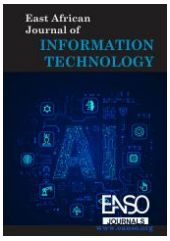

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Original Article

Effect of Computerized Systems on the Organizational Performance: Evidence from Selected Public Organizations from Iringa Municipality

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Employees' Attributes, Frequency of System Downtime, Latency of Computerized Systems, Public Organization, Computerized Systems.

ABSTRACT

This study investigated the impact of computerized systems on public organizations in Iringa Municipality, focusing on the Computerized Accounting System (CAS) and the Government Electronic Payment Gateway (GePG). A mixed research approach and a cross-sectional design were employed, with 100 randomly selected employees from a population of 145 participating through questionnaires and interviews. Data analysis utilized descriptive statistics and multiple regression. The findings revealed that a majority (84.6%) of TRA employees had received training related to computerized systems. Similarly, IRUWASA and TANESCO had a significant portion of trained employees (71.4% and 90.9% respectively). Within IMC and RBWB, 85.7% of employees had attended training, while Mkwawa University and RUWASA showed high training attendance rates at 80%. Concerning network availability, most TRA employees (76.9%) reported inconsistent network availability. This issue was prevalent among IRUWASA and TANESCO employees (63.6% and 90.9% respectively), as well as within IMC and RBWB. The first objective's findings indicated a significant negative impact of system downtime on performance (p-value = 0.000). A one-unit increase in system downtime corresponded to a performance decrease of -0.004. Conversely, training had a positive and significant impact on performance (p-value = 0.013), with a one-unit increase resulting in a performance increase of 0.011. Latency had a significant negative effect (p-value = 0.000), where a one-unit increase in latency led to a performance decrease of -0.039. In light of these findings, it is recommended that public organizations allocate resources for the enhancement and modernization of computerized systems. This should include investments in more robust hardware, software, and network solutions, as well as comprehensive training programs.

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INTRODUCTION

This study aimed to investigate the impact of computerized systems on the performance of public organizations. The study focused on two computerized systems for public organization in Tanzania. These include the computerized accounting system (CAS) and the Government electronic Payment Gateway (GePG). The GePG was established in 2017 as an integrated system supervised by the Ministry of Finance and Planning that linked revenue collection via online for the aim of easing electronic money transactions from the public to the state also from the state to the public (URT, 2020). The CAS on the other hand was established in 1992 in Tanzania and deals with automated financial management functions. Moreover, computerized system refers to the system that consists of software, hardware, application software, operating system software, and backup documentation (Niklas & Martin, 2011). The computerized system is associated with advantages consisting of faster and well-organized record-keeping, right of entry to real-time financial data, automatic invoicing, and cost effectiveness (Rizwan et al., 2002). For instance, the greatest programs utilized in accounting can routinely issue invoices, receipts, and credit transcripts. For this study, the focus was only two computerized systems for public organization namely: The Computerized system (CAS); and the Government Electronic Payment Gateway (GePG).

Computerized systems have become an integral part of modern organizations, reshaping the landscape of business operations on a global scale. The adoption of digital technologies has led to significant improvements in organization performance by enhancing efficiency, data management, and customers' engagement (Smith, 2020). These systems have enabled organizations to automate routine tasks, reduce human errors, and streamline complex processes, ultimately driving increased productivity and cost savings. Moreover, computerized systems have facilitated the collection and analysis of vast amounts of data, empowering organizations to make data-driven decisions that cater to global market demands (Jones *et al.*, 2019). This transformation has given organizations a competitive edge in understanding customers' preferences, optimizing supply chains, and adapting swiftly to market changes.

Computerized accounting systems have emerged as a driving force in the realm of public accounting within the context of financial management reforms (Moshi & Kiowi, 2021). The utilization of these systems within financial accounting has a storied history dating back to the introduction of computer technologies in the late 20th century in the United States, Canada, and Western Europe (Njihia & Makori, 2015). These systems are characterized by distinctive technological attributes that enhance the speed and precision of recording and reporting financial transactions (Anaeli, 2017). The author further

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contends that these systems simplify and amalgamate all organizational business processes and activities. Additionally, they are noted for their cost efficiency and effectiveness, providing stakeholders with a precise depiction of all business operations consequently contributing to enhanced financial performance (Anaeli, 2017; Ado et al., 2020).

However, this digital revolution has also introduced new challenges, particularly in the realm of cybersecurity (Brown & Miller, 2021). With increased reliance on computerized systems, organizations worldwide are confronted with a growing threat landscape, including cyberattacks, data breaches, and ransomware incidents. These risks can have devastating consequences on the organizational performance, reputation, and customer trust. Thus, while computerized systems offer immense opportunities for organizations to thrive in the global arena, a proactive approach to cyber security and compliance with global regulations is essential to safeguarding their operations and ensuring sustainable performance in the digital age.

The system assists Tanzania government to change from using manual accounting towards an automated system. CAS developed into the machine for business expansion that results to its numerous advantages like rapidity in transactions, fast analysis, and correctness (Masanja, 2019). Moreover, the CAS is advantageous in recording accounting transactions using computer over numerous accounting packages. Likewise, users of the CAS are assisted in preparing reports truthfully. In addition, the application of computer system benefits for simplification, integration, cost effectiveness and aids in reporting precisely all the business accomplishments to investors including the financial reports (Masanja, 2019).

Despite the establishment of the CAS in public organization, there is still a number of challenges in ICT with respect to it the first problem is some public organization continuing manual accounting systems which are associated with transaction mistakes (NAOT, 2022). For example, Controller and Auditor General report of March 2022 noted irregularities in Votebook accounting system at the University of Dodoma for the period from July 2019 to March 2021 and recognised that 138 students' transactions of payment worth of TZS 65,606,650 were posted in the Votebook without the GePG and Bank references (NAOT, 2022). This irregularity was accredited to an absence of sufficient controls in the Votebook system to limit manual recording of payments by students (NAOT, 2022). Second, the CAS is associated with the problem of fictitious payments. This, for example, was reported Vote book from the College of Business Education (CBE) Online Students Information System (COSIS) where the CAG exposed that the ICT officer abused the granted access rights by posting two transactions of payments of TZS 370,000 and TZS 50,400 using the same receipt number. As a result, the college experienced losses due to fabricated actions which adjusted students' debts without actual payment being received by the college (NAOT, 2022).

The system facilitates the payment of services delivered by government units to the public. The system integrates with numerous Payment Services Providers (PSP), together with Commercial banks and Mobile Networks to facilitate useful payments over control numbers (URT, 2020). Even with the establishment of the GePG, there are still government entities that have not joined the GePG as required by the Public Finance Act (NAOT, 2022). For instance, the CAG report of March 2022 exposed that the Air Tanzania Company limited (ATCL) had not integrated its billing and revenue application system with the GePG. Likewise, CBE collected a total of TZS 6,136,508,828 TZS revenue collection from 1 March 2019 to 22 January 2021 in cash (NAOT, 2022). In addition, CAG report of March 2022 revealed that, 33 government units had not joined the GePG as required by the Public Finance Act (NAOT, 2022). These included: The Judiciary Service Commission; the Public Service Recruitment Secretariat; RAS Mbeya. Mwanza and Simiyu; the Air Tanzania Company Ltd; the National Water Investment Fund and Others. These entities continued collecting revenue on

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cash basis which was subject to risks of fraud and could lead to loss of revenue (NAOT, 2022).

However, computerized systems in Tanzania government entities are associated with the problem of unreconciled bill amounts among billing systems and GEPG. This is against the Para 4.2 (7) (2) of the GePG framework (2018) that needs service providers to perform daily transactions reconciliation among the GePG payments, billing system and bank transactions (NAOT, 2022). For example, the CAG report of March 2022 noted that Five (5) LGAs: Arusha, Dodoma, Kinondoni, Ilala and Temeke Municipal Council, had a total of 225 transactions of payment in LGRCIS cashbook, but their respective control numbers had expired status in the GePG.

Statement of the Problem

Despite the implementation of the computerized system in the Tanzania public organizations such as the computerized Accounting System (CAS) and the Government Electronic Payment Gateway (GePG), these systems have been associated with numerous problems that constrain the performance of public entities. For instance, the CAS was associated with fictitious payments as reported from the College of Business Education (CBE) Online Students Information where an ICT officer abused the granted access rights by posting two transactions of payment of TZS 370,000 and TZS 50,400 (NAOT, 2022). This caused the losses due to fabricated actions (NAOT, 2022). This kind fictitious payments causes negative effects on the organizational performance.

In addition, computerized systems in the government entities are associated with numerous difficulties. The first problem is low network connectivity that hinders computerized systems to work effectively. For instance, NAOT (2022) exposed 38 pending visa payments in e-immigration application system due to low connectivity with the GePG. This caused a loss of USD 2770 (NAOT, 2022). Further, confirmation of these transactions in the GePG found that 36 transactions had expired, one transaction was cancelled, and the other one was pending (NAOT, 2022). Therefore, low network connectivity is associated with negative effects on organizational performance especially in payment processes of various public entities.

The second problem is high-cost hardware, software, and inadequate regular updates. This problem was exposed in the CAG report of March 2022 for the Electronic Payment System and Metrology and Testing System (ISQMT) lacking updated implementation status. Failure to update the implementation status hinders the government ICT creativity of guaranteeing the optimum use of ICT projects (NAOT, 2022). Moreover, availability of such skilled personnel is very scarce and very costly since many of them are resistant to adopt the changes in the new software systems.

For example, the study carried out at Iringa Municipality in Tanzania shows that since their adoption in the study area, computerized systems have been associated with difficulties (Kilindo, 2018). First are the technical issues, for instance, hardware failure, software bugs, system crashes, and connectivity issues. These issues can result in the system being unavailable leading to disruptions in operations. The second problem is the security risks, for instance computerized systems are more susceptible to malware attacks, and other security breaches (Kilindo, 2018). The third computerized systems problem is human errors that can result in incorrect data entries, programming errors, and other mistakes that can lead to system failures or inaccurate results. The further problem associated with computerized systems in Iringa municipality is resistance to change. Employees may be resistant to change, particularly if they are used to manual processes. This resistance can slow down the adoption of new systems and reduce their effectiveness.

Research Objectives

General Objective

The general objective of study was to investigate the influence of computerized systems on

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organizational performance for selected public organizations in Iringa municipality.

Specific Research Objectives

i. To identify the effect of the frequency of system downtime of computerized systems on the performance of public organizations in Iringa municipality

ii. To determine the effect of employees' attributes under computerized system on the performance of public organizations in Iringa municipality

iii. To determine the effect of latency of computerized systems on the performance of public organizations in Iringa municipality.

Research Hypothesis

The following were the null and alternative hypothesis based on specific study objective;

H_0There is no significant effect of the frequency of system downtime of computerized systems on the performance of public organizations in Iringa municipality.

H_0There is no significant effect of employee's attributes of computerized systems on the performance of public organizations in Iringa municipality.

H_0 There is no significant effect of the latency of computerized systems on the performance of public organizations in Iringa municipality.

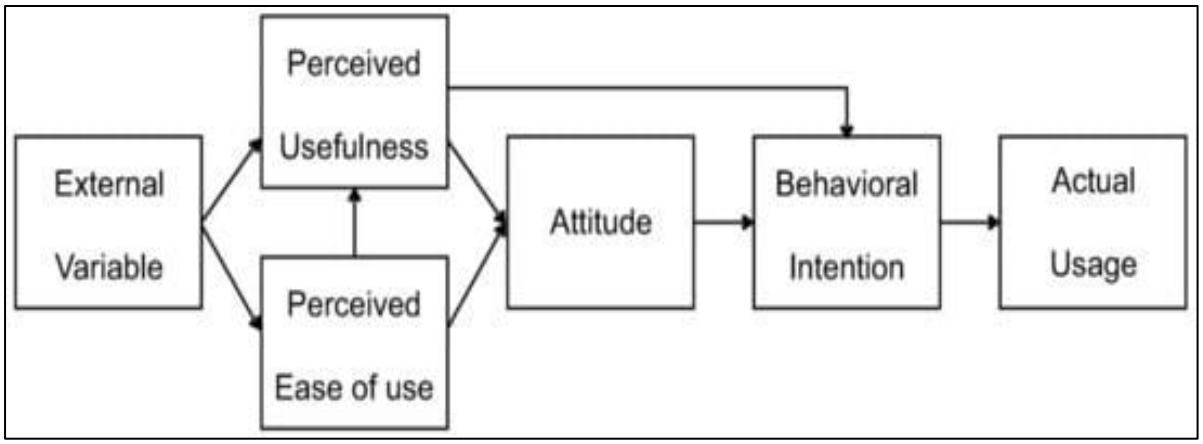
LITERATURE REVIEW

Theoretical Review

The Technology Acceptance Model (TAM)

The theory was recognized by Davis (1989) and focuses on predicting users' attitude on whether they will adopt new technology. The TAM has two determining factors or assumptions namely: perceived ease of use and perceived usefulness (PU) (Marangunić & Granić, 2015). Perceived usefulness (PU) means the users' (workers) perceptions of the extent of utilizing the system to advance his or her performance in the workstation, while perceived ease of use (PEOU) implies users' (workers) perception of the amount of exertion required to utilize the system (utilizing the precise system would be free of effort).

Figure 1: Technology acceptance model propounded by Davis (1989)



The theory has been verified in numerous empirical studies and has proven to be of quality to produce statistically consistent outcomes. For example, Mbogo (2010) used the TAM theory and stretched it to consist of other aspects like perceived ease of accessibility, observed low cost, security, convenience, satisfaction, and perceived support to examine the achievement factors attributable to the utilization of the CAS. Likewise, Tobbin (2011) verified the usage of the CAS intensifying the TAM to the examine the workers' performance in the direction of CAS usage in Ghana. In the same way, Odia (2012) applied the TAM with further aspects such as perceived trust, security, and convenience. Overall, the TAM was a relevant framework for

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investigating the influence of computerized systems on organizational performance in public organizations in Iringa municipal.

The Theory of Diffusion of Innovation

Theory was first established by Parisot in 1995 and advanced by Medlin in 2001. This theory stated as "Adoption starts with innovators and early adopters, then spreads through the population to the early majority and late majority". Theory has been used frequently in the current economy to clarify the invention and progression of new technologies. The theory is made up of four shared features namely; innovation, communication channels, time, and social system. The theory is used in this study to clarify the implementation of new computerized systems (i.e., the CAS and the GePG). So, this study applied the theory so as to clarify the innovation, communication channels and time that were used in payment, procurement, and accounting. Thus, all public organizations using the systems can be explained by the Diffusion of Innovation Theory. Overall, the Theory of Diffusion of Innovation was a useful framework for investigating the influence of computerized systems on organizational performance in public organizations in Iringa municipal.

Empirical Review

Masanja (2019) investigated the Effect of the CAS on Financial Performance in Tanzania. His investigation employed the exploratory design and primary data was used. Likewise, his investigation used a population of 71 staff from the financial departments among ten (10) private companies located in Arusha region. A Sample size of 61 staffs was randomly selected. Descriptive statistics were used in data analysis. The findings exposed that cost and management support were noteworthy providers towards the execution of the CAS for carefully chosen private corporations.

Likewise, Anael (2017) evaluated the influence of computerized accounting system usage on the performance of local government authorities (LGAs). The study used mainly primary data from 90 respondents selected using purposive sampling techniques. His study used the explanatory research design. This study employed both the descriptive analysis and regression analysis. The findings indicated that cost and management support were significant contributors towards the implementation of computerized accounting systems for selected private companies in Arusha Tanzania. There was also a significant association among cost, technology, personnel perception, management support, business size, infrastructure for the adoption of computerized accounting system and the financial performance of carefully chosen private corporations found in Arusha Tanzania.

Nyang'au and Okibo (2016) conducted a study aiming to look into the constraints affecting the adoption of computerized accounting systems in Kenya. Primary data was used from a sample of 225 workers. A descriptive survey design was adopted where both qualitative and quantitative data was collected. Regression model outcomes revealed that coffee societies in Nyeri county Kenya had not fully implemented the computerized accounting systems. The cost, human resource expertise, and availability of associated infrastructures were the greatest significant constrains hindering the implementation of the system; and workers' perception on the systems were insignificant in respect to the acceptance of systems

Kimani (2016) conducted an investigation to explore the influence of information technology on the operational effectiveness of Population Services, Kenya. In this study, primary data was gathered through a semi-structured questionnaire. The participants consisted of 438 PS Kenya employees, with 311 of them responding to the survey conducted electronically. This represented a response rate of 71 percent deemed sufficiently representative of the organization. The research findings highlighted that a significant number of respondents had access to diverse IT devices provided by the company, facilitating their job performance. Moreover, the study demonstrated a positive correlation between the extent of IT

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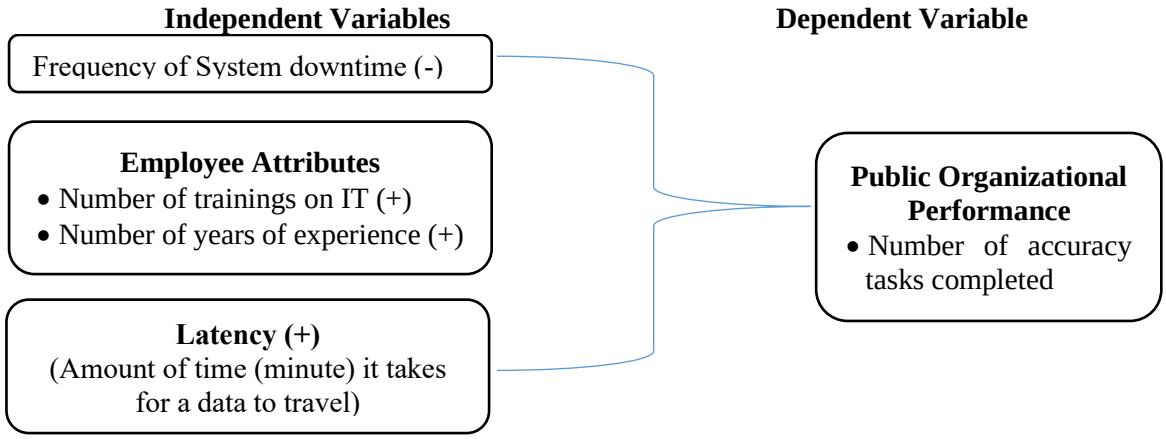
utilization and the organizational performance of Population Services in Kenya.

Figure 2: Conceptual Framework



RESEARCH METHODOLOGY

Research Approach

This study used the mixed research approach which is governed by the pragmatism philosophy in which the facts and practical results are well-thought-out as important (Lancaster, 2005). This philosophy allowed the researcher to use mixed method approach whereby both the quantitative and qualitative methods were used (Cresswell, 2014). Quantitative approaches emphasize the quantification of data. In this study, the quantitative approach was used to examine the influence/effect of technological challenges; employees' attributes challenges; and network infrastructure of computerized systems on the performance of public organizations. Likewise, the qualitative approach was used to examine the relationship among perceived effect of computerized systems and performance by using the content analysis using words collected by the interview tool.

Research Design

Research design refers to the general plan that helps to incorporate the dissimilar components of the study in a coherent and rational means (Creswell, 2009). The current study used the cross-sectional research design where information was collected from numerous different workers at a single point in time.

Area of Study

This study was carried out in Iringa municipal council. The main reason for selecting those public organization is due to availability and accessibility of data. Second reason for choose Iringa municipal council as study due to awareness and familiarity by a researcher to get suitable information timely as supported by Yin (1994).

Population

Gibson (2017) defines population as an assembly of individuals, objects or events having observable common features of interest in the study. The total population for this study consisted of 134 employees working at Iringa municipal from seven (7) departments.

Sample Size

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

Where; n = sample size; N = total number of populations = 134; e = is the level of precision = ±5%, thus

$$n = \frac{134}{1+134(0.05^2)} = 100.4 = 100$$

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Table 1: Population of study

Public organization	Accountant and Finance staffs	Revenue collection staffs	ICT staff	Administrative staffs	Total Population
TRA	7	11	2	4	24
IMC	6	10	2	5	23
TANESCO	8	9	4	4	24
MKWAWA	8	8	4	4	24
IRUWASA	6	9	2	5	16
RBWB	4	3	2	3	12
RUWASSA	4	1	1	3	11
Total	43	41	17	28	134

Table 2: Sample Proportion Across Public Units

Public organization	Total Population	Stratified Sampling $n_i=(NixS)/N$	Sample
TRA	24	$(24 * 100)/134$	18
IMC	23	$(23 * 100)/134$	17
TANESCO	24	$(24 * 100)/134$	18
MKWAWA	24	$(24 * 100)/134$	18
IRUWASA	16	$(16 * 100)/134$	13
RBWB	12	$(12 * 100)/134$	9
RUWASSA	11	$(11 * 100)/134$	7
Total	134		100

Sampling Techniques

Stratified Sampling

Stratified sampling techniques are useful to find the correct representation of staffs for each location (public organization). Therefore, each public organization formed a stratum that was homogenous compared to the whole population and shared the same characteristics (Kumar, 2011).

Simple Random Sampling

After the sample was stratified, simple random sampling was used to select the required total number of 100 staffs from various public organizations located in Iringa. Those included accounting and finance staffs; revenue collection staffs, and ICT staffs. The study used sampling random since each worker was associated with an equal chance of being selected.

Purposive Sampling Technique

Purposive sampling technique is used in the conditions where the researcher uses judgment in choosing appropriate participants so as to obtain the required information in order to attain the purpose of the study (Lawrence, 2007). Purposive sampling helps out to recognize and grip key individual out of the entire population associated with required information and thoughtful about the matter being studied. This technique used in the study to choose ten (12) management staffs from seven (7) public organizations for interview. The reason as to why purposive sampling technique used is to select respondents who are aware and well informed about different in-depth information related to investigate practicalities of computerized systems and their effects on performance of public organizations.

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Data Collection Tools

Questionnaire

The study used questionnaires to collect quantitative data from other employees from different departments. Thus, a total of 100 questionnaires were formulated, printed, and distributed by hand to hand among employee from five public organizations.

Interviews

The interview data collection method typically concerns face-to-face conversation with the target participants (Kabir, 2016). Within this study, the researcher carried out both structured and unstructured interviews. For instance, researcher used structured interview to compare the answers that were delivered by the respondents on the same kind of question which were asked without changing the structure or meaning of the question. This investigation interview conducted with ten (10) management staffs work from five pubic organizations to obtain in-depth information since those participants more aware of the daily operations in the organization and they have access to most organization information that cannot be access by the others employees.

Qualitative Analysis

Qualitative data was analysed using thematic analysis to the data that was grouped under themes and in each theme content analysis was carried out and representative quotes extracted for the report writing (Glesne, 2016).

Quantitative Analysis

Quantitative data from questionnaires was analysed using both the descriptive statistics (frequencies, standard deviation, and percentages) and regression analysis. Linear regression analysis looks at the magnitude and direction of effect.

The formula for the estimated slope coefficient (b1) is:

$b1 = \Sigma((xi - \bar{x})(yi - \bar{y})) / \Sigma((xi - \bar{x})2)$

Where: Σ is the sum of the values over all the observations, xi is the value of the independent variable for observation I, $\bar{x}$ is the mean of the independent variable, yi is the value of the dependent variable for observation I, $\bar{y}$ is the mean of the dependent variable

The formula for the estimated intercept coefficient (b0) is:

$b0 = \bar{y} - b1\bar{x}$

Where: b1 is the estimated slope coefficient, $\bar{x}$ is the mean of the independent variable, $\bar{y}$ is the mean of the dependent variable

Once the estimated coefficients are obtained, we can use the linear regression equation to predict the value of the dependent variable (y) for a given value of the independent variable (x) as suggested by Kutner et al. (2005).

$y = b0 + b1*x$

where b0 and b1 are the estimated intercept and slope coefficients, respectively.

Empirical Model

The dependent variable was performance of public organizations while the independents variables were network infrastructure, technological challenges, and employees' attributes. The regression model was as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + + \beta_4 X_4 + \mu_i \quad \ldots\ldots 3.1$$

Where: Y is the dependent variable (number of tasks completed and number of error), β_0 is the regression coefficient/constant/Y-intercept, $\beta_1, \beta_2, \beta_3$ β_4 are the slopes of the regression equation.

X_1 is frequency of system downtime, X_2 latency, X_3 are years of experience, X_4 is number of trainings

Whereby; $\beta1 > 0$, $\beta2 > 0$, $\beta3 > 0$, $\beta4 > 0$

Where αo is constant/intercept, β1 frequency of system downtime, β2 is the coefficient of latency, β3 is the coefficient years of experience and β4 is

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the coefficient of number of training and U is disturbance term.

PRESENTATION OF FINDINGS

Descriptive Statistics

Table 3 provides descriptive statistics for five different variables based on a sample size of 94 observations. This variable represents the amount of time (in minutes) the system was unavailable. The minimum value of 0 indicates that sometimes the system was available, and the maximum value of 45 suggests the system was unavailable for up to 45 minutes. The mean (average) time the system was unavailable is approximately 5.95 minutes, and the standard deviation of 8.349 indicates that there is a fair amount of variability in the data, with some observations experiencing longer downtimes.

Moreover, second variable is latency measured by amount of time (minutes) it takes for data to travel from one point on the network to another. Third variable is training. This variable indicates the number of training sessions individuals have undergone related to computerized system. The range of values is from 0 to 7, with a mean of 5.19 (*Table 3*).

Table 3: Descriptive Statistics

	N	Min	Max	Mean	Std. Dev
Times in minutes system unavailable (minutes)	94	0	45	5.95	8.349
Amount of time (minutes) it takes for data to travel from one point on the network to another (Latency)	94	1	10	2.95	2.563
Number of trainings	94	0	7	5.19	2.845
Woking experience in Years	94	2	15	7.68	3.911
Number of accuracy task completed per week with aids of computerized system	94	8	435	62.93	88.022

Table 4: Model Summary

Model	R	R^2	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.954[a]	.911	.907	.05640	1.580

a. Predictors: (Constant), year of working experience, frequency of system downtime, number of trainings on IT, Latency
b. Dependent Variable: Performance of public organizations

Goodness of Fit

Table 3 of Model Summary provides important statistics to assess the performance and goodness of fit of the regression model. The correlation coefficient (R) represents the strength and direction of the linear relationship between the predictors and the dependent variables. In this model, the value of R is 0.954. This indicates a strong positive linear relationship between the predictors and the performance of public organizations.

R Square (R^2 variance in the dependent variable (Performance of public organizations) that can be explained by the predictors (Working experience, Downtime, Training, and Latency). In this model, R Square is 0.911, which means that approximately 91.1% of the variance in the performance of public organizations can be explained by the linear combination of the four predictors.

ANOVA Result

The ANOVA (Analysis of Variance) was used to assess the overall significance of the regression model and its individual predictors in explaining the variance in the dependent variable, "Performance of public organizations." The F-statistic is the ratio of the Mean Square for Regression to the Mean Square for Residual. It quantifies the extent to which the regression model is a better fit for the data compared to a model with no predictors (i.e., an intercept-only model). In this case, the F-statistic is 226.692. The

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significance (p-value) associated with the F-statistic indicates the probability of obtaining such a large F-statistic by chance alone, assuming that the null hypothesis is true. In this model, the significance value is denoted as "Sig." and has a value of 0.000 which is highly significant.

Table 5: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.884	4	.721	226.692	.000[b]
	Residual	.283	89	.003		
	Total	3.167	93			

a. Dependent Variable: Performance of public organizations
b. Predictors: (Constant), year of working experience, frequency of system downtime, number of trainings on IT, Latency

Coefficient Correlations

The Coefficient Correlations results provides information on the correlation between the independent variables ("working experience," "downtime," "training," and "latency") in the regression model. The correlation coefficients range from -1.000 to 1.000. A correlation coefficient of 1.000 with a variable and itself means a perfect positive correlation (a variable perfectly correlates with itself, as expected). A correlation coefficient of -1.000 with a variable and itself means a perfect negative correlation.

The correlation coefficient between "working experience" and "downtime" is -0.074. This suggests a weak negative correlation between these two variables. However, the correlation is close to zero, indicating that there is little to no linear relationship between the working experience and downtime. The correlation coefficient between "working experience" and "training" is -0.573. This indicates a moderate negative correlation between these two variables. It suggests that as "working experience" increases, the level of "training" tends to decrease, and vice versa.

Table 6: Correlations

	Years of working experience	Years of working experience	Years of working experience	Latency
Years of working experience	1.000	-0.074	-0.573	0.126
Frequency of system downtime	-0.074	1.000	0.016	-0.597
Number of trainings on IT	-0.573	0.016	1.000	0.467
Latency	0.126	-0.597	0.467	1.000

Regression Results

Table 6 provides the results of the multiple regression analysis for the model predicting the "Performance of public organizations" using the predictor variables "Downtime," "Latency," "Training," and "Working experience." The unstandardized coefficients (B) represent the change in the dependent variable associated with a one-unit change in the predictor variable while holding other predictors constant. The standardized coefficients (Beta) represent the change in the dependent variable associated with a one-standard-deviation change in the predictor variable while holding other predictors constant. Standardized coefficients allow for a direct comparison of the magnitude of the effects of different predictors, regardless of their measurement scales.

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Table 7: Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.842	.029		28.725	.000
	Frequency of system downtime	-.004	.001	-.199	-4.029	.000
	Latency	-.039	.005	-.539	-8.151	.000
	Number of trainings on IT	.011	.004	.164	2.542	.013
	Years on working experience	.007	.002	.159	3.034	.003

a. Dependent Variable: Performance of public organizations

Effect of Frequency of System Downtime of CS On Performance of Public Organizations

The technological factors of computerized system measured by system downtime which represent by amount of time that a system is unavailable due to maintenance or support activities. The standardized coefficient (Beta) of -0.199 indicates that a one-standard-deviation increase in system downtime is associated with a decrease of 0.199 standard deviations in the performance of public organizations.

This aligns with interview with ICT offer suggested that;

> *"The unavailability of our network for the computerized system has a direct correlation with the decline in the overall performance of our public organization. When our network goes down, it disrupts critical processes and hampers our ability to provide seamless services to the public. In the modern age, computerized systems are integral to the functioning of public organizations. They are used for various tasks such as data management, communication, and service delivery. When the network becomes unavailable, these systems cannot access the necessary data or communicate with other components. This leads to disruptions in operations, service delays, and potentially even data loss. The public relies on these services, so any downtime can significantly effect the organization's performance and reputation"* Head of ICT at Mkwawa University.

Effect of Employees Attributes on Performance of Public Organizations

Starting with training, results indicate a positive and statistically significant at 1% (p-value = 0.013). Moreover, a one-unit increase in training is associated with an increase of 0.011 in the performance of public organizations, while holding other predictors constant. The standardized coefficient (Beta) of 0.164 indicates that a one-standard-deviation increase in training is associated with an increase of 0.164 standard deviations in the performance of public organizations.

This aligns with interview with various workers suggested that;

> *"I firmly believe that training related to computerized systems can significantly enhance the performance of public organizations. When employees are equipped with the necessary skills to navigate and utilize technology effectively, they become more efficient in their roles." This because, training empowers employees with the knowledge and confidence to use computerized systems to their fullest potential. This translates to improved productivity, streamlined processes, and better decision-making*" Accountant Officer.
>
> *"From my experience, investing in training for computerized systems directly correlates with an increase in the performance of public organizations. It's not just about learning software; it's about optimizing workflows and providing better services to the public." Training ensures that employees are up-to-*

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date with the latest technological tools and best practices. This keeps them adaptable in a rapidly evolving digital landscape, leading to improved work outcomes" Revenue Collection Officer.

Effect of Latency of CS on Performance of Public Organizations

This subsection represent result of third objective that aim to determine the effect of latency of computerized systems on performance of public organizations. The variable is latency is negative and statistically significant at 1% (p-value =0.000). Likewise, a one-unit increase in latency is associated with a decrease of -0.039 in the performance of public organizations, while holding other predictors constant. The standardized coefficient (Beta) of -0.539 indicates that a one-standard-deviation increase in latency is associated with a decrease of 0.539 standard deviations in the performance of public organizations.

Interview results provided the following;

"The latency in data travel time within our network has a direct correlation with the decline in our public organization's performance. As the time it takes for data to move from one point to another increases, our operational efficiency and response times suffer. In many cases, public organizations need to handle critical tasks that require quick decision-making and responsiveness. For instance, if there is a delay in accessing crucial information due to high latency, it can lead to delayed decision-making, slow service delivery, and reduced overall efficiency" Revenue Collection Officer.

CONCLUSION AND RECOMMENDATIONS

Conclusion

From first objective, findings exposed that a one-unit increase in system downtime was associated with a decrease of -0.004 in the performance of public organizations, while holding other predictors constant. Therefore, the study failed to accept null hypothesis that there is no statistical relationship between technological factors of computerized system and the performance of public organizations. Thus, the study accepted an alternative hypothesis that there is a statistical relationship between technological factors of computerized system and the performance of public organizations located in Iringa Municipal.

From the second objective, the study fails to accept a null hypothesis since there is no statistical relationship between employees' attributes factors of computerized system and the performance of public organizations. Thus, study accept an alternative hypothesis that there is a statistical relationship between employee's attributes such as training and experience of computerized system and the performance of public organizations.

Recommendations

Based on the findings from the first objective, which indicate a statistical relationship between system downtime and the performance of public organizations located in Iringa Municipal, the study recommends for the development of downtime reduction strategy. This could include implementing preventive maintenance schedules, upgrading hardware and software, and optimizing network infrastructure. Moreover, there is a need to allocate resources to upgrade and modernize computerized systems used by public organizations. This may involve investing in more robust and reliable hardware, software, and network solutions.

Limitations and Area for Further Study

In this study, the research design was limited to a cross-sectional approach, which means that data was collected from the selected public organizations at a specific point in time. However, it is recommended that future studies should explore the use of a panel research design to further investigate the influence of computerized systems on organizational performance.

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