as is the case of MOEP should be addressed by Guarantee a reasonable minimum level of security on the network. Security and privacy dimensions perceived by consumers as well as sellers. Introduce and maintain real-time processing and a combination of features, including integrated systems and gateways, address liquidity issues and minimize delays, while preserving online transaction integrity. Implementation of strong access control measures, regularly monitor and test networks and maintain an information security policy. Continuous training of all employees/users at all levels and enhancement of ICT manuals. The study suggested that there was need for further research on issues of diversity of Information Technology (IT) and training on E-payment usage at all levels in government ministries.

Key Words: Performance, E-payments, Usage of E-payment, Costs, Security, Trust.

INTRODUCTION

The birth of Information and Communication Technology (ICT) as a result of merging of computer science and telecommunication engineering brought dramatic changes in the way business is conducted to compete in the market place and spread through the globe. Innovations in ICT eventually led to the introduction of E-payment system. These systems have changed the way business is conducted not only for companies but also for governments. The introduction of E-payment systems in the government ministries has created a wide array of benefits and challenges. An E-payment system facilitates online transactions, in this case services of the ministry of energy. (Laudon&Traver, 2007) highlights the advantages of E-payment systems over traditional payment systems. E-commerce involves digitally enabled commercial transactions between and among organizations and individuals with exchange of value across boundaries while E-businesses the digital enablement of transactions and processes within a firm (Chaffey & Wood, 2005).

Donors are following suit and E-payment s will soon be the standard for development programs. This movement is rooted in a firm belief that E-payment platforms can accelerate financial inclusion, improve accountability, increase transparency, empower entrepreneurs, and unlock the private sector.. Increasingly, organizations are using electronic payment (E-payment) systems to deliver payments by various means: electronic fund transfers (EFTs), prepaid and smart cards, E-vouchers, and mobile money. The systems that share the following characteristics will make the most powerful contribution to development beyond efficiency gains by broadly reaching across demographic groups and socio-economic strata and electronic/digital transmission and data capture.. USAID announced in September 2013 that within

one year it will require applications for funding to include the use of E-payments or an analysis of why the use of cash is still necessary. Key Benefits to Adopting E-payments Global alliance is a collaborative effort promoting and supporting the transition from cash to E-payments by governments, private sector, and the development community

Mapping of the existing payment process in a flow chart will help you understand the can uncover key issues such as touch points, assignment of responsibilities, process times, and financial controls. This analysis can also help you identify opportunities to streamline processes and highlight the potential program and financial benefits of using E-payment s. In Uganda, Educate, a non-profits working in the education sector, and beyond, a private sector payment aggregator, partnered to streamline and facilitate Educates payments to teachers using mobile money instead of cash (Zimmerman&Bohling, 2014).In Kenya where mobile money is ubiquitous with M-PESA, Pathfinder initiated a transition to mobile money for program and operation payments in 2011. After this experience Pathfinder's finance manager, who saw the benefits first hand, transferred to Pathfinder's head office in Boston. From Boston he continued to champion the use of E-payment s and incorporated them into the organization's global finance policies.

The Ministry of Energy and Petroleum (KENYA)

The Ministry of Energy and Petroleum's functions as detailed in the executive order no. 2/2013 of May 2013 on the organization of the government of the republic of Kenya are: energy policy and development, hydropower development, geothermal exploration and development, thermal power development, oil and gas exploration, oil/gas and minerals sector capacity development, rural

electrification programme, petroleum products, import/export/marketing, policy management, renewable energy promotion and development, energy regulation, security and conservation, fossil fuels exploration and development.

The Ministry of Energy and Petroleum's vision is "Affordable, Quality Energy for all Kenyans" and its mission statement is "to facilitate provision of clean, sustainable, affordable, reliable, and secure energy services for national development while protecting the environment." MOEP core values are professional integrity and excellence, commitment to work, commitment to customer service; efficiency, transparency and accountability; zero tolerance to corruption and non-partisanship.

Energy is prioritized as one of the infrastructure enablers for achievement of the objectives of Kenya Vision 2030 being implemented through five-year horizon Medium Term Plans. Improved access to energy sources especially electricity improves human development conditions through provision of water; industrial and agricultural productivity; disadvantaged groups empowerment; better health and education conditions and environmental sustainability. Approximately three (3) out of every four (4) Kenyans, of which two-thirds reside in the rural areas, lack access to electricity services resulting into unsustainable use of biomass and agricultural waste linked with exposure to indoor respiratory infections. The poor households lack adequate access to affordable, reliable, safe and quality energy services, (MOEP, Strategic Plan 2014-2017).

Statement of the Problem

Information technology has rapidly changed the mode of business and financial transactions in the government ministries. Services are being designed and delivered. E payment systems introduced by the Government to improve operations and reduce cost has widely been embraced by all

ministries. However despite all their efforts of developing better and easier E-payment systems, The systems remain unnoticed by the customers and certainly under used albeit their availability. The Central Bank of Kenya wrote to the Ministry of Devolution inquiring about questionable payments of hundreds of millions of shillings to private companies through the National Youth Service. The then cabinet secretary to the ministry of devolution, Anne Waiguru claimed that she detected an unauthorized commitment of the amount in the Integrated Financial Management Information Systems (IFMIS), but moved with speed to prevent any loss. A suspect made damning claims about former Devolution Cabinet Secretary Anne Waiguru's involvement in the Sh791 million scam the issue is yet to be concluded (standardmedia.co.ke2016).

Objectives

The general objective of this study was to establish the challenges facing performance of the E-payment system in government ministries in Kenya, a case of MOEP.

Theoretical Review

The Diffusion of Innovation (DOI) Theory

Diffusion of innovation theory in 1962 is one of the oldest social science theories. It originated in communication to explain how, overtime, and idea or products gains momentum and diffuse (or spreads) through a specific population or social system. The end result of this diffusion is that people, as part of a social system adopt new idea, behavior, or product. Usage means does something differently than what they had previously (i.e.; purchase or use a new product, acquire and perform anew behavior, etc). The key to usage is that the person must perceive the idea, behavior, or product as new or innovative. It is through this that diffusion is possible.

The Developer-Based (Determinist) Theory

The goal of developer-based theory is to increase diffusion by maximizing the efficiency, effectiveness and elegance of an innovation. Developer-based theory focus on the technical characteristic of an innovation in order to increase diffusion. The developer, or architect, of superior technology is seen as the primary force for change. The underlying assumption of developer-based theory is deterministic because they imply that technological products and systems will, by virtue of their superiority alone, replace inferior products and system. Developer-based theory of diffusion sees change as following directly from a technological revolution or quantum leap.

Conceptualizing E-payment System

With the growth of online payment system, the importance of transferring money online has become an importance issue to potential customer/consumer. The E-payment system can be classified as direct online credit/debit payments, mediated credit/debit payments, store-value money and electronic bill payment (Fazlollai, 2002; Bitpipe, 2006). Traditional E-payment system is noted to have more limitation which inhibits consumers from adopting them. One of the major concerns with regard to E-payment is noted to be security.

Costs and E-payment systems in Kenya

The government ministries seek to cut the cost of mediators through direct deal with the consumers and share information with the Internet users as well as encourage customers to pay on-line. One of the main problems faced by ministries in terms of dealing and paying on-line that Internet users are worried and unwilling to send sensitive information through the Internet. In fact customers are scared that during the transactions hackers and Internet interlopers will steal their information.

The emergence of Internet, the improvement of Information Technology, and the fast growth of wireless telecommunication between organizations and individuals have affected the financial system greatly and also have increased the use of Electronic payments E-e payment locally as well as globally. E payment has affected businesses, individual consumers and has also reformed the trading relationships. Most organizations need to adopt the new technology in the new environment and enhance their businesses efficiency to gain competitive advantage and to succeed in the global economy. One of the new challenges in the competitive and global economy is E-Finance including electronic payment (Magutu, et al., 2011).

E commerce technology is considered one of the most important factors to gain competitive advantage in the global economy.

E-commerce, which is combination of traditional commerce and Internet, has brought dramatic changes of the way business transactions are conducted prompting banks, as the intermediary financial instruments, to adopt and adapt electronic payment systems (EPS).

These E-payment systems which include debit and credit cards, electronic fund transfer, mobile payments platforms and internet banking are already in use in Kenya market. Importantly to note is the fact that electronic payment instruments are not used with equal intensity even in developed countries due to various reasons. The research thus is focused on identifying key drivers for usage of EPS in Kenya market by banks.

The birth of information and communication technology (ICT) as a result of merging of computer science and telecommunication engineering brought dramatic changes of the way business is conducted to compete in the market place and

spread throughout the globe (Schneider, 2011). The combination of traditional commerce and Internet, providing opportunities for business or organizations to develop new business models to take advantages of globalization is known as electronic commerce or e-commerce. Chaffey, (2009) describes e-commerce as all electronically mediated information exchanges between an organization and its external stakeholders.

That means e-commerce includes other activities, "such as businesses trading with other businesses and internal processes that companies use to support their buying, selling, hiring, planning, and other activities" (Schneider, 2011; Zwass, 2003). In a university setup, a student applying for a course online is an example of a web self-service which is part of e-commerce (Chaffey & Wood, 2005). Therefore e-commerce involves digitally enabled commercial transactions between and among organizations and individuals with exchange of value across boundaries while e-business is the digital enablement of transactions and processes within a firm.

Security/Trust on Performance of E-payment System at MOEP

Security features such as authentication, authorization, privacy and encryption can influence user's perceptions of security for electronic finance transactions and contribute toward enhancing customers' perceptions that the e-finance transactions are secure and safe to send through sensitive information and pay on-line.

Akintoye and Araoye (2011) identify features of an effective electronic payment system from four dimensions: technological, economic, social and regulatory. The technological dimension focuses on system's expandability, efficiency and security in handling each transaction, its compatibility with

other payment systems, and its level of complexity for consumers to adapt to the system.

Business and financial transactions require secure deposit and withdrawal of money to and from bank accounts, secure data, application programs and databases, secure transactions and payments, secure communication networks and secure network maintenance and management. Security must address authenticity, privacy, integrity and non-repudiation. The type of transaction whether online or offline should be known-the former may be associated with micro payments while the later supports large payments.

Economically an online payment system makes sense with respect to designing it, building it, running it, maintaining it, and upgrading it, besides its acceptance and widespread use by the consumers. All these are reflected in the cost of transaction, where costs incurred by seller and buyer in a transaction are kept at minimal.

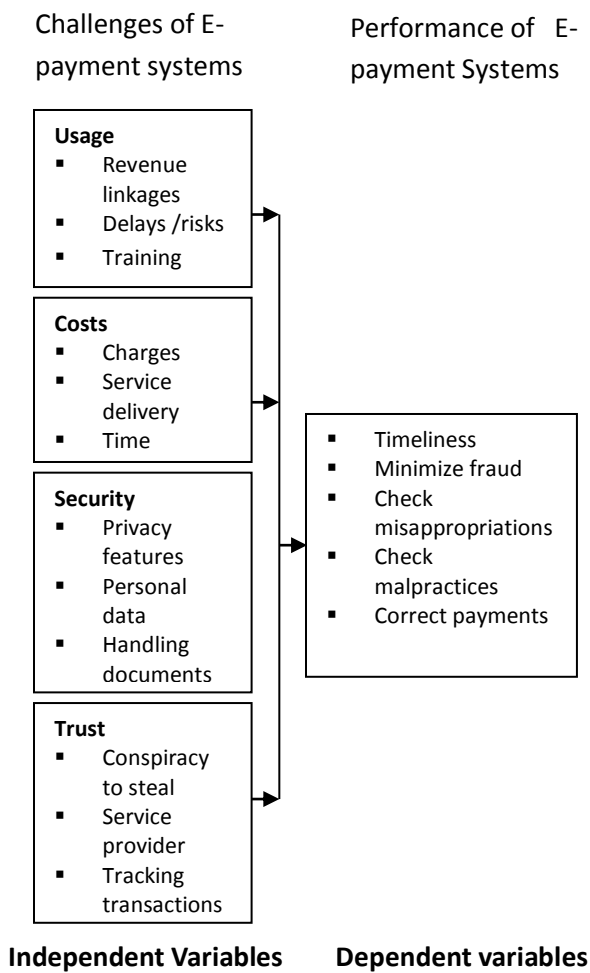
This includes both direct and indirect costs; atomic exchange- EPS must involve consumers paying money or something equivalent in value (tokens) in a transaction; user reach-which refers to the range of users to whom an EPS is accessible, whether countries or ages; value mobility- EPS token circulation is limited to the community authorized by the issuing company, the token may be valued by large number of parties at different places and passed along as gift or exchanged for currency in equal value; and financial risk-where concern is on level of security for online transactions, potential damages or losses that may be incurred.

Thus the sharing of risks must be spelt out clearly in an EPS. Social needs a real s necessary for consumers to develop trust and acceptance" of the E-payment system. Anonymity is a social aspect meant to protect the privacy of consumers and to

prevent companies or financial institutions from tracing users purchasing preferences or behavior. The EPS should also be user friendly, i.e., it should be simple and easy to use especially in micropayment. Mobility of the system is critical so that it can be shared and used anywhere and not tied up in a PC.

Again, the operational features should be such that the customer and merchant should not have a pre-existing business relationship before transacting. The system should support impulse buying. Ideally, the three above dimensions are together bound by the government regulations which govern online business transactions.

Conceptual framework



METHODOLOGY

Research Design

This study used descriptive research design. It employed an exploratory research to explore the variables and provide an opportunity for the researcher to collect systematic information to investigate challenges facing performance of E-payment s system in government ministries in Kenya. In this study the unit of analysis included Accounts, Procurement, ICT Section/Council, Library Support Staff /Employees, Transport, National Treasury, Central Bank/Service Providers and Secretaries.

Data collection was both interactive (interviews and focus group discussions) and non-interactive involving questionnaire and document analysis. This triangulation enabled the researcher to obtain a variety of information challenges facing performance of E-payment in government ministries in Kenya. Data was analyzed by use of descriptive statistics; through quantitative and qualitative techniques. Qualitative data was drawn from open-ended questions in the questionnaire, document analysis, interview guide and focus group discussions to present the findings. This involved a critical assessment of each response and examining it using thematic interpretation in accordance with the main objectives of the study, which were then be presented in narrative excerpts within the report.

RESEARCH FINDINGS AND DISCUSSION

The interviews were apportioned in equal proportions to the respondents. This enabled the researcher to obtain unbiased, consistent reports. The variance of employees, consultants organizations and suppliers as outlined provided a safe and wider scope of challenges facing performance of E-payment s systems and to cover up any loophole and or inadequacies through

checks and balances and ultimately to yield an objective balanced valid and reliable outcome, To give every respondent an equal Opportunities of participation samples were drawn from each section as earlier indicated. To cover the above information the respondents were sampled from the consultants and suppliers/ merchants and employees in the Ministry of Energy and petroleum, the Central Bank, the ICT consortium and The National Treasury in Nairobi, therefore it was convenient and proximate to distribute Questionnaires and interview respondents adequately.

On work experience, majority of the respondents that make up 40% of the total respondents had worked for the ministry for over 5years. In essence it could be deduced that majority of the respondents were well vasted with the operations and the undertakings of the ministry of energy and petroleum with respect to challenges facing performance of E-payment s systems. Majority of the respondents were in the cadre of middle level managers with a 60.2% in employment. This was an indication that a majority of the respondents were persons who had acquainted themselves with E-payments systems on a routinely basis. It could then be deduced that the respondents were highly conversant with the E-payment systems and ably responded to the questionnaire and interview guide.

Electronic payments have proven to boost economic growth, while advancing financial inclusion. The National Treasury published regulations to operationalize the Public Payment Act before the electronic payment system started operating. The Government has done so much in terms of digitizing its payment system.

According to a report by the Auditor General, ministries and departments failed to account for

over Kshs 338 billion of the total Government spending for the 2011-2012 fiscal year. The Auditor General states in the report that only six per cent (Kshs 55.2 billion) of the Kshs 920 billion that the Government spent during the financial year was fully accounted for. An additional expenditure of Kshs 561 billion was not supported by adequate documents, thus the move to automate the payment system to seal loopholes for corruption.

The auditor said a third of the 252 financial statements of institutions audited were either deliberately misstated or revealed fraudulent expenditure, according to the Auditor General. The new payment systems would therefore help track Government transactions electronically hence eliminate fraud. It is in the backdrop of the aforementioned that the study found out 100% compliance of E-payment system in all government ministries in Kenya. An interviewee confirmed that;

The market is shifting to be able to provide electronic payment services. Demand has already been created, so players on the supply side are working within the ecosystem to ensure that electronic payments become a reality,” the government’s decision to migrate to the cashless payment in all public institutions is also playing a major role with payments in the transport sector also migrating to cashless form. The other thing that is happening is that there are also a lot of contactless payment cards that are on issue, as well as tap-and-go devices that are also on the rise (Interviewee).

As a technology usage concept, the E-payments usage roadmap was derived from the integration of Technology Organization Environment (TOE) and Technology Acceptance Model (TAM) with enhancement from risk perception model .The TOE model identifies three aspects of an enterprise's context that influence the process by which it

adopts and implements a technological innovation: Technological context, Organizational context, and Environmental context .The TOE theory does not address the human behavioral aspects in systems usage but it is very solid on addressing technical and environmental issues. TAM proposes perceived usefulness (PU) and perceived ease of use (PEOU) as the fundamental determinants of IT usage.

An individual's intention to use a system is explained and predicted by his perception of the technology's usefulness and its simplicity. In the case of E-payment systems in government, it is the government employees' perception either as individuals or as the whole entity towards the concept that should be addressed through change management and awareness. As much as these models address both the technical and human issues, they do not sufficiently address the issue of change management, stakeholder engagement and other none technical perceptions like information security and risk.

95% of the payments made to suppliers were through electronic method (cashless) a paltry 4.7% was paid through cash method .As technology advances, so do the methods used to pay bills. Nowadays, most bills are paid via direct debit or online, but there are still plenty of people who pay their bills in a post office or by cheque the government ministries are overly directed by the ministry of finance with regard to e payment transactions.

It is deduced that most government ministries sought to complete their data interchange with E-payment s and gained from the associated cost saving and convenience offered to suppliers / consumers, at the same time they needed appropriate security system to ensure that during the financial / business transactions and electronic payment, all customers'/suppliers information was protected.

Therefore electronic payment technology need to provide security mechanisms as a sufficient safeguards in the form of digital signatures, encryption and Web seal assurance etc, whereby e-finance users perceptions can be gained. The fast growth of Internet and E-payment usage require a fast and similar growth in security system to satisfy the E-payment users especially those who use the electronic payment transactions. One of the interviewees explained that;

Presented payment systems for the Internet was an easy target for stealing money and personal information. Clients had to give credit card or payment account details and other personal information online. This data was sometimes transmitted in an un-secured way. In practice this happened even in spite of introduction of secure transactions mechanisms, such as Secured Socket Layer. Providing these details by mail or over the telephone also entails security risks (interviewee).

However the study also found out that Suppliers / Customers tend not to trust offered systems with the long history of fraud, misuse or low reliability. At that situation, money loss by customers was quite possible when using existing payment systems, such as credit cards for Internet payments. Potential customers often mentioned this risk as the key reason why they did not trust a payment service and for that reason did not make Internet orders.

Challenges of e payment affecting performance in organization

The study found out that there were several challenges affecting usage of E-payments in developing countries' governments. This included:- Lack of adequate and reliable infrastructure, Security concerns by the population, Inadequate skills due to low levels of computer literacy, Lack of legal and institutional frameworks in governments on E-payment s ,Integration issues ,Lack of

knowledge and awareness on E-payment s, Lack of trust in electronic payments .

Specifically the study established that the challenges of E-payment system that directly impeded on performance at the MOEP included the dire need for training and inexperienced work force. 84.2%of the total respondents in agreement that training was needed and 15.8% of the respondents ageing further that inexperience of the employees were also a challenge. Though the legal and regulatory framework had been dealt with through the enactment of Kenya national payment systems Act of 2011, the act fell short of addressing several issues like custodianship of the payment systems. Other than the legal framework, the issues above were to a larger extent technical issues that did not address the human factors. Stake holder engagement and change management should also be considered for effective usage of E-payment s in government.

For effective e-government usage, the concept should have been looked at from User characteristics (perceived risk, perceived control, and internet), Website design (perceived usefulness, perceived ease of use), Service quality and Client satisfaction perspectives. Indeed there were other frameworks and models developed in the area of e-government services however most of these frameworks we either for evaluating the impact of e-government services or for assessing its implementation.

Effect of cost on performance of E-payment systems

The study established that there were three factors stimulating the development of electronic payment systems. These included, reduced operational and payments processing costs, growing online commerce and decreasing the costs of technology, Reduction of costs is one of the key reasons for research and development of EPSs. The central

impetus for e-commerce and e-business was to provide a more efficient service, mainly in terms of costs. So, paying online with traditional payment systems such as credit cards was rather paradoxical, given that credit cards were one of the most expensive of all reachable mainstream payment means for both end consumers and merchants, defeated perhaps only by paper checks. 70.2% of the respondents felt it was Convenient and communicated with the banks any time and place 27% preferred RTGS Real Time Government Settlement whilst 3% preferred EFTR (Electronic Funds Transfer). The change in consumer behavior was reflected in the increasing use of electronic payment systems in the government ministries.

The volume of cheques processed through the cheque clearing centres had shown a declining trend in terms of both volume and value. This has been reinforced by the introduction of the ecommerce and Internet banking. The study established that quite a large number of Ministries payments has more than quadrupled since the last decade, while electronic funds transfer and bill payments conducted through Internet banking and E-payment systems has been on an increasing trend. More customers/ suppliers are drawn to Internet banking, which is gaining acceptance in Kenya with now over 1 million subscribers. Increases have also been recorded in the number and value of ATM transactions and card payments.

The study established that while the pace of the transition from paper-based payment instruments and systems to electronic instruments was increasing, the usage of electronic payment solutions needed to be accelerated. Consumers and businesses had to become familiar with using the new payment methods and their advantages.

The ministry of energy and petroleum in particular, should take advantage of electronic delivery

systems to improve their access to e-payment systems finance. This would be an initial step toward venturing into e-commerce as a means to penetrate new markets. In this respect, the ministry had drawn up a service charter to raise consumer's awareness of its convenience, speed and efficiency and to encourage its use.

It was noted that a smooth functioning payment system was critical to the effective functioning of the economy. As the payment systems continued to evolve, Central bank of Kenya and the National treasury in conjunction with the ICT consortium, will continue to facilitate and foster the safety and efficiency of the payment systems to safeguard public interest. To enhance the efficiency of the payment systems, Bank had recently reviewed the legal and regulatory framework of the payments system. A comprehensive legislation on E-payment systems is being put in place to provide the Central Bank of Kenya responsibility under the National Payments System mandate a properly functioning payment system that enhances safety, efficiency and minimizes system risk. It is founded on a clear, transparent, and enforceable legal framework. This is in line with Bank of International Settlement Principles of Financial Market Infrastructures.

The study found out that the most crucial area that needed attention and more funds disposed to it thereof was more training with a frequency of 76 accruing to 44.4% of the total sample size. It was also established that more expenditure was incurred on seamless operations without interruption of any nature or system failure with a frequency of 40 and a valid 23.4%. It was also established that competence and well trained staff was imperative with a frequency of 19 and overall 11.1% with similar percentage was the need to improving the working conditions by purchase of more furniture, better accommodation for staff /

employees and generally conducive working conditions.

Other areas of concern included; Ability to track all transactions, retain the already operational system and create awareness amongst all users including clients whose costs were below 10%.

The study found out that 81.3% of the total respondents did not attribute the cost of epayment system to performance at MOEP. 15.2% asserted that the costs of epayment systems and performance were imperative that relate to each other in an end to end process and incorporates all the other subsystems . A small 3.5% agreed that the costs of e payment systems on performance are expensive.

Migrating from paper-based payments to electronic payments would improve the overall efficiency of the payment system, and provide meaningful cost savings and efficiency to the entire economy. By driving the displacement of cash and cheques through more intensive use of electronic payments, resources involved in manual processing could be redeployed and cost related to cash and cheque handling could be considerably reduced.

Electronic payment, which was a more expedient and efficient means of payment, provide the opportunity to improve productivity levels and lower the cost of doing business. Studies have shown that shifting from paper based to a more electronic based payment system can generate an annual savings up to 1% of GDP.

Supplier's requirements

Supplier's requirements influenced implementation of E-payment system 20% felt it did to Very great extent , whilst 22% felt Supplier's requirements influenced implementation to a Great extent ,32% felt Supplier's requirements Moderately influenced

implementation, whilst 18% said Supplier's requirements did not all influence implementation, some 7% stated Supplier's requirements did so a little bit.

Security/Trust and performance of E-payment systems at (MOEP)

Electronic Payment is a financial exchange that takes place online between buyers and sellers.

On security/ trust on performance of e payments at (MOEP) 43% felt security was of concern to Very great extent and influenced implementation, whilst 36% it was to a Great extent a factor, 16% felt security concerns Moderately influenced implementation, 5% cumulatively felt security factors influenced implementation A little bit and Not at all.

The study found out that the major issues in security and trust were; Security of data transmissions; The need for treatment of cryptography in both domestic law & international agreements government access to public key codes of private cryptography and mutual recognition of cryptography standards. Privacy protection; the need for explicit privacy protection laws & regulations or policies to govern the use of personal data by on-line services, Digital signatures and electronic contract; The need for revising new legislation on electronic transactions and Certification and Certification Authorities; The need for credibility & security for EC transactions both domestic & international.

Government regulations

The use of noncash, electronic payment instruments for government payments may significantly improve cost savings at all levels of national economy Government. Payments can play an important role in promoting financial inclusion by extending non-cash, electronic payment

instruments to the Unbanked. Large Scale government payments projects encouraged coordination and cooperation between financial service providers and government authorities to develop efficient business processes for delivery of payment solutions. Scale and importance of government payments could play an important role in promoting growth and innovation in a country's retail payment infrastructure. Enabling legal framework merchant/Agent network Linkages with existing inter-bank and payment card networks.

The study established that, The following Acts and Regulations govern the payment infrastructure in Kenya: Central Bank of Kenya Act- CBK Act, National Payment System Act- NPS Act 2011, National Payment System Regulations, 2014, Kenya Information and Communication (Amendment) Act, 2013, Consumer Protection Act, Proceeds of Crime Act and Anti-Money laundering Act, 2012, International Standard Setting Bodies: Bank of International Settlement- BIS, Committee on Payment and Settlement Systems, International Organization of Standards (ISO) and Financial Action Task Force (FATF). Others were Data Protection Bill Cyber Crime and Computer Related Crimes Bill. The study also found out that regulatory and legislative developments of e-payment in Kenya included Mandate of the Central Bank of Kenya Act under Section 4A (1) (d) which was to formulate and implement such policies as best promote the establishment, regulation and supervision of efficient and effective payment, clearing and settlement systems,

E-payment s and government regulations

Government regulations influenced performance of E-payment system 38% felt regulations did to Very great extent, whilst 41% regulations influenced implementation to a Great extent, 18% felt regulation moderately influenced implementation,

3% regulations influenced implementation A little bit.

The study established that key drivers in the use of electronic payments by governments included; Current economic environment requiring governments to reduce transaction costs and improve efficiency for all types of payments and collections. Most governments were placing emphasis on control & compliance to control fraud and leakages. Unique government regulatory & reporting requirements were forcing choice of payment instruments electronic payments mandated for certain types of payments. Government requirements were driving the need for design and implementation of innovative “solutions” by financial institutions.

Conspiracy between staff and clients to steal

ATM and EFT, POS networks, Credit bureaus, Rules and standards for inter-operability, dispute resolution and consumer protection.

Conspiracy between staff and clients to steal influenced implementation of E-payment system 18% felt it did to Very great extent , whilst 17% felt Conspiracy between staff and clients to steal influenced implementation to a Great extent ,28% felt Conspiracy between staff and clients to steal Moderately influenced implementation, whilst 23% said Conspiracy between staff and clients to steal did not all influence implementation , some 13% stated Conspiracy between staff and clients to steal did so a little bit .

The study found out that it was an all-too-familiar scenario. An employee gave his two-week notice that he was quitting and going to work somewhere else. So be it. The problem, however, was that during this period he could secretly copy documents, e-mails and files from your computer system to send to his new employer, and he would delete other files from your computer to cover his

tracks and cause you harm. This situation happened a lot. The crime of conspiracy was traditionally defined as an agreement between two or more persons, entered into for the purpose of committing an unlawful act.

At first carefully delimited in scope, conspiracy evolved through a long and tortuous history into a tool employed against dangerous group activity of any sort. The twentieth century in particular has witnessed an expansion of conspiracy law in the face of modern organized crime, complex business arrangements in restraint of trade, and subversive political activity. At the same time, indiscriminate conspiracy prosecutions have sparked great controversy, not only because the vagueness of the concept of agreement and the difficulty in proving it frequently result in convictions with only a tenuous basis for criminal liability, but also because conspiracy law involves a number of extensions of traditional criminal law doctrines.

E-payment and service providers

Influence from service providers influenced performance of E-payment system. 25% felt it did to Very great extent, whilst 20% felt Influence from service providers influenced performance to a Great extent, 28% felt Influence from service providers moderately influenced implementation, whilst 19% said Influence from service providers did not influence performance, some 8% felt that Influence from service providers did so little. Innovation in the financial services sector positively contributed to an efficient and effective payment, clearing and settlement system.

In addition, innovation contributed to improved financial access which was key attribute of the financial inclusion agenda. At an advanced level, innovations ultimately lead to an enriching customer experience that result in the satisfaction of the public good/ service.

E-payment and Volume of transactions

The market was shifting to be able to provide electronic payment services. Demand had already been created, so players on the supply side were working within the ecosystem to ensure that electronic payments government's decision to migrate to the cashless payment in all public institutions was also playing a major role with payments in the transport sector also migrating to cashless form. A lot of contactless payment cards that were on issue, as well as tap-and-go devices that were also on the rise, Kenya's only systemic significant payment system used for large value and time critical payment instructions.

It was a Real Time Gross Settlement system (RTGS). This is used for clearing Electronic Fund Transfer instructions (EFT) and cheques. Various modernization initiatives had been implemented; Value capping 2009, Cheque truncation 2012 enabled T+1 clearing cycle .This industry continues to register growth with mixed fortunes. To reduce fraud, the industry is using EMV compliant infrastructure – cards, ATMs and POS.

Volume of transactions influenced implementation of E-payment system 54% felt it did to Very great extent, whilst 26% felt Volume of transactions influenced implementation to a Great extent, 10% Volume of transactions Moderately influenced implementation, whilst 5% said Volume of transactions did not all influence implementation , some 5% Influence from Volume of transactions did so a little bit A payment instrument qualifies for designation if it is of widespread use as a means of making payment and may affect the national payment system, if the designation is necessary to protect public interest, and if it is in the interest of the integrity of the system.

Ease of use

The study observed that The Kenya Information and Communication Act (Part VI A) provided the

legal recognition to electronic transactions. Some of the key areas that it deals with are: facilitate electronic transactions by ensuring the use of reliable electronic records; facilitate electronic commerce and eliminate barriers to electronic commerce such as those resulting from uncertainties over writing and signature requirements.

The promotion of public confidence in the integrity and reliability of electronic records and electronic transactions; foster the development of electronic commerce through the use of electronic signatures to lend authenticity and integrity to correspondence in any electronic medium; promote and facilitate efficient delivery of public sector services by means of reliable electronic records; and develop sound frameworks to minimize the incidence of forged electronic records and fraud in electronic commerce and other electronic transactions (Cyber Crimes) . However the study found out that, as a growing and dynamic field, there were certain areas that needed to be strengthened to further enhance confidence and trust in the payment landscape. These areas were as follows: Data Protection Laws and Regulations specific to electronic transactions. Cybercrime, Computer Crime Laws and Regulations.

Ease of use influenced performance of E-payment system 47% felt it did to Very great extent, whilst 26% felt Ease of use influenced performance to a Great extent, 23% felt Ease of use Moderately influenced implementation, whilst 3% said Ease of use did not all influence implementation, some 2% Ease of use did so a little bit. In view of the above assertions , it was deduced that the sheer volume and variety of payments government agencies must contend with, coupled with a heightened focus on transparency, security and compliance, makes the government E-payment s unique and hence the need for E-payment s in government .

However Although the government of Kenya had made efforts towards realizing an integrated cashless system through enactment of various legislations very little gains had been achieved due to very low uptake of the E-payments platforms provided. This was attributed to lack of a roadmap or universal guide that provided a management centric approach that offered clear guidelines on how E-payments should be implemented while taking into account the unique requirements of different Ministries, Departments and Agencies (MDA). It was found out that there had been wrong perceptions of government E-payments and outright resistance by some MDAs and mistrust among government agencies on which MDA should own and operate the Kenya national payment gateway through which government E-payments were to be done. Some government entities implemented their own payment gateways.

E-payment and general growth

General economic growth influenced implementation of E-payment system 39% felt it did to Very great extent, whilst another 39% felt General economic growth influenced implementation to a Great extent, 15% felt Influence from General economic growth Moderately influenced implementation, whilst 5% said Influence from General economic growth did not all influence implementation, some 3% Influence from General economic growth did so a little bit. Moving towards an economy dominated by cashless transactions can bring tangible benefits to both emerging and developed economies.

All payment systems instruments had resulted to transfer of huge sum of money from one area or person to the other. Efficient payments systems promotes and support regional flows by increasing speed, convenience, reducing cost, lowering payment risks and ensuring a high degree of finality and affects directly the efficiency of the circulation

of goods and services and the pace of economic expansion. An increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Economic growth can be measured in nominal terms, which include inflation, or in real terms, which are adjusted for inflation.

For comparing one country's economic growth to another, gross national product or gross national product per capita should be used as these take into account population differences between countries. Economic growth is achieved by increasing the economy's ability to produce goods and services. This goal is best indicated by measuring the growth rate of production. If the economy produces more goods this year than last, then it is growing. Economic growths also indicated by increases in the quantities of the resources (labor, capital, land, and entrepreneurship) used to produce goods.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary of Findings

There are several challenges facing performance of E-payment systems in government ministries in Kenya, as is in the case of ministry of Energy and petroleum Nairobi. These challenges are occasioned by the levels and rate of usage of E-payments by the ministry, the costs involved to engage the ministry in the e-payments systems and the issues of security and trust as addressed in the processes of E-payment systems in government ministries in Kenya. The challenges included lack of adequate and reliable infrastructure, inadequate skills due to low levels of computer literacy. Breakdowns and unprecedented delays, bureaucracies with respect to specimen signatures and authentication, lack of legal and institutional frameworks in governments on E-payments, Integration issues, Lack of knowledge and awareness on E-payments, Lack of

trust in electronic payments. Slow processes and overly misappropriation and maladjustment of records apparent on the face value.

Conclusion

For effective E-payment system in government ministries, the concept should enhance User characteristics such as perceived risk, perceived control, and internet and Website design perceived usefulness, perceived ease of use, Service quality and Client satisfaction perspectives. Indeed there were other frameworks and models developed in the area of e-government services however most of these frameworks were either for evaluating the impact of e-government services or for assessing its implementation but not the challenges facing performance of payments systems in government ministries, a case of (MOEP).

The usage of E-payments involves execution of predefined high-level activities to achieve effective end-to-end usage in government ministries. It identifies all aspects that need to be addressed prior, during and after technology implementation. In other words an E-payment s roadmap is a carefully planned reform of government payment programs that can have far-reaching consequences on the modernization of the national payments systems.

Most technology usage roadmaps do not consider the operational environment and mapping of the business case to the roadmap while at the same time taking care of the human factor. In view of the above assertions the study recommend that to mitigate challenges that face the performance of E-payment systems in government ministries, there is need for the stake holders to emphasize on change management top down in the organizational chart.

This is to enable both the strategists and operational staff to liaise effectively and efficiently

in the process of dispensation of their respective duties and tasks. Stake holder engagement and change management should also be considered for effective usage of E-payment s in government ministries the fundamental determinants of IT usage. An individual's intention to use a system is explained and predicted by his perception of the technology's usefulness and its simplicity.

In the case of E-payment systems in government, it is the government employees' perception either as individuals or as the whole entity towards the concept that should be addressed through change management and continuous Training.

As much as these models address both the technical and human issues, they do not sufficiently address the issue of change management, stakeholder engagement and other none technical perceptions like information security and risk. With regards to costs and E-payment the study concludes that Payment Card Industry Data Security Standards (PCI DSS) certification is required for every merchant or business accepting credit or debit cards, online or off. PCI DSS standards require merchants and processors to meet 12 criteria across six security arenas: Build and maintain a secure network and systems, Protect cardholder data, maintain a vulnerability management program, Implement strong access control measures, regularly monitor and test networks and maintain an information security policy.

These would be requirements are very costly and expensive to sustain. Online payment systems run the proprietary gamut across hardware and software platforms. Credit card-affiliated payment processors, while more secure, can be expensive for online retailers. Added to the expense is the lack of interface between processing systems. It may be difficult or impossible for a PSP to link with other systems, resulting in processing and payment delays, lost transactions, and expensive fees.

Electronic payment system requires large amount of information from end users or make transactions more difficult by using complex elaborated websites interfaces. For example credit card payments through a website are not easiest way to pay as this system requires large amount of personal data and contact details in web form. User's acceptance is "the demonstrable willingness within a user group to employ information technology for the tasks it is designed to support".

Electronic payment systems are not an exception of it. It means these are not successful without acceptance of users. Electronic payment system is an innovative way for online payments. Issues are not accepting easily because of lack of security in changing business-environment. Online payment system requires improvement of information technology. The failure of electronic payment system is depend on the factor that it neglects the needs of users and the market.

Recommendations of the Study

The study recommends that the challenges facing performance of E-payment system in government ministries as is the case of MOEP should be

addressed by Guarantee a reasonable minimum level of security on the network. Security and privacy dimensions perceived by consumers as well as sellers introduce and maintain real-time processing and a combination of features, including integrated systems and gateways, addresses liquidity issues and minimizes delays, while preserving online transaction integrity. Implement strong access control measures, regularly monitor and test networks and maintain an information security policy. Continuous training of all employees/users at all levels and enhancement of ICT manuals

Suggestions for further research

Current literature on the challenges facing performance E-payment systems in government ministries has not sufficiently dealt with issues of diversity and its impact on different levels of people and organizations. Further the E-payment systems and processes are yet to address the emerging threats and risks in the usage of IT. Therefore, research on the impact of E-payment system on government ministries could be beneficial to establish the extent to which performance is measured.

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