EFFECTIVENESS OF E-PAYMENT SYSTEM ON REVENUE COLLECTION IN ZANZIBAR: A CASE OF ZANZIBAR REVENUE BOARD

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ABSTRACT

The current study aims to examine the effectiveness of e-payment system on revenue collection in Zanzibar using a case of Zanzibar Revenue Board Head office. Data were collected using questionnaires from the sample of 67 respondent in ZRB. To achieve the research objectives, data collected were analyzed using descriptive and inferential statistics. Descriptive statistics aimed at describing the characteristics of the respondent from the field whereas the inferential were determined to investigate the extent to which independent variables influence the dependent variable. Findings shows the existence of positive and significant relationship between System usability in Zanzibar, this was evidenced through computer literacy and awareness. For instance the researcher found the existence of positive and significant relationship between System Usability and the revenue collection. In a way that, any improvement in the e-payment system usability, will increase the revenue collection by 1.420 holding other factors constant. The coefficient was found to be statistically significant at 5% level with the probability value which is less than 0.05 level of significant. It is recommended that, revenue Authority must take care on that system and they supposed to improve such system in order everyone in the community to be familiar with it and make effective revenue collection

*Key Words***: e-payment system on revenue collection**

1. INTRODUCTION

Revenue bodies in most advanced economies have made substantial progress with the adaptation and implementation of e-payment system and electronic filing for personal income taxes and corporate income taxes; although for many this has been achieved only after many years of promotion and refinement of the service offered. Revenue bodies have achieved success with electronic filing by mandating its use for larger businesses (OECD, 2017). United States is among those developed economies which have realized the importance of e-payment system on government revenue collection. In the U.S, most people and businessmen use the e-filing of tax returns to pay their taxes and duties to the government. However, there are other electronic system that the IRS has introduced in recent years to enable taxpayers in their federal tax payments. These include the Electronic Federal Tax Payment System (EFTPS), electronic funds withdrawal, and payment by credit or debit card (Hurtt, 2009).

Though the major aim of Revenue Collection for most governments in East Africa is to stimulate and guide the economic and social development of the country, there are several determinants for an effective realization of the exercise. In Kenya, as its county governments are successfully implementing E-payment to overcome the challenges of the corruption earlier experienced by the former city, municipal and county optimal government revenue collection through taxation has been enhanced (Okiro, 2015). Rwanda is another East African nation which decided to adopt e-payment service in tax revenue collection, and just like its fellow partner states, it believed that the adaptation of e-payment system in taxation will improve tax revenue and bridge the gap in the budget but still it has been observed that there are challenges associated with electronic tax management system especially in realizing the targets of planned budget (Kamana, 2016).

Zanzibar is the islands in Tanzanian archipelago of Zanzibar which has also understood the contribution of e-payment system in tax administration and collection of government revenue collection in general. For instance, according to Masato (2021), the government of Zanzibar through Zanzibar Revenue Board (ZRB) decided to spend over 23billion Tanzanian shillings in establishment of the Government's electronic payment system known as ZITAS. Government's expectations towards the system is that, it will simply the revenue collection tasks and control the government money respectively.

E-payment has been designed to help individual customers and companies as well as the banks themselves in eliminating or reducing some of the problems inherent in the settlement and payment process. Customers can pay their bills without having to actually move to the bank's premises (Balunywa, 2015). They may also have access to their account information and even transfer money to other accounts in the comfort of their homes. The Government of Tanzania, as part of its e-transformation initiatives, is building a shared infrastructure a new e-government technology platform using modern technologies such as cloud computing and offering multichannel access to information including access from mobile devices. At the Platform as a Service (PaaS) level, this environment has several shared services which are also known as enabling services since their successful implementation and operation will give a significant impetus to the development and usage of a broad set of electronic public services (Masato, 2021).

One of these enabling services is Government e-Payment Gateway (GePG). The GePG is an essential platform component within the e-government architecture. As a major building block of e-government, the GePG will enable transactional e-services as well as generally improve services delivered to citizens and enabling them to pay online for public services (liguyani, 2016). To observe the effectiveness of the newly established system, the current study will therefore be undertaken to investigate the effectiveness of e-payment system (ZITAS) on revenue collection in Zanzibar, a case of ZRB.

Lack of security is a challenge facing e-payment systems as online payment systems are seen as an easy target for stealing money and personal information. In addition, Namweli and Magali (2018) reveal that common barriers that hinder the adoption of Electronic Payment System in some countries were poor internet connectivity and power fluctuations. As a result of the above-mentioned challenges, studies are showing that most people or customers in some countries prefer more the use of cash in payments rather than other payment means such as electronic payment systems and mobile payment systems (Mng'ong'ose, 2017).

However, despite various studies being conducted in Tanzania, (Kishura, 2020; Mihayo, 2017; Namwali, 2018) the researcher has found no studies undertaken at Zanzibar Revenue Board specifically on the use of ZITAS. Nevertheless, most of the previous studies were focusing on the challenges affecting the adoption of e-payment system (Mihayo, 2017; Liguyani and Nzulwa, 2016 and Namweli and Magali, 2018). Therefore, this study will be carried to investigate the effectiveness of e-payment system on revenue collection in Zanzibar, a case of Zanzibar Revenue Board.

2. LITERATURE REVIEW

2.1 Technology Acceptance Model (TAM)

Venkatesh and Davis (2000) described the Technology Acceptance Model (TAM) as a model which "explains perceived usefulness and usage intentions in terms of social influence and cognitive instrumental processes". The model was proposed in 1989 by Fred Davis to explain the potential user's behavioral intention to use a technological innovation. TAM is based on the theory of reasoned action (TRA) by Martin Fishbein in the late 1970s. TAM involved two primary predictors— perceived ease of use (EU) and perceived usefulness (U) and the dependent variable behavioral intention (BI), which TRA assumed to be closely linked to actual behavior (King & He, 2006).

Perceived ease of use (EU) has an impact on perceived usefulness (U) which stems from the fact that the easier a system is to use, the more useful it can be. Perceived usefulness has an impact on both attitude towards and behavioral intention to use. Finally, the behavioral intention to use has an influence on actual system use (Venkatesh & Davis, 2000). The model has developed since its creation and has various different variation of it.

Speaking of TAM, Charness and Boot (2016) used an example to illustrate how Technology Acceptance Model (TAM) works. They argued that, an older adult who perceives digital games as too difficult to play or a waste of time was unlikely to want to adopt this technology, while an

older adult who perceives digital games as providing needed mental stimulation and as easy to learn will be more likely to want to learn how to use digital games. However, this model has been criticized on various grounds. For instance, one of the argument and criticism of the TAM model is the notion that the model could explain individual behavior. However, it was reported that the Technology Alignment Model is not robust enough to explain user's behavior about buying, rejecting or accepting to use technology (Ajibade, 2018).

As observed from the above theories, in order for the system to be relevant and acceptable to the community should be ease of use, minimizing of inconveniencies and acceptable to the targeted community. Therefore the ZITAS System is newly installed system in the Revolutionary Government of Zanzibar introduced and working since 2019 used for the electronic payment on revenue Collection.

2.2 Empirical Literature Review

Okiro (2015) conducted a study on effect of e-payment system on revenue collection by the Nairobi City county government and he found that the revenue collection performance in Nairobi City County increased considerably after introduction of an electronic payment system in revenue collection. Therefore, the study concludes and recommends that, the adoption e-payment system positively influences the revenue collection performance in Nairobi City County.

A study conducted by Munyao (2020) about the effectiveness of e-payment system on revenue performance of hotel industry in Kenya revealed that there exists a significant relationship between e-payment benefits and revenue performance. This study concludes that e-payment technology enhances convenience. This is crucial for the hotel to influence more sales from various markets since it allows customers to pay for system at their own comfort. This study concludes that there is a relationship between electronic payment challenges and revenue performance in the organization.

According to Kishura (2020) who conducted a study on the impact of government electronic payment gateway on revenue collection, using a case of ministry of finance and planning in Tanzania revealed that, system of revenue collection was not good before the applicability of GePG but the system improved after the applicability of Government e-Payment Gateway. It is then recommended that the authority should emphasize and invest on provision of education to the public through seminars, workshop, TV sessions and other media to the public about the system provided by the system in order to increase community's awareness of the system.

Urio (2020) conducted a study on effectiveness of GePG on revenue collection in the Tanzania Civil Aviation Authority (TCAA) using secondary data for a period of 21 months from January 2017 to September 2018, which is the period before the adoption of GePG system at TCAA and 21 months from September 2018 to June 2020, which is the period after the adoption of GePG system at TCAA. The study concluded that revenue collection has been improved after Government of Tanzania adopting new system GePG as shown on the above tests.The results demonstrate that after the introduction of government electronic payment gateway system in Tanzania, government revenue collected were better off as compared to the period after government electronic payment gateway.
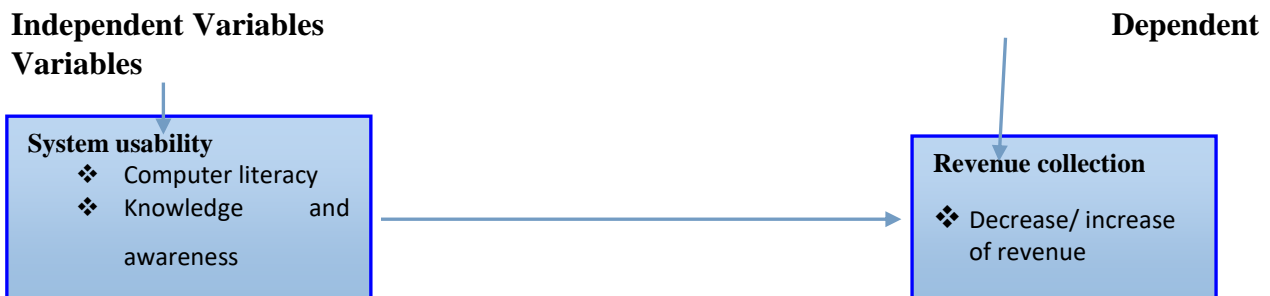
According to Mukuwa and Phiri (2020), there has been a significant increase in revenue collection and tax compliance among Small and Medium Enterprises (SMEs) since the introduction of these e-system. The study also shows that Performance Expectancy, Effort Expectancy and Social Influence affect SMEs' behavioral intention to use the system.

Adegbie and Akinyemi (2020) conducted a study about the electronic Payment System and Revenue Generation in Lagos State. Among other things, the study found out that electronic payment variables (ATM and ETC) have significant and positive effect on personal income tax. The study concluded that electronic payment system influenced revenue generation in Lagos State.

Joseph (2015) conducted a study on the contribution of e-payment system on revenue collection in the local government authority. The results of the study revealed that, based on Arusha city Council, the use e-payment has contributed to highly increase in revenue collection as compared to the previous system of using paper work (m-payment) which ended to loss of revenue, bribery and low tax base and that was depicted through the study of ANOVA test statistics. As a result, the use of ANOVA tests reveals that e-Payment system in revenue collection in Arusha city council has shown positive result as compared to the former payment system (paper work). This implies that Arusha City Council has boost its revenue collection through use of e-payment systems and this was characterized by increase in level of compliance to budget estimates and level of acceptance of e-Payment to the tax payers.

2.3 Conceptual Framework

According to Dickson,(2018) argued that, the conceptual framework explains the way of research and grounds it firmly in theoretical constructs. The effectiveness of training program involves careful consideration so that training and preparation have been adequately completed. The conceptual framework aim to make research findings more meaningful, acceptable to the research field. Figure 1.1 below shows the conceptual framework to be employed in the study.

Independent Variables   **Dependent**
Variables

System usability	Revenue collection
❖ Computer literacy	
❖ Knowledge and awareness	❖ Decrease/ increase of revenue

Source: Developed by researcher from concepts adapted from reviewed literatures (2022)

3.0 METHODOLOGY

According to Saunders, et al. (2012) research design is the all-purpose plan employed to answer the research question. Under this study cross-sectional research was used as it allow the researcher to accurately collect information from the respondent once in a time using administered questionnaires. The design enabled the researcher to collect primary data and describe the

phenomenon from the field and to provide reasonable answers from the characteristics observed from the phenomenon and investigate the relationships between variables.

According to Priya (2016) define the researcher applied quantitative research methods to process information collected from the respondents for the expected results. This study employed quantitative research approach. It is believed that quantitative data aims to provide more information to supplement the qualitative data. Quantitative research approach quantifies variables in terms of numbers using statistical procedures to process them while qualitative study doesn`t quantify variables in terms of numbers, instead it explains variables in exploratory basis. Although there is a difference between quantitative and qualitative research, these two methods they are differ in term of analyze and presentation whereby quantitative normally based on numerical form while qualitative based on statement or words.

The population may involve a larger group of people, institution or things that has one or more characteristics in common on which a study focuses. It consists of all cases of individuals or elements that fit a certain specification (Debois, 2018). The total population of the employees from the institution account to 200 employees from different fields of work in Zanzibar Revenue Board.

The study constitute employees sample size from the relevant study area. This is because the sample size serve as the best and adequate unit of inquiry as subjects since they are useful in providing direct responses to fill the knowledge gap. In that case, the study consists of the sample size of 67 repondent from the ZRB including include Administrative managers, Finance Managers, Revenue accountant, Tax collectors, Planning officers and IT technicians.

4.0 E-payment system usability and Revenue collection

The researcher was interested to examine if usability of electronic payments has significant on revenue collection in Zanzibar Revenue Board using the Likert-scale questionnaires. In order to get reliable answer researcher being able to formulate different questions which determine the e-payment (ZITAS) usability and it's significant on revenue collection. Consider Table4.7 below, Where by SD = Strong Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strong Agree

Table 4.1 ZITAS System Usability & Revenue Collection

S/N	STATEMENT		SD	D	N	A	SA
1	The ZITAS system is not disturbing the process of data transfer.	Count	0	0	8	27	32
		Row N%	0.0	0.0	11.9	40.3	47.8
2	System response handling query from system users after ZITAS is effectively good.	Count	0	2	6	36	23
		Row N%	0.0	3.0	9.0	53.7	34.3
3	The use of ZITAS system has reduced daily work load to the administrative government.	Count	0	2	6	29	30
		Row N%	0.0	3.0	9.0	43.3	44.8
4	All ICT systems, tools and applications implemented in by the department are in operation and stable	Count	0	0	12	36	19
		Row N%	0.0	0.0	17.9	53.7	28.4
5	All staff in government department can use computers for performing their day supporting customers	Count	1	4	18	26	18
		Row N%	1.5	6.0	26.9	38.8	26.9

Source: Field Data 2022

According to findings show that first statement about 32 respondents strongly agreed who are equivalent to 44.8%, this indicate that the ZITAS system is not disturbing the process of data transfer where by many of the respondent have the positive attitude to the statement. Moreover the second statement regarding the effectiveness of the system in handling queries about 36 of respondent agree on that equivalent to 53.7%. In addition to that, on other statement on whether the system has reduced the workload to administrative staff, about 30 respondents equivalent to 44.8 % strongly agree also about 36 of respondent agree equivalent to 53.7%. Similarly, on the last statement on whether the governing department can use computers in supporting customers wherever there is any issue, about 26 of respondent agreed on the statement equivalent to 38.8%. This implies that the system usability seem to be effective on the revenue collection on the Zanzibar revenue Authority. Therefore, the team of management must ensure they come up with good strategic plan which will make the system more effective so that the revenue collection may further improve.

In addition to that, the System Usability had also have significant relationship with revenue collection given by (r=.876, p=0.000) meaning that there is a positive relationship between the

revenue collection and system usability with a correlation of 87.6% which is very high correlation. Also, the relationship is statistically significance at 5% level of significant with a probability value of 0.000 which is less than 0.05 level of significant. These show that when the Zanzibar Revenue Board will increase the ratio of revenue collection by 87.6% only if it simplifies the system to be usable and friendly to every person. The regression model coefficient has revealed that, all independent variables are significant influencers of the dependent variable in the model. That is, there was positive and significant relationship between System Usability and the revenue collection. In a way that, any improvement in the e-payment system usability, will increase the revenue collection by 1.420 holding other factors constant.

These empirical findings were consistent with (Lyatuu, 2020; Kamana, 2016 & Munyao, 2020) who also concluded that the revenue the e-payment system usability, accessibility and speed are effective influencers of revenue collection. Authority most take the necessary action to ensure that system being usable to everyone in the community in order to ensure the revenue tend to increase because if the system is not usable to everyone in the society means the revenue collection will drop by 87.6% therefore the revenue board must make the strategic to ensure the system usable to everyone I the community for the national purpose.

Lyatuu (2020) conducted a study on the contribution of e-payment system on revenue collection in the local government authority. The results of the study revealed that, based on Arusha city Council, the use e-payment has contributed to highly increase in revenue collection as compared to the previous system of using paper work (m-payment) which ended to loss of revenue, bribery and low tax base and that was depicted through the study of ANOVA test statistics. As a result, the use of ANOVA tests reveals that e-Payment system in revenue collection in Arusha city council has shown positive result as compared to the former payment system (paper work). This implies that Arusha City Council has boost its revenue collection through use of e-payment systems and this was characterized by increase in level of compliance to budget estimates and level of acceptance of e-Payment to the tax payers.

6.0 CONCLUSIONS

It was concluded that System usability, System Accessibility and System Speed was dominantly determinant of revenue collection in revenue Authority. The researcher concluded that, e-payment system is increasingly becoming an importance means of payments in today's business. The government authorities' efforts to collect own source revenues through the use e-payment was part of the government overall efforts to improve financial sustainability. The system accessibility and usability are effective for effective revenue collection in the country. Moreover, the speed of the system will make sure the revenue are collected on time and allocated efficiently to other development projects.

7.0 RECOMMENDATIONS

This study recommends that E- Payments mechanism should be adopted throughout the entire organization to allow effective payment process that will generate more revenues for the Zanzibar revenue Board. This study also recommends that Zanzibar revenue Board would permit the use of

various electronic payment systems and to improve their efficient in order to increase the ratio of revenue collection in Zanzibar.

Secondly, efficient in conformation of payment will take longer period of time that will discourage the user to use the E-Payments in their day-to-day activities also Technical Issues. Online payments are vulnerable to technical disturbances, Security Problems, Disputed Processes and Transactions, therefore according to those issue will make few peoples to use such system and other peoples fail to use such system and the corruption will take place therefore, the Zanzibar revenue Board must take care on that system and they supposed to improve such system in order everyone in the community to be familiar with it.

Lastly, the study has established a significant relationship between electronic payment system (ZITAS) and revenue Collection. Therefore, this study recommends that the Zanzibar revenue Authority should integrate payments into the booking engine to allow an effective payment process for customers to take place.

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