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SYSTEMS IN TANZANIA: CHALLENGES AND RISKS

Barnabas Maagi, Assistant Lecturer, Department of Procurement and Supplies Management, College of Business Education, Dodoma Campus; P. O. Box 2077; E-mail: barnabasmaagi@yahoo.com

ABSTRACT

The objective of this study was to examine the risks and challenges associated with e-payment systems in Tanzania and also to develop recommendations for mitigating them. The study used the theory of Technology Adoption Model (TAM) and employed descriptive research design. The study was conducted in Dodoma municipality whereby raw data were collected from 36 respondents using questionnaires as data collection instruments. Data were analyzed by using descriptive statistics whereby frequency of the variables are presented in tables showing the magnitude of occurrence in percentages; Pearson chi-square test was used to test the relationships between the variables to determine if there is any significant difference between them at 10% significance level. Findings indicates that majority of users of e-payment systems in Tanzania (53%) encountered loss in different levels ranging from 1- 5 Millions Tshs. Poor communication was reported the most challenging factor while interbank fund transfer was reported the most secure method in doing online transactions in Tanzania. The study also indicates that there is no significant difference between the challenges and the status of making e-payment transaction while on the other side findings indicates that there is a significant difference between risks of e-payment system and sex whereby the risk is more severe to males than females. Finally, the study provides conclusion and recommendations that could help to address the risks and challenges of e-payment systems in Tanzania.

Keywords: *E-payment system, Challenges and Risks*

1.0 INTRODUCTION

1.1 Background

The use of technology is one of the critical success factors in performing business activities. Among the current technological advancement include the e-payment which enables payment done via electronic medium without involving any physical cash thus considered as one of the crucial support services in the digital economy. E–payment systems enable faster payment, better tracking of transactions, transparency, reduces lead time, cost saving and promote trust relationships between buyers and sellers. However, the system has also exposed serious risks to users of the system (Hamid & Cheng, 2013).

Despite of the benefits stated above, e-payment systems have got challenges and risks which have posed problems to users of the systems. The major challenges include; Lack of usability- e-payment systems requires large amount of information from end users thus becoming difficult for users to apply it; Lack of security- online payment systems are an easy target for stealing money and personal information; E-payment systems are not universally accepted ie, other countries do not accept it; some people do not trust e-payment systems due to long history of fraud, misuse and low reliability; users have a negative perception regarding use of the systems; some users lack expertise in using computers to do online payment transactions; poor infrastructure in some areas makes online transactions to be impossible and high cost in acquisition and installation of computers and internet is another challenge that may face the user (Rachna & Singh, 2013).

E-payment systems also have got some risks to users such as psychological risk due to loss of cash; performance risk especially when the mode of payment affects the self-image of the user; time loss risk especially when the mode of payment takes more time than the other modes of payments and financial risk incurred when the mode of payment causes non-refundable financial loss (Rachna & Singh, 2013).

Security experts warn that African governments and commercial online services are vulnerable to criminals who have the potential to disrupt critical infrastructure (Mc Afee report, 2016). For example, the two largest countries in Africa – South Africa and Nigeria are each estimated to lose $ 500m annually to cyber criminals through online transactions

(ibid). Many African governments have appeared unprepared for these threats and are now racing to tighten their laws.

Tanzania has embarked on deployment of e-procurement system whereby more and more organizations are adopting the e-payment system as medium of payment. The government launched payment systems project whose primary objective was to modernize the country's payment systems in order to attain internationally acceptable best practices by decreasing risks and increasing convenience, affordability and timeliness of the system (Payment Act 2015). Other initiatives include improvements in interbank communication network, and transmission of secured payment instruction using S.W.I.F.T architecture.

Despite of the effort undertaken by the government to deploy e-payment system, users are still exposed to challenges and risks when using the system (Lloyd, 2000). Scholars have reported some risks associated with e-procurement system such as hijacking, hacking, pirating and computer fraud (Hamid & Cheng, 2013). As supported by Cyber crime report (2012), the organizations that heavily depend on the internet and computer network are at risk from cyber attacks. As more and more countries are joining the networked economy the impact of criminal activities on the internet is expanding at a significant pace. Although scholars have tried to alert on the threats arising from e-payment systems, many developing countries including Tanzania have appeared unprepared for these threats compared to developed countries that have started to tighten their laws to tackle the issues. Worse still, information on the challenges and risks encountered under e-payment systems and their severity to users in developing countries including Tanzania are not well known (McCarthey, 1997). For example, in Tanzania, there are no laws that protect consumers against any risks involved in online business. Therefore, this study aims at examining the risks and challenges involved in e-payment systems and propose remedial measures in Tanzania.

1.2 Statement of the Problem

The emergence of new technology including e-payment system has exposed serious risks and challenges to users in undertaking online business transactions and African countries being most vulnerable to the risks (Hamid & Cheng, 2013). Worse still, the risks and challenges of e-payment system in terms of their severity and consequences as well as remedial measures to users of the system are not well known in many developing countries including Tanzania (Mc Afee report, 2016). Furthermore, research studies have reported that the problems of cybercrime in online business transactions are serious in developing countries compared to developed countries. Tanzania has been confronted with the risks of e-payment whereby several users of the system have suffered different losses of resources (Mc Afee report, 2016). Despite of the increasing incidences of risks in online business research studies particularly in Tanzania have taken little attention on this problem. It is from this context that this researcher has been motivated to conduct a study on the problem and come out with possible solution.

1.3 Main Objective

The main objective of this study is to examine the risks and challenges of e-payment systems and to develop recommendations for mitigating the risks and challenges in Tanzania.

1.3.1 Specific Objectives

In order to achieve its goals, the study was guided by three specific objectives:

i. To identify and evaluate the extent of risks suffered by users of e-payment system in Tanzania.
ii. To examine the challenges frequently encountered by users of e-payment system in Tanzania.
iii. To assess the most secure e-payment method preferred by users in Tanzania.

1.4 Significance of the Study

This paper intends to create awareness on the risk of e-payment systems that have reached alarming stage in online business worldwide. The findings from the study will recommend the appropriate and most secure e-payment methods to be used by users in undertaking online business transactions.

2.0 LITERATURE REVIEW

2.1 Definitions of key terms

Risk: The possibility that something bad or unpleasant (such as loss) will happen (Hamid & Cheng, 2013).

Challenge: is a situation or difficulty that impedes someone in undertaking a certain activity/function (Kumaga, 2010).

Hacking means illegal access to information stored in other people's computer (Olufolabi, 2013).

E-Payment means the mode of payment which does not involve physical cash or money. It involves sending money through networked computers from one bank to another (Hamid & Cheng, 2013).

2.2 Consumers Perceived Risk and the Adoption of E-Payment

From consumers' point of view, e-payment enhances faster payment process. However, it is important to remember that there's a vast difference between making technologies available and making it secure and reliable. At a general level, as users interact with a new technology, they will learn the usefulness as well as the risks associated with the technology. Technology Acceptance Model (TAM) proposes that an increase in perceived usefulness leads to a greater intention to use (Davis, 1986).

Security breaches in online business have occurred since early days of technology adoption whereby most of which were credit-card-related (Hamid & Cheng, 2013). Many online vendors require users to register their credit card and banking information assuming that the information will remain secure, but it was proven that the assumption was wrong several times *(ibid).*

Hackers can often easily dupe users accessing online payment systems and banking systems into revealing their account information after receiving official-looking e-mails. But again, e-mail is pretty easy to forge. Even an intelligent user may have difficulty discerning an official e-mail from a forgery (Yarden, 2005).

One of the ways to encourage wider usage of E-Payment is to understand the perception of risks by the users, in turn the understanding will assist service providers and policy makers to offer better services and introduce policies to mitigate risks and exposures to risks (Hamid & Cheng, 2013). Recent surveys (Kaufman, 1999) have categorized risks in three primary areas: information risks, technology risks, and business risks. *Information risks* concern malicious loss of data, piracy, hijacking, virus attack, spy ware, hacking, fraud, unauthorized access, spammers and password theft. *Technology risks* include risks involving hardware, software, telecommunications and databases. These risks include the consequences resulting from the misuse of technology or the use of inappropriate technologies required to address business needs. *Business risks* concern customer and supplier relationships, and risks associated with products and services marketed and distributed over the Internet. They also include risks associated with managerial aspects of the business including personnel and contractual relations. These risks can lead to events resulting in the deliberate or inadvertent loss of assets. Deliberate loss of assets can result from disclosing information, fraud, or deliberate disruption of service.

There are companies that enable financial transactions to take place over the internet, such as PayPal. Many of the intermediaries permit consumers to establish an account quickly, and to transfer funds into their on-line accounts from a traditional bank account (typically via ACH transactions), and *vice versa*, after verification of the consumer's identity and authority to access such bank accounts (Hamid & Cheng, 2013). Also, the larger intermediaries further allow transactions to and from credit cards accounts, although such credit card transactions are usually assessed a fee (either to the recipient or the sender) to recoup the transaction fees charged to the intermediary.

The speed and simplicity of intermediary companies in linking buyer and seller in online business have contributed to their wide spread but this has raised doubts from users who accuse them of abuse, theft, wrongful behavior and other associated problems.

2.3 Methods of online payment

There are several e-payment methods used by people in doing online business as described below:

2.3.1 Credit cards:

A credit card enables its holder to buy goods and services with a credit line given by credit card issuer and the amount will be settled at a later date. Cardholders are billed on a monthly basis and cardholders would have to bear finance charges (interest) on the outstanding amount if payment is not made by the due date ((Hamid & Cheng, 2013). Over

the years, credit cards have become one of the most common forms of payment for e-commerce transactions. In North America almost 90% of online retail transactions were made with this payment type (Turban et al, 2008). Increased security measures include use of the card verification number (CVN) which detects fraud by comparing the verification number printed on the signature strip on the back of the card with the information on file with the cardholder's issuing bank (Turban et al, 2008). Despite widespread use in North America, there are still a large number of countries such as China, India and Pakistan that have some problems to overcome in regard to credit card security. In the meantime, the use of smartcards has become extremely popular. A smart card is similar to a credit card; however it contains an embedded 8-bit microprocessor and uses electronic cash which transfers from the consumers' card to the sellers' device. A popular smartcard initiative is the VISA Smartcard. Using the VISA Smartcard you can transfer electronic cash to your card from your bank account, and you can then use your card at various retailers and on the internet.

2.3.2 Bitcoin

payment processors are a cheaper alternative for accepting payments online which also offer better protection from fraud.

2.3.3 Net banking

This is a system, well known in India that does not involve any sort of physical card. It is used by customers who have accounts enabled with internet banking. Instead of entering card details on the purchaser's site, in this system the payment gateway allows one to specify which bank they wish to pay from. Then the user is redirected to the bank's website, where one can authenticate oneself and then approve the payment.

2.2.4 *Pay*

Pal is a global e-commerce business allowing payments and money transfers to be made through the Internet. PayPal is an acquirer, a performing payment processing for online vendors, auction sites, and other commercial users, for which it charges a fee. PayPal is an intermediary company that enables financial transactions to take place over the internet and permit consumers to establish an account quickly, and to transfer funds into their online accounts from a traditional bank account (typically via ACH transactions), and *vice versa*, after verification of the consumer's identity and authority to access such bank accounts.

2.3.5 Paymentwall

It is an e-commerce solutions providing company launched in 2010, offers a wide range of online payment methods that its clients can integrate on their website.

2.3.6 Google wallet

It was launched in 2011, serving a similar function as PayPal to facilitate payments and transfer money online. It also features a security that has not been cracked to date, and the ability to send payments as attachments via email.

2.4 Mobile Phone Payments Systems in Tanzania

Currently, there are five m-money products on the market: Vodacom M-Pesa, Tigo Pesa, Airtel Money, Ezy Pesa (Zantel Z-Pesa) and Halopesa. In addition, the National Microfinance Bank (NMB) offers a mobile application, "Pesa Fasta," which allows its customers to use their mobile phones to send money to any person in Tanzania, who does not have a bank account. Among the services available to users of m-money are domestic and international money transfers, mobile payments (airtime top-ups, merchant payments, utility bill payments, and salary transfers), and mobile banking (balance inquiries, withdrawals, deposits and credit services) (Inter-media, 2013).

Airtel was the first mobile network operator to introduce a phone-to-phone airtime credit transfer service, "Me2U," in 2005. Airtel partners with Citigroup and Standard Chartered Bank to provide m-money services, including bill payments, payments for goods and services, phone-to-phone and phone-to-bank money transfers, and mobile wallets. Vodacom Tanzania launched the second East African implementation of the Vodafone m-money transfer platform, M-Pesa, in April 2008. In 2010, Vodacom re-launched M-Pesa with a simpler pricing model, better management of the distribution network, and a marketing campaign that targeted the rural, poor and unbanked populations. Tigo, the oldest wireless telecommunications company in Tanzania, was the last to launch an m-money service. Tigo Pesa, was launched in September 2010, focusing primarily on money transfers. Zantel Tanzania introduced a mobile payment service, in 2008, called Z-Pesa. In 2012, Zantel launched a rebranded and upgraded version of its Z-Pesa, the Ezy

Pesa. The upgrades allow employers to pay wages via a mobile phone, and customers to access their Cooperative Rural Development Bank (CRDB) accounts (Inter-media, 2013).

As part of curbing cyber crimes arising in online business, these companies have been taking various preventive measures which includes the detailed system audit trail, ability to flag suspicious activity, and maker-checker functionality that requires more than one member of back-office staff to process large transactions and bank reconciliations (M-Pesa, 2010).

Despite of the wide spread of making payment through online; users are exposed to various risks of losing their resources. There are several cases concerning issues of cybercrime in online business whereby people have suffered losses invariably in terms of money, data, property right etc. For example, it has been reported that the wave of mobile money theft which is part of e-payment system is increasing in Tanzania as fraudsters have come up with new ways of stealing including hacking of the passwords whereby users end up having their money balances tempered with hence leaving them frustrated (TCRA-CCC report, 2017). Furthermore, online transactions in Tanzania still face a lot of challenges such as inconsistent service quality offered by m-money agents, insufficient understanding of the e-payment applications by users, insufficient e-float or cash, network failure etc (Inter-media, 2013).

2.5 Theories

This study has employed the theory of Technology Acceptance Model (TAM) which suggests that the higher the perceived risk (perception) the lower the risk tolerance (attitude) and the less likely the intention to use (behaviour) (Davis, 1989). At a general level, as users interact with a new technology, they will learn the usefulness as well as the risks associated with the technology. Technology Acceptance Model (TAM) proposes that an increase in perceived usefulness leads to a greater intention to use (Davis, 1986). This study extends this proposition to infer that perceived risk influences the intention to use the e-payment system. While there are other factors affecting consumers' adoption of technology, perceived risk is an impediment to the adoption of e-payment system (Luo, 2004). In brief, perceived risk may influence the attitude and behaviour of consumers towards the e-payment services.

2.6 Conceptual framework

2.6.1 Risks and challenges of e-payment systems in a nutshell

Numerous users of internet understand that online transactions have got risks and challenges which have different perils.

2.6.2 Categorization of e-payment risks

Transactional risks: When users are connected in the internet and in the presence of a third-party, transactional risks are likely to occur while carrying out a transaction. The perils such as errors, Piracy, spam attack and other criminal acts will frequently affect users in online transactions.

Risks associated with information security: These are risks arising due to negligent data safekeeping procedure, consequently revealing a person to scam, information obliteration, virus, loss of data, vicious hackers, hijacking, insider assaults and Denial-of-Service (DoS) attacks.

Reputation risks: A person's status could get dented through online financial transaction carried out defectively. For example if a person suffer a loss of fund or his/her physical asset that was ordered through online and paid under e-payment systems this could bring embarrassment to a person (Olufolabi, 2013).

Physical risks: The risk of loss of cash or card or possible injury to the user. For example, hurt or injured if one is robbed.

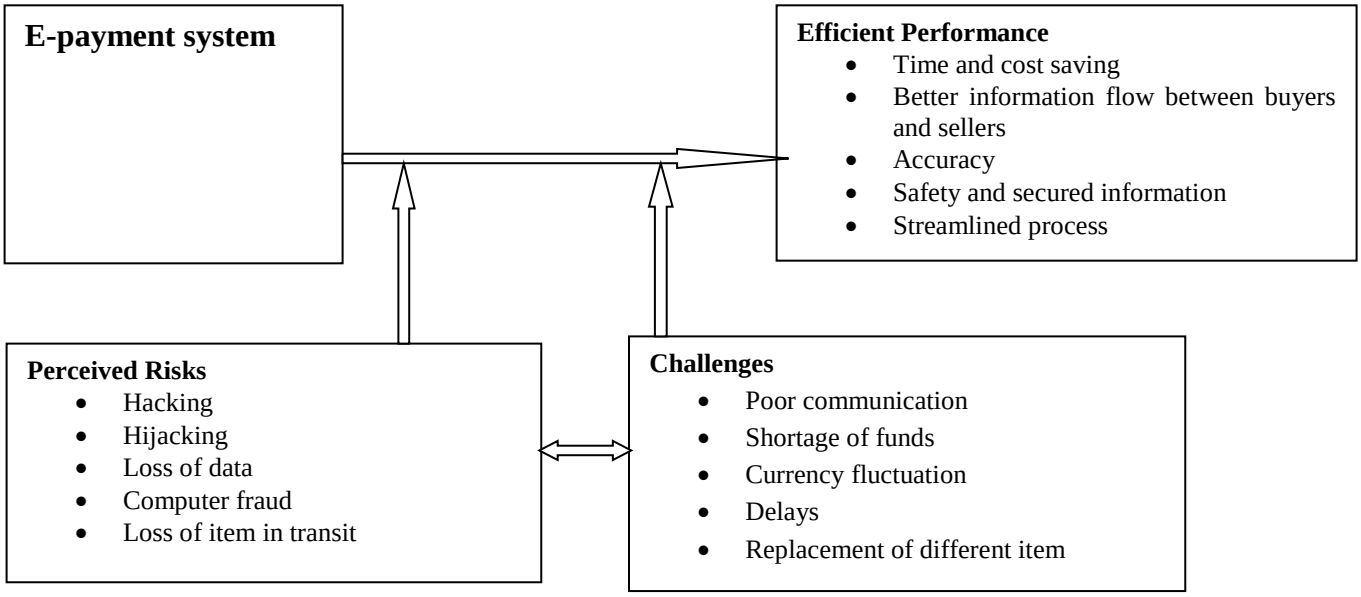
*Performance risks***:** The risk that a mode of payment is not acceptable or incurs extra charges for using it as a mode of payment.

Time-loss risk: The risk that the use of that mode of payment will take more time than another mode of payment.

2.6.3 Challenges of e-payment systems

In Africa, e-payment is characterized by widespread challenges. Poor telecommunications infrastructure, limited readiness by banks, behavioural constraints, inadequate legal and regulating framework, low level of credit card access are among the constraints that have hindered the progress of e-payments (Haruna, 2012). The major challenges of e-payment systems falls into three categories namely "…the infrastructure, regulatory, cultural-cum-human dimensions". The infrastructural challenge is the most paramount. Infrastructural challenges relate to ICT accessibility, affordability, networks, connectivity and usage. In this case, if users are not connected to internet e-payment transactions will be impossible. If there is network failure, communication between the parties under the e-payment systems won't take place also if there is low bandwidth, high cost of connectivity, and frequent power outage e-payment will not be performed. On part of regulatory, if there are no laws and regulations to govern e-payment systems implementation will be difficult. For cultural-cum-human dimensions, resistance of employees in adopting new technologies may make the e-payment strategy fail to be implemented in the organization. Therefore, risks and challenges associated with e-payment systems needs to be mitigated so as to ensure efficient online performance in the organization.

Figure 1: conceptual framework on the risks and challenges associated with e-payment system



Source: Researcher, 2016

3.0 RESEARCH METHODOLOGY

This study employed descriptive design to examine and describe the risks and challenges of e-payment system. This facilitated collection of data that provided description of individuals in a natural setting. The researcher used a cross-sectional survey design in data collection whereby data were collected from respondents at one point at once. This is due to the fact that collecting data by using such a design could generate right information in right time and in economical manner (Kothari, 2009). The study adopted a mixed approach by using both qualitative and quantitative data simultaneously as the two approaches could offset some of the limitations encountered from individual approach. The study was conducted in Dodoma municipality because the region is a capital city of the country which has good and reliable infrastructures conducive for online transactions. This has prompted large influx of people who are shifting into the region hence making the area potential for e-businesses including e-payment transactions. In this view, it is expected that issues of risk and challenges encountered by users in undertaking e-payments will be well captured.

The population for this study includes small and medium traders in Dodoma municipality who normally use online transactions either by ordering goods from abroad or have made e-payment transaction locally in the country. The researcher employed a random sampling technique to access small and medium traders in Dodoma municipal. This is

due to the fact that by using random technique it avoids biasness or subjectivity in data collection hence strengthening validity and reliability of the study (Creswell, 2003). For the purpose of performing the study in right time a sample size of 50 respondents were targeted. However, due to unavoidable circumstances 14 questionnaires were not filled by traders hence making the actual sample size of 36 respondents for this study. The traders were first asked to respond if they had been involved in e-payment system and those who agreed were considered as suitable in the study hence being nominated as part of the sample.

This study used questionnaire as an instrument for data collection. The questionnaires were pretested to five respondents to check their relevance before circulating them to many respondents whereby weaknesses were noted and modifications made accordingly. The questionnaires were designed in semi-structured type to allow respondents be flexible in giving their opinions. Questionnaires were distributed to 50 respondents and they consisted of two parts. The first part was designed to collect personal information of the respondent while the second part was focused to collect data related with meeting specific objectives in e-payment system.

This study was analysed by using descriptive statistics whereby frequencies and percentages of variables were presented in tables for interpretation of results. The Statistical Package for Social Science (SPSS) was used for the data analysis.

4.0 FINDINGS AND DISCUSSION

This part presents the analysis, interpretation and discussion of the findings.

Table 1: Summary of respondent profiles Sample size = 36 respondents

Respondent characteristics	Sub-profile	Number of respondents	Percentage
Gender	Male	26	72
	Female	10	28
Import status	personal	24	67
	Business	12	33
Experience	First time	11	31
	1-5 years	18	50
	6-10 years	7	19
	More than 10 years	0	0

Source: Field data

Table 1 shows that majority of the respondents were male (72%), this implies that males are more involved in e-payment system than females. On part of import status majority of respondents imported their items for personal use (67%) while (33%) imported for business use. This shows that importation of goods for business is low in Dodoma region and the reason given by respondents is that most of them don't have enough capital so they are forced to buy goods from Dar es salaam. The table also shows that majority of respondents had an experience of 1-5 years in import business (50%) which implies that majority of the respondents were beginners in importation business.

4.1 To examine the extent of loss suffered by traders under e-payment system in Tanzania

Table 2: Importer's magnitude of loss under e-payment system

Amount of loss in Tshs	Number of respondents	Percentage
1-5 Millions	9	25
6-10 Millions	0	0
11-20 Millions	5	14
21-30 Millions	5	14
31 and above Millions	0	0
N/A	17	47
Total	**36**	100

Source: Field data

Table 2 shows that (47%) of the respondents didn't suffer any loss during their importation, 25% of respondents suffered a loss between 1-5 millions Tshs while 14% of respondents suffered a loss between 11-20 millions and 21-30 millions Tshs respectively. This implies that there is a significant level of risk encountered when using e-payment system in online business in Tanzania. Although some respondents didn't encounter any loss in their import transactions under e-payment system, the majority suffered a loss ranging from 1 to 5 Millions Tshs. The theory of Technology Acceptance Model (TAM) postulates that the higher the perceived risk the less likely the intention to use the technology. Therefore it can be inferred that low rate of people in using e-payment system as a medium of payment can be attributed to various risks associated with the system as people might be fearing to get loss of their properties in the import business.

4.2 To identify the type of risk frequently encountered under e-payment system in Tanzania

Table 3: Type of risk frequently encountered in using e-payment system in Tanzania

Risk	**Number of respondents**	**Percentage**
Loss of item in transit	4	11.1
Loss of funds	5	14
Loss of data	7	19.4
Hacking	8	22.2
N/A	12	33.3
Total	**36**	100

Source: Field data

The findings in table 3 indicate that in doing online business there are some risks encountered by users of the e-payment system in Tanzania. The main risks reported include hacking (22.2%), loss of data (19.4%) and loss of funds (14%). However, the majority of respondents (33.3%) reported that they had not encountered any risk during their import transactions. Therefore it implies that doing online transactions through e-payment system poses some risks to users of the system. According to Hamid & Cheng (2013), lack of awareness on the availability of e-payment facilities, security concerns and preference for cash are reasons for not using e-payment. Cash is perceived to be cheap, safe, convenient and fast. A negative perception in the use of e-payment system might be lowering the rate of adopting the system hence making them prefer to use cash system. The higher the perceived risk in using the technology the higher the clients will avoid using the technology (Hamid & Cheng, 2013). This argument concurs with the theory of technology acceptance (TAM) which postulates that any technology will be accepted depending on its usefulness.

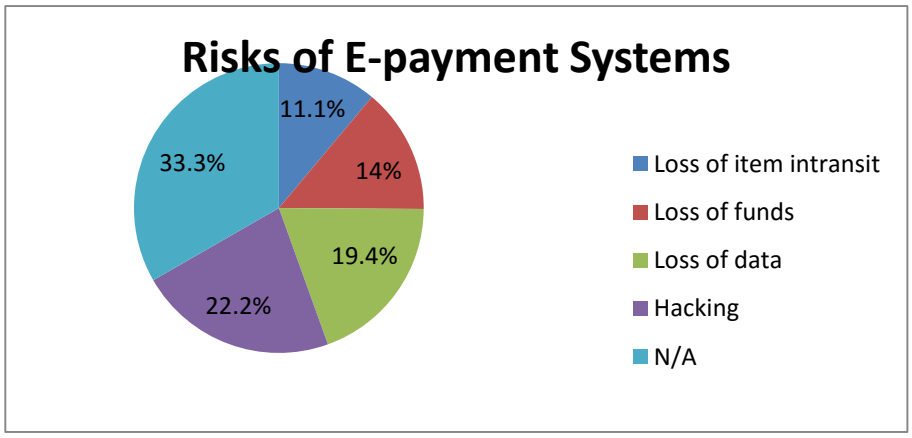


Figure 1: Risks encountered in E-payment Systems as reported by respondents

4.3 To identify the challenges of e-payment system in import business in Tanzania

Table 4: Challenges encountered in e-payment system

Challenge	Number of respondents	Percentage
Poor communication	11	31
Delays in getting the item	4	11
Shortage of funds	5	14
Lack of knowledge and skills	3	8
Language barriers	1	3
Unavailability of supplier's records	3	8
Poor tracking system	1	3
Fluctuation of currency	3	8
Delivery of wrong item	1	3
N/A	4	11
Total	**36**	100

Source: Field data

Table 4 indicates that there are several challenges encountered by traders in doing online business using e-payment system in Tanzania. The findings shows that the main challenges includes poor communication (31%), shortage of funds (14%) and delays in receiving the item (11%). However, some respondents (11%) reported that they had not encountered any challenges. In relation to the Theory of TAM while there are other factors affecting consumers' adoption of technology, perceived risk is an impediment to the adoption of e-payment system (Luo, 2004). This implies that the ever increasing challenges in the import business might be discouraging traders in ordering their goods through online and hence focus more in using the cash system to buy local goods in the country.

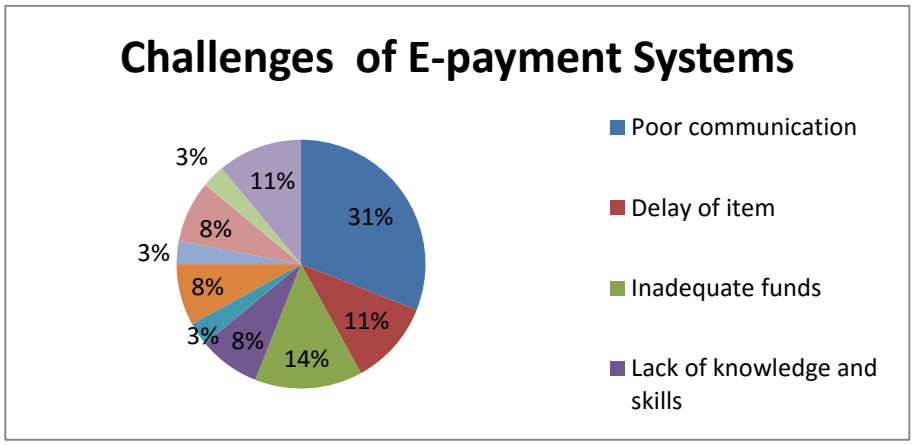


Figure 2: Challenges encountered in E-payment systems

4.4 To assess the level of security of e-payment methods in Tanzania

Table 5: The most secure e-payment systems

Method	Number of respondents	Percentage
Credit cards	8	22
Interbank fund transfer	17	47
Pay trade	11	31
Amazon	0	0
e-bay	0	0
Mobile phone money	0	0
Total	**36**	100

Source: Field data

Table 5 shows that there are different methods of e-payment system used by traders in Tanzania with different level of preference depending on its security. However, the findings shows that the most secured e-payment methods

preferred by traders in paying suppliers online includes interbank funds transfer (47%) and pay trade (31%). Table 3 indicates that the majority of respondents (50%) use interbank fund transfer as a method of paying suppliers after ordering their items online followed by Pay trade method (22%) and credit cards method (17%). This implies that interbank funds transfer method and pay trade are most secure methods under e-procurement system. In supporting the interbank fund transfer method, the reason given by respondents is that a buyer is known to importer's bank (local bank) and supplier is known to his/her bank abroad thus reducing the doubts in e-payment system. On part of pay trade method the respondents said that in case of non-delivery of the ordered item the pay trade refunds the money to the importer thus being more secured. According to Hamid & Cheng (2013) when a consumer is engaged in a higher degree of perceived risk activity, perceived security and reliability tend to be the most critical factor a consumer would consider in his/her judgment to select the e-payment method. Hence, it is plausible to infer that perceived risk can determine the type of e-payment method to be chosen by the buyer in import business.

4.5 Chi-square test of determining relationships between variables

Table 6: Challenges of e-payment system vs status/aim of making the transaction

		Import status		Total
		Personal	Business	
Types of challenges under e-payment	Poor communication	9(25%)	2(5.5%)	11(30.5%)
	Delay of item	4(11%)	0(0%)	4(11%)
	Shortage of funds	3(8.3%)	2(5.5%)	5(13.8%)
	Lack of knowledge and skills	3(8.3%)	0(0%)	3(8.3%)
	Language barrier	0(0%)	1(2.8%)	1(2.8%)
	Lack of supplier's records	1(2.8%)	2(5.5%)	3(8.3%)
	Poor tracking system	1(2.8)	0(0%)	1(2.8%)
	Fluctuation of currency	0(0%)	3(8.3%)	3(8.3%)
	Delivery of wrong item	1(2.8%)	0(0%)	1(2.8%)
	N/A	2(5.5%)	2(5.5%)	4(11%)
Total		24(66.7%)	12(33.3%)	36(100%)

(Pearson chi-square = 15.736, df= 9, p= 0.73)

The findings in table 6 show that there is no significant difference between the challenges of e-payment system and status of the transaction either personal or for business at 10% significance level (p=0.73) implying that the risk can be suffered equally for a transaction done either for personal or for business purpose.

Table 7: Gender versus frequent risks under e-payment system

Frequent risk	Type of sex		Total
	Male	Female	
Loss of item in transit	1 (25%)	3 (75%)	4 (100%)
Loss of funds	1 (20%)	4 (80%)	5 (100%)
Loss of data	6 (85.7%)	1 (14.3%)	7 (100%)
Hacking	8 (100%)	0 (0.0%)	8 (100%)
N/A	10 (83.3%)	2 (16.7%)	12 (100%)

(Pearson chi-square = 15.694, df= 4, p= 0.03)

The findings in table 7 show a significant difference between gender and risks occurring under e-payment systems at 10% significance level (p= 0.03) implying that the risks under e-payment systems are more severe in males than females.

5.0 CONCLUSIONS

It has been observed that the extent of risks encountered by traders under e-payment system is high hence calling for appropriate remedial measures from responsible organs. This is evidenced by the findings which indicate that most of

the users of e-payment system suffered a loss between 1-5 millions of money. On part of the risks and challenges of e-payment system, it is indicated that there is a significant rate of risks and challenges in undertaking online transactions. The major risks encountered by users under e-payment systems include hacking, loss of data and loss of funds while the major challenges in performing e-payment transactions system include poor communication, shortage of funds and delays in receiving the item. On part of secured method, the most secure e-payment methods include interbank funds transfer and pay trade method.

5.1 Recommendations

To policy makers should einforce laws to protect people involved in e-payment system because such a measure will promote online business and build trust on part of users in undertaking online transactions in Tanzania.
To the government: improve the infrastructures of e-payment system such as internet, power supply, telecommunication system etc.

Online business stakeholders should communicate by disclosing cyber-criminal acts to the general public so that users get alerted and take precautionary measures to avoid the risks involved.

Traders should adopt interbank fund transfer and Pay trade methods in undertaking e-payment transactions as these two methods are reported to be more secure compared to other methods.

Recommendation for further research: Issues of cyber-crimes in online business in Tanzania is not well researched hence providing scant empirical information with regard to risks associated with new technologies including e-payment system. Cyber-crime act is like a silent killer on part of the users/traders in undertaking online transactions who get victimized unknowingly. Therefore, further studies particularly on this issue should be conducted by exploring the severity and consequences of the risks in a large perspective.

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