International Journal of Business Management and Economic Review

Vol. 7, No. 05; 2024

ISSN: 2581-4664

THE ROLES OF INFORMATION COMMUNICATION TECHNOLOGY IN COMBATING CORRUPTION PRACTICES IN ZANZIBAR PUBLIC SECTOR

Ibrahim Maulid Haji, Hussein Khamis Shaaban, Abdalla Shaame
The State University of Zanzibar. Box 146, Tunguu, Zanzibar, Tanzania
Paul Muinde Maweu, Premilla Padayachee, Olta Myslimi
Kansas International School, Fort Hays State University and SIAS University. 168 People's Road. East, Xinzheng City, Zhengzhou, Henan Province, China 451150.

http://doi.org/10.35409/IJBMER.2024.3614

ABSTRACT

Corruption is highly taunted that it wears down trust, deteriorates democracy, hinders economic progress and aggravates inequality, poverty, social division. Any study attempting to understand corruption controll is of immense importance. This study was about the roles of ICT in combating corruption practices in Zanzibar public sectors. Descriptive research design which involved qualitative and quantitative approach was applied. The study population was 150 employees of ZAECA a government institution responsible for combating corruption in Zanzibar. The sample was selected using purposive and random sampling. Data was gathered using interview and questionnaire. The analysis of data was done using frequency and percentages distribution: mean and standard deviation and correlation. The study found that ICT tools were used in either low or very low manner in combating corruption in the public sector. The study found that the investigator practices which capitalized three roles of ICT (Provision of more information to public, bringing more accountability and Promoting transparency) were used in low manner in combating corruption in Zanzibar public sectors. The study also, found that provision of more information to public, bringing more accountability and promoting transparency had correlation coefficients: 0.781, 0.767 and 0.855 respectively with combating corruption. The study concluded that there was a significant positive relation between ICT roles (Provision of more information to public, bringing more accountability to authorities, promoting transparency) and combating corruption. The study suggested that the government of Zanzibar should develop a policy which would increase the use of ICT tools in combating corruption in the public sector.

Key Words: Information Communication Technology, Corruption Practices, Public Sector.

1. INTRODUCTION

Corruption is viewed as a main problem obstructing growth potentialities, and is a foremost challenge in various countries (Kilimwiko, 2019). Corruption is a conduct that diverges from the official responsibilities of a civil servant from what is supposed to done by favoring people of interests such as close family, private faction towards financial or status gains (Kossow & Dykes, 2018). Cheeseman & Peiffer, (2020) defines corruption as a sort of deceit or a illegal felony which is undertaken by a individual or an organization which is assigned in a position of authority, in order to obtain unlawful pay backs or abuse power for one's own gain. Hence, the UN corruption prevention manual of 2019 explains corruption as the submission, giving, getting or asking anything of value to effect the action of public officer in his/her entrusted duties. The concept of

Vol. 7, No. 05; 2024
ISSN: 2581-4664

corruption can be additional observed as the giving, submission, promising, demanding, getting, enchanting, approving to taking, or accepting of an inappropriate gain in terms of money or other contemplation associated to position, office, or obligation. In fact, corruption covers a extensive array of actions that may be demarcated as misappropriation, deception, subornation or stealing (Kossow & Dykes, 2018). The significance of the problems and coercions posed by corruption to the firmness and safety of societies, dejection of the institutions and values of democracy, moral values and justice and endangering sustainable growth and the rule of law (UNCAC, 2004).
Ibrahim, (2020). observed that corruption has a key influence in all countries of the world. It weakens democratic responsibility, deters resources away from the civic good and into private pockets, and restructures wealth and power to the unworthy people. Corruption in public sectors can have many undesirable effects. For instance, corruption often rises the price and lowers the value of goods or services acquired while reducing the probability that the goods or services bought meet the public needs. The Organization for Economic Co-operation and Development (OECD) approximates that corruption drains off between 20 and 25% of national budgets (Sassi & Ali, (2017). Worldwide, the anti-corrupt practices are becoming the focus and attention of many governments and international financing institutions particularly in public sectors. Public sectors are more prone to corruption since it attracts almost 35% and 70% of developed and developing countries national budget respectively (World Bank, 2016). According to African Development Bank (2014) $400 billion lost per year worldwide through corruption and $100 being lost in African countries.

ICT has been employed in Kenya to fight the war on corruption in various methods. According to Musili et al., (2022) ICT tools such as digitalizing public services using the now infamous “Huduma centers”, government having online whistleblowing point were citizens can report corruption and government organization adopting the ICT distributed ledger technology (DLT) have been used in fighting corruption. Also, in South Africa ICT tool known as Blockchain have been used to combat corruption. Blockchain promises the legitimacy of accounts and offers extraordinary data safety. Through blockchain, data administration is made more effective and dependable by eradicating opportunities for forgery (Andreoni, 2017). In Zanzibar, corruption manifests in a broad range of practices and behaviors: moral misconduct in management, bid-rigging, bribery, currying of favor for gain or individual benefit, asset shedding, etc. (RGoZ, 2017). In 2015/2020 ZAECA recorded 48 cases of corruption in public sectors and recovered 9,564,995 Million Tsh. from cases of corruption in public sector. However, there has been outcry on its mandate performance with pundits saying it should do more as an institution. Several times the authority has been indicted by Controller and Auditor General (CAG) reports for not acting until public resources are lost such as CAG report of 2021, 2022 and 2023. The Zanzibar Anti-Corruption and Economic Crimes Act No.1 of 2012 established the ZAECA institution with the mandate of introducing appropriate measures and programs geared toward combating, investigating and preventing of corruption (ZAECA, 2020). The use of ICT in combating corruption in Zanzibar public sectors is not well known and the role of ICT in combating corruption thus displaying confusions. Thus, the study was designed to assess the roles of ICT in combating corruption practices in Zanzibar public sectors.

Vol. 7, No. 05; 2024
ISSN: 2581-4664

1.1 Problem Statement

ZAECA annual report of the year 2022 showed that, corruption practices are high in Zanzibar. This is evidenced by the many corruption practices witnessed from different sectors such as land, police, Zanzibar Revenue Authority (ZRA) and public hospitals (ZAECA, 2023). In addition, the Zanzibar government declared that corruption practices are entrenched in Zanzibar public sectors (Daily News Newspaper, 24 May 2023). The government, ordered its anti-corruption entity the ZAECA to be up to the task in its mandate with the great role to ending corrupt and unethical practices in public sectors (RGoZ, 2023). The CAG report (2023) has unearthed corruption deals leading to the loss of public resources. Most countries have been using ICT in connection to combating corruption including Zanzibar. ICT has become progressively significant in initiating new doors for the deterrence and discovery of fraud (Correa et al., 2019). For instance, in Kenya ICT has been used where by all government service payments are done through ICT portal known as e-Citizen which has controlled loss of public money, Government tenders are also applied online by use of ICT handles and has provided transparency in tender awarding. In South Africa the government has adopted Block Chain Technology were public information about transactions is verified and distributed across a network of computers to make it secure and transparent way of sharing data. Where else, other countries such Kenya and South Africa the roles of ICT in combating corruption is well known, in Zanzibar the roles of ICT in combating corruption is scantly known. Therefore, this study was designed to assess the role of ICT in combating corruption practices in the public sector of Zanzibar.

1.2 Objectives of the Study

i. To examine the current status of using ICT in combating corruption practices in the Zanzibar public sectors.
ii. To explore the investigators ICT practices in combating corruption in the Zanzibar public sectors
iii. To develop ICT framework that assist regulating in combating corruption practices in the Zanzibar public sectors.

2. LITERATURE REVIEW

The study reviewed the literature in place to scrutinize the related studies on using ICT in combating corruption practices. A previous study by Longe, et al., (2020) in Nigeria studied the effectiveness of using ICT to educate citizen against corruption practice. The results of Longe and his colleague study showed that ICT was effective in educating citizens against corrupt practices to a great extent. Asiimwe, et al., (2017) supported the use of ICT to educate citizen on corrupt practices in Uganda by suggesting that using technology can ensure many people reached by organizations combating corruption practices. Correa, et al (2019) reiterated that government information should be displayed in ICT portals to increase awareness. This position was echoed by Ibrahim (2020) that ICT can be able to reach many citizens in a country hence many people get acquainted with education on corrupt practices. Additionally, the study by Longe, et al., (2020) found that ICT is effective in educating citizen against corruption, however, the Longe and his colleague finds lacking on how ICT can be used to detect and combat corruption. The ICT tools to educate citizens in combating corruption practices are including: social media, crowed sourced platforms, block chain platforms etc (Longe, et al., 2020). The tool also can be used for

Vol. 7, No. 05; 2024
ISSN: 2581-4664

investigation and detection on corruption practices. A study by Ibrahim, (2020) analyzed the interceding effects of ICT growth and institutional value on the e-government progress on corruption control. The findings showed that there was a robust connotation between e-government development and corruption control. The results showed the substantial role ICT development and institutional value play as mediators of e-government effects on corruption. This was supported by López-Iturriaga, & Sanz, (2018) by stating that e-government makes public services to be offered online which is part ICT and thus, reduce chances of corruption practices. Natarajan, et al., (2017) asserted on that school of thought by giving Distributed ledger technology and blockchain as part of ICT tools which e-governments should also be incorporated in ending corruption. Japhace, (2020), supported the findings using e-government generate and/or coerce openings for active citizen appointment in extractives decision-making and governance procedures. Governance includes making sure that governance ethics are adhered to including corruption. At the same time Japhace, (2020) explains as considerable as the administration uses ICT it locks instances of corrupt practices. Therefore, this current study focused directly on the roles of ICT on combating corruption.

Mutungi et al., (2019) in Kenya found that investigator use ICT platforms in investigating corruption practices effectively. The platforms developed by Mutungi and his collegues study was Corruption *Tracker* and *Hatari* platform. Through the platforms citizens use to submit corruption practices in the civic sector. The finding showed that the respondents observed that the *Tracker* and *Hatari* platforms were effective as members of the public could report corruption practices at their own time. Kim, & Kang, (2017) supported this finding by stating that ICT platforms helped effectively in reporting corrupt practices. This position was also observed by Charoensukmongkol, & Moqbel, (2014) that ICT platforms help to report corruption cases anonymously. Ali et al., (2017) observed investigator to adopt ICT strategies such ICT platforms were effective in fighting corruptions. Seifallah et al., (2017) had opined that ICT platforms were part of determinants of corruption in Africa. However, in their study had mixed issues on platform as a determinant of corruption. In supports of this position the current study observes that ICT platforms are effective in reporting corrupt practices. However, there is need to determine the specific level of using ICT platforms in detecting corruption. In the USA, investigator use white collar crimes including corruption in relation to ICT providing information (Bhattacherjee & Shrivastava, 2018). The Bhattacherjee & Shrivastava (2018) study found ICT have capacity to monitor, trail, record, examine, and share vast quantities of data. Kossow, & Dykes, (2018) stated that countries should embrace digitalization of public services since ICT strengthen anti-corruption. In the same vein Srimarga (2018) in studying portals supported the idea that ICT allowed stakeholders such as NGOs to contribute further in public decision-making because of knowing more information from the portals. The study by Srimarga (2018) was more on use of ICT portal on budget transparency and nor direct to corruption although transparency is part of combating corruption. Asiimwe, et al., (2017) also opined with this finding by stating that ICT practices promoted transparency and accountability by making every interested party to have required information about public dealings.

3. MATERIALS AND METHODS

The study was carried in Zanzibar. Specifically, in the Government institution know as Zanzibar

Vol. 7, No. 05; 2024
ISSN: 2581-4664

Anti-corruption and Economic Crimes Authority (ZAECA) at the Head Quarter office, which is located at Urban West Region in Zanzibar. The study used pragmatism philosophy. The research design was descriptive study design. Mixed method approach that involved qualitative and quantitative approach was used. The population was 150 employees of ZAECA. Which included Heads of departments (16), Investigation officers (71) and Assistant investigation officers (63). The sample size was 109 and selected using both purposive and random sampling. Data was collected using interview guide and self-administered questionnaires. Twelve (12) respondents were interviewed and respondents were selected purposively to include (General (1), Directors (3), Regional Commander (1), Heads of division (11). Data was analyzed both qualitative and quantitatively. The Qualitative data was analyzed thematically. Descriptive statistics included frequency and percentages distribution; and mean and standard deviation. Inferential statistics included Person's correlation, because this was able to understand the relationship of the predictor variables (roles of ICT in combating corruption) and dependent variable (combating corruption in public sectors). In addition, Microsoft Excel (version 2016) was used to prepare tables for presentation of the data.

4. FINDINGS

4.1 Demographic Characteristics

The section described the demographic characteristics. The section was divided into two parts: the first part described the age, gender and highest academic qualification. The second part described the work position and the work experience. Park et al., (2020) explained that demographic characteristics are essential in research because they guide on the quality of the responses and clear a research from bias because of any of the characteristics.

4.2.1 Gender, Age Group and Highest Academic Qualifications.

The Gender, age group and highest academic qualifications of the respondents were analyzed**.** The Table 1.1 shows the findings.

Table 1.1: Gender, Age Group and Highest Academic Qualifications

Item	Frequency	Percentage (%)
Gender		
Male	39	43.3
Female	51	56.7
Age		
18-30 years	34	37.8
31-40 years	36	40.0
41-50 years	18	20.0
51-60 years	2	2.2
Highest academic Qualification		
Diploma Level	19	21.1
University Degree	64	71.1
Post Graduate	7	7.8

Vol. 7, No. 05; 2024
ISSN: 2581-4664

Gender

The gender of the respondents was analyzed. A majority of 51 respondents were females which represented 56.7% while the rest 39 respondents representing 43.3% were males as shown in Table 1.1. Kothari (2004) observes that the outcome in any research with gender equality is essential for generalization of the results. Amin (2005) observed that a study with gender equality with not more that 20% variance is favorable to representative results. Mugenda and Mugenda (2003) also approves the avowal that so long as not either gender is less than 30% of the total then it is suitable to give generalizable results. The results of gender analysis in this study conform to Amin (2005) gender parity not more than 20% difference of either gender and Mugenda and Mugenda (2003) avowal of not either gender should be less than 30%.

Age

Age of the respondents was considered to be important in the study as the researcher wanted to know the age distribution of the respondents. In the Table 1.1 above the study findings indicated the majority of the respondents were of the ages of the respondents were distributed all age groups from 18years to 60 years and above. The results imply that the results were not age biased. Also, the results imply that ZAECA is mostly has young ages officials by age group 31-40 compare to other age groups so they are active to performs their duties.

Education

The results of this study show that 19 (21.1%) had diploma level of education, 64 (71.1% had university degree while those with postgraduate level of education were 7 representing 7.8%. The results imply majority had university degree. Also, it implies that all participants had some education to enable them at least understand ICT and combating corruption in the public sector.

4.3 Response rate

It was important to the study to determine the number of the returned questionnaire and the number of the respondents who were available for the interview. The respondents designated for the questionnaire were 97 and the interview were 12. The Table 1.2 shows the response rate.

Table 1.2: Response rate

Response Rate	Sample Size	Percentage (%)
Questionnaire		
Returned Questionnaire	90	92
Un-returned Questionnaire	7	7.2
Total	97	100
Interview		
Available for Interview	10	83.3
Unavailable for interview	2	16.7

The sample population of this study was 109. The number of sample size set for the questionnaire was 97 and the interviews was 12. Therefore, a total of 97 questionnaires were delivered to the respondents but 90 questionnaires were filled and returned. This represented 92.8% response rate, which is quite suitable to make a representative finding about the study. This response rate was favorable according to Mugenda and Mugenda (2003) who asserted that a 50% response rate is adequate for analysis and reporting in research; 60% good and above 70% is very good for data

Vol. 7, No. 05; 2024
ISSN: 2581-4664

analysis and reporting. For the interviews 10 respondents were available while 2 respondents were not available for the interview. The response rate was 83.3% which Mwangi (2015) asserted that a response rate of above 69% for interviews is adequate for satisfactory research findings. Based on the above, the response rate of 92.8% for the questionnaire and 83.3% for interviews was found to be adequate for generalization of the results.

4.4 Current Status of Using ICT in Combating Corruption Practices

This was the first objective and the study wanted to find the current status of using ICT in combating corruption practices in the Zanzibar public sectors. The section had two question: 1) what extent is ICT used in combating corruption practices in the public sector and, 2) what is the extent of use of ICT tools to combat corruption.

4.4.1 Extent of ICT in Combating Corruption Practices in The Public Sector

The study wanted to establish what was the extent of ICT in combating corruption practices in the Zanzibar public sector. The question was to be answered by the respondents who were given questionnaire. Thus, a total of 90 respondents whose questionnaire were returned were analyzed. The results were shown in Table 1.3

Table 1.3 Response on extent of ICT in combating corruption practices

	Frequency	Percentage (%)
Small extent	5	5.6
Medium Extent	70	77.8
Great extent	10	11.1
Very great extent	5	5.6
Total	90	100.0

The results in Table 1.3 shows that 5 respondents equal to 5.6% observed that ICT was used to very great extent in combating corruption, 10 respondents equal to 11.1% observed to a great extent, 70 respondents equal to 77.8% observed to a medium extent and 5 respondents equal to 5.6% observed to a small extent. The results imply that majority of the respondents observed to a medium extent thus the study concluded that ICT is used in moderate extent in combating corruption in public sector.

4.4.2 Extent of Use of ICT Tools to Combating Corruption

On the second question the respondents were given statements depicting the extent of use of ICT tools to combat corruption. The respondents were advised to indicate how they agreed with the statements. The response scale for the questions was: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4=Agree, 5 = Strongly Agree. The mean and standard deviation of the responses were computed and shown in Table 1.4.

Vol. 7, No. 05; 2024
ISSN: 2581-4664

Table 1.4: Mean and standard deviation of the response on use of ICT tools to combat corruption

Statement	N	Mean	Standard Deviation
Digital public services are used to combat corruption in public sector	90	1.98	0.148
ICT Whistleblowing tools (Platforms) are used to combat corruption in public sector	90	2.18	0.663
ICT Transparency portals used to combat corruption in public sector	90	2.11	0.608
Distributed ledger technology (DLT) is used to combat corruption in public sector	90	1.79	1.137
ICT Based Artificial intelligence (AI) is used to combat corruption in public sector	90	2.10	0.72
ICT Crowdsourcing platforms is used to combat corruption in public sector	90	1.69	0.729

The results in Table 1.4 shows the mean of the statements ranged between 1.69 and 2.42. This implied the respondents either observed disagree or strongly disagree which meant the statement depicting the extent of use of ICT tools to combat corruption was used in very low or low manner in the public sector. This meant that these statements were either low or very low used to combat corruption in public sector. For instance, statement "ICT Crowdsourcing platforms is used to combat corruption in public sector" was used in a very low manner in combating corruption since its mean score was 1.69. The statement "ICT Whistleblowing tools (Platforms) are used to combat corruption in public sector" had the highest mean of 2.18 and this meant the statement was used in a low manner to combat corruption in the public sector. These finding were similar to the findings found using the respondents who were interviewed below as they observed low extent of use of ICT to combat corruption practices. These results were also similar to the findings of Sabelle & Mihály, (2021).

4.4.3 Extent ICT Use in Combating Corruption Practices in The Public Sector

The respondents were asked to state how they thought about the extent ICT use in combating corruption practices in the public sector. The respondents seemed to suggest that ICT has been well used in combating corruption. For instance, respondent IV said:

> *ICT is used in combating corruption; however, it has not been well used. If highly used it can increase combating corruption in public sector.*

The level of use of ICT in public institutions is minimum. The respondents II and V said:

> *ICT has brought revolution on how things are done but the level of use in combating corruption is minimal.*

4.5 Investigators Practices in Combating Corruption

The study investigated the investigators practices in combating corruption.
The probing questions (investigator practices) were drawn from the roles of ICT of Provision of

Vol. 7, No. 05; 2024
ISSN: 2581-4664

more information to public, bringing more accountability to the authority mandated to combat corruption and Promoting transparency. The respondents were advised to state how they agreed or disagreed with practices as used in by investigators in combating corruption in public sectors. The response scale for the questions was: 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4=Agree, 5 = Strongly Agree. The mean and standard deviation were computed and shown in Table 1.5.

Table 1.5: Mean and Standard Deviation of Response on Investigator Practices

Investigator Practices	N	Mean	Standard Deviation
Digital Public Services Technology	90	2.49	0.50
ICT Whistleblowing Tools Technique	90	1.86	0.81
ICT Transparency Portals Technology	90	1.99	0.74
Distributed Ledger Technology (DLT)	90	2.11	1.31
ICT Based Artificial Intelligence (AI) Technique	90	2.29	0.54
ICT Crowdsourcing Technology	90	2.46	0.50
Block Chain Technology	90	1.77	0.78
Data Science Technology	90	1.76	0.72
Electronic Payments Technology	90	2.44	0.93

The findings on Table 1.5 shows the mean scores of investigator practices. The mean scores were low as ranged between 1.76 and 2.49 which meant that the respondents disagreed with the investigator practices being used in combating corruption in Zanzibar public sectors. The results were consistent with the findings of Sabelle & Mihály, (2021). During the interviews indicated low use of ICT in combating corruption. For instance respondent I declared that:

> *Digital Public Services Technology, ICT Whistleblowing Tools Technique, Data Science Technology and Electronic Payments Technology were used in combating corruption but in a low manner.*

Respondent III and VI, mentioned different ICT initiatives, such as Artificial Intelligence (AI), public service technology said:

> *ICT Based Artificial Intelligence (AI) technique and Digital Public Services Technology were used in combating corruption. Electronic Payments Technology, Data Science Technology and Digital Public Services Technology were used in controlling corruption.*

Other Respondents mentioned ICT practices such as AI, data science, whistleblowing tools and electronic payment. The respondents IV said:

> *ICT based artificial intelligence (AI) technique, Electronic Payments Technology, ICT whistleblowing tools technique, Data Science Technology were used in combating corruption*.

The results were similar to the findings of Asiimwe et al., (2017) while investigating using technology for enhancing transparency and accountability found that ICT practices in investigating corruption were used in low manner.

4.6 ICT Framework Development Towards combating corruption.

Several ICT frameworks extracted from roles of ICT in combating corruption: provision of more information to public, bringing more accountability to the authority and promoting transparency were presented to respondents to investigate whether they have been incorporated in combating

Vol. 7, No. 05; 2024
ISSN: 2581-4664

corruption. The respondents were asked to indicate how they agreed or disagreed with the frameworks on helping to combat corruption in public sector. The mean and standard deviation of the responses were computed and displayed in Table 1.6.

Table 1.6: Response on ICT Frameworks

ICT Frameworks	N	Mean	Standard Deviation
Public sector has constructed electronic services	90	2.71	0.14
Installing action type automation in public sector	90	2.22	0.66
Public servants interact only with an electronic system where rules are strictly specified	90	1.77	0.14
Public sector use log analysis tools	90	2.11	0.81
Public sector Information is automatically published online.	90	1.88	0.52
Public sector use technology to bring aware on government rules to prevent corruption	90	1.98	0.77
Public sector use ICT to Mobilize users/community to report cases	90	1.77	1.44
Public sector given ICT anticorruption tool	90	2.34	0.98

The results in Table 1.6 shows that, the mean score of the response of ICT Frameworks. The mean score of the frameworks as used in combating corruption were low as they ranged between 1.77 and 2.34. These range of mean scores meant the respondents disagreed which meant the frameworks were used in a low manner to combat corruption. Only the framework that "Public sector has constructed electronic services" which had a mean score of 2.71 which shows the respondents agreed and that meant the framework was moderately utilized in curbing corruption in public sectors. During the interviews all the respondent agreed that ICT has been used in combating corruption although in a low manner. For instance, respondent II said:

> *ICT has been used in combating corruption although in a low manner. Some independent frameworks have been used. However, there has not been a clear designed framework involving ICT to combat corruption in public sectors.*

Respondents VI also said:

> *I cannot say there is defined framework of ICT in dealing with corruption. What I know is some ICT tools are used but not in a coordinated framework.*

This was a clear indication that there was no clear ICT framework which was highly used that helped combating corruption in public sector. The findings concurred with the results of Sabelle & Mihály, (2021) who found in most African countries there are no highly coordinated ICT frameworks to combat corruption. During the interviews the respondents all the respondents agreed that use of ICT should be increased to combat corruption in public sectors. For instance, respondent I said:

> *Efforts should be done or increased in making sure that ICT should be used adequately to promote provision of more information to public, bringing more accountability to the authority and promoting transparency.*

Vol. 7, No. 05; 2024
ISSN: 2581-4664

The findings is similar to the study by Bertot et al., (2019) who observed that ICT should be used to create a culture of transparency towards combating corruption.

4.6.1 Correlation Between Role of ICT (Provision of Information to Public, Bringing Accountability to the Authority, Promoting Transparency and Combating Corruption.

Correlation analysis was done to assess the association between the roles of ICT in combating corruption. The results were shown in Table 1.7.

Table 1.7 Correlation Analysis.

	Provision of more information to public	Combating corruption in public sector
Provision of information to public.	1 90	.781** .000 90
Combating corruption in public sector	.781** .000 90	1 90
	Bringing more accountability to the authority	**Combating corruption in public sector.**
Bringing more accountability to the authority	1 90	.767** .000 90
Combating corruption in public sector.	.767** .000 90	1 90
	Promoting transparency	**Combating corruption in public sector**
Promoting transparency	1 90	.855** .000 90
Combating corruption in public sector	.855** .000 90	1 90

**. Correlation is significant at the 0.01 level (2-tailed).

The results in Table 1.7 showed that, the correlation coefficient was 0.781, this implied that the association between Provision of more information to public and Combating corruption in public sector was strong, and any increase in the Provision of more information to public would strongly increase Combating corruption in public sector. On the other hand, Correlation coefficient was positive (0.781) which means any given increase in Provision of more information to public would also lead to the increase of the Combating corruption in public sector. This implied that increases in Provision of more information to public would increase the increase Combating corruption in public sector.

Secondly, findings showed that the relationship between bringing more accountability to the authority and combating corruption in public sector had correlation coefficient of 0.767 and this meant that the relationship between bringing more accountability to the authority and combating corruption in public sector was positively strong, and any change that would be made in increasing more accountability to the authority would strongly change the combating corruption in public sector. This implies that potential bringing more accountability to the authority increases

Vol. 7, No. 05; 2024
ISSN: 2581-4664

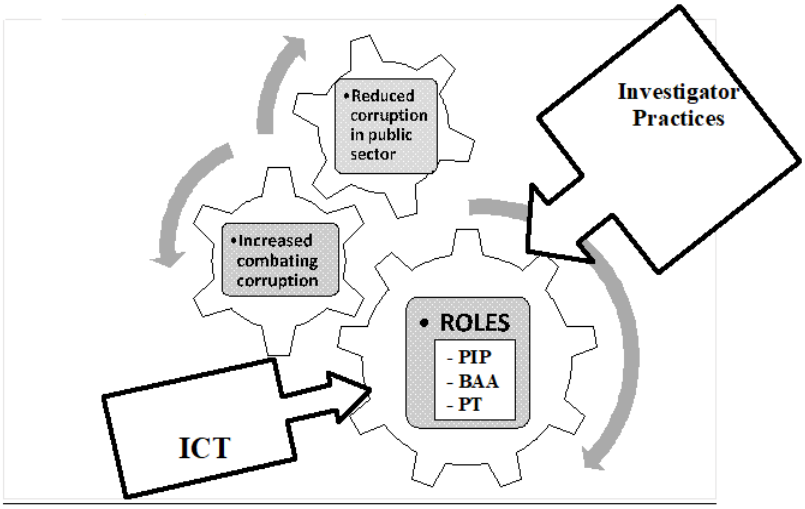
combating corruption in public sector.

Thirdly, the relationship between promoting transparency and combating corruption in public sector had correlation coefficient of 0.855 and this means the association between promoting transparency and combating corruption in public sector was strong, and any change that would be made in promoting transparency would strongly change combating corruption in public sector. This clearly demonstrates any increase in promoting transparency would lead to the increase of the combating corruption in public sector.

4.7 The proposed ICT framework

The study therefore from the results suggested ICT framework to help combat corruption in public sectors. The proposed ICT framework was shown in Figure 1.1.

Figure 1.1 Proposed ICT framework to help combat corruption.



Key

PIP*: Provision of more Information to Public*
BAA: *Bringing more Accountability to the Authority*
PT: *Promoting Transparency*

In the figure 1.1 the ICT roles **PIP** (Provision of more Information to Public), **BAA (**Bringing more Accountability to the Authority) and **PT (**Promoting Transparency) are key to reduce corruption. Therefore, investigators should adopt practices based on ICT roles which include: Use of Digital Public Services Technology, Use of ICT Whistleblowing Tools Technique, Use of ICT Transparency Portals Technology, Use of Distributed Ledger Technology (DLT), Use of ICT Based Artificial Intelligence (AI) Technique, Use of ICT Crowdsourcing Technology, Use of Block Chain Technology, Use of Data Science Technology and Use of Electronic Payments Technology. These investigator practices based on ICT would increase combating corruption and reduce corruption in public sector.

Vol. 7, No. 05; 2024
ISSN: 2581-4664

5. CONCLUSION

The study concluded that ICT tools were used in low manner in combating corruption in the public sector. The study also concluded that the investigator practices which capitalized the three roles of ICT (Provision of more information to public, bringing more accountability to the authority and Promoting transparency) were used in low manner in combating corruption in Zanzibar public sectors. In the same vein the study concluded there was a significant positive relation between Provision of more information to public, bringing more accountability to the authority, promoting transparency and combating corruption since the correlation coefficients were: 0.781, 0.767 and 0.855 respectively. The study concluded that proposed ICT framework in figure 1.1 would help combat corruption.

6. RECOMMENDATIONS

The study had the following recommendations:

i. The Zanzibar government should develop a policy which will increase the use ICT tools in combating corruption in the public sector
ii. The government should advocate investigator practices which capitalize the three roles of ICT (Provision of more information to public, bringing more accountability to the authority and Promoting transparency) to be adopted by ZAECA in combating corruption in Zanzibar public sectors.
iii. That ZAECA should adopt the proposed ICT framework in figure 1.1 in order to combat corruption in public sector.

REFERENCES

Ali B., Mohamed & Sassi, S. (2017). The Role of ICT Adoption in Curbing Corruption in Developing Countries. 10.1007/978-3-319-56523-1_4.

Andersson, A., & Hatakka, M. (2017). Victim, mother, or untapped resource? Discourse analysis of the construction of women in ICT policies. Information Technologies & International Development, 13(2017), 72-86.

Andreoni, A. (2017). Anti-corruption in Tanzania: A Political Settlement Analysis. London: SOAS, University of London. Retrieved February 2021, from https://eprints.soas.ac.uk/24853/1/ACE-WorkingPaper001-TZ-AntiCorruption-171102_final%20revised.pdf

Anwary, I. H. (2019). Influence of the institutional framework on the capacity of the prevention and combating corruption Bureau in Tanzania: a case of Dar-es-salaam city. The University of Dodoma. Tanzania: The University of Dodoma.

Asiimwe, E. N., Wakabi, W., & Grönlund, Å. (2017). Using technology for enhancing transparency and accountability in low resource communities: experiences from Uganda. ICT for Anti-Corruption, Democracy and Education in East Africa, 37, 37-51.

Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2020). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. Government information quarterly, 27(3), 264-271.

Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2019). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. Government information quarterly, 27(3), 264-271.

Vol. 7, No. 05; 2024
ISSN: 2581-4664

Bhattacherjee A, & Shrivastava U (2018). The effects of ICT use and ICT Laws on corruption: a general deterrence theory perspective Gov. Inf. Q., 35 (4) (2018), pp. 703-712

Charoensukmongkol, P., & Moqbel, M. (2014). Does investment in ICT curb or create more corruption? A cross-country analysis. Public Organization Review, 14, 51-63.

Cheeseman, N., & Peiffer, C. (2020). The unintended consequences of anti-corruption messaging in Nigeria: Why pessimists are always disappointed. ACE Working Paper, 24.

Cooksey, B. (2017). IPTL, Richmond and "Escrow": The Price of Private Power Procurement in Tanzania. Africa Research Institute. Research. (7) 70-86.

Correa, A. S., de Souza, R. M., & da Silva, F. S. C. (2019). Towards an automated method to assess data portals in the deep web. Government information quarterly, 36(3), 412-426.

Daily News, (2021). Government public admission on corruption. Zanzibar

Ibrahim O., (2020). Examining E-Government development effects on corruption in Africa: The mediating effects of ICT development and institutional quality, Technology in Society, Volume 61.

Isabelle A. & Mihály F. (2021). Are emerging technologies helping win the fight against corruption? A review of the state of evidence, Information Economics and Policy, Volume 57,

Japhace P., (2020). ICT, citizen engagement and the governance of extractive resources in Tanzania: Documenting the practice and challenges, The Extractive Industries and Society, Volume 7, Issue 4,Pages 1498-1510.

Kanyam, D. A., Kostandini, G., & Ferreira, S. (2017). The mobile phone revolution: have mobile phones and the internet reduced corruption in Sub-Saharan Africa? World Development, 99, 271-284.

Kilimwiko, L. (2019). In Tanzania, Local Structures in the Countryside Are Empowered for the Fight against Corruption. D+C Development and Cooperation. Retrieved November 2023, from https://www.dandc.eu/en/article/tanzania-local-structures-countryside-are-empowered-fight-against-corruption.

Kim, K., & Kang, T. (2017). Does technology against corruption always lead to benefit? The potential risks and challenges of the blockchain technology. In Paper submitted to OECD's Anti-Corruption and Integrity Forum. https://www. oecd. org/cleangovbiz/Integrity-Forum-2017-Kim-Kang-blockchain-technology. pdf.

Kossow, N., & Dykes, V. (2018). Embracing digitalisation: How to use ICT to strengthen anti-corruption. Anti-Corruption and Integrity Programme.

Kshetri, N. (2017). Will blockchain emerge as a tool to break the poverty chain in the Global South?. Third World Quarterly, 38(8), 1710-1732.

Lima, M. S. M., & Delen, D. (2020). Predicting and explaining corruption across countries: A machine learning approach. Government Information Quarterly, 37(1), 101407.

Longe, O. & Bolaji, A., & Boateng, R.. (2020). ICT for Development in Nigeria: Towards an Alignment With ICT4D 2.0 Goals. 10.4018/978-1-7998-1207-4.ch012.

López-Iturriaga, F. J., & Sanz, I. P. (2018). Predicting public corruption with neural networks: An analysis of Spanish provinces. Social Indicators Research, 140, 975-998.

Musili B, Paul L and Andrew O. (2022) Tracing the Effectiveness of Kenya's Continuum of Anti-Corruption Strategies Kenya Institute for Public Policy Research and Analysis. ttps://repository.kippra.or.ke/bitstream/handle/123456789/3953/SP34

Vol. 7, No. 05; 2024
ISSN: 2581-4664

Natarajan, H., Krause, S., & Gradstein, H. (2017). Distributed ledger technology and blockchain.
Petter G. and Perry S. (2017). Puplic Corruption Regional and National Perspective on Procurement Fraud. U.S: CRC Press.
RGoZ, (2017). Revolutionary government of Zanzibar report. Zanzibar.
Sabelle A., & Mihály F. (2021). Are emerging technologies helping win the fight against corruption? A review of the state of evidence, Information Economics and Policy, Volume 57,
Sassi, S., & Ali, M. S. B. (2017). Corruption in Africa: What role does ICT diffusion play. Telecommunications Policy, 41(7-8), 662-669.
Strand, C., Hatakka, M. (2019). Anti-corruption Efforts in National ICT Policies. Advances in Information and Communication Technology, vol 551.
United Nations Convention against Corruption (2004) Geneva Swizerland.
World Bank Report (2016) Corruption in developing countries. Tanzania.
Yamane, T. (1967). Statistics, An Introductory Analysis (2nd ed.). New York: Hamper and Row.
ZAECA Report (2020). Mandate of the Zanzibar Anti-Corruption and Economic Crimes. Zanzibar