

# FACTORS INFLUENCING UTILIZATION OF COMPUTER ASSISTED AUDIT TECHNIQUES IN TANZANIA: A CASE OF SMES IN TANGA CITY

Doris Christopher  
and  
Dr, Moga Tano  
Institute of Accountancy Arusha

## **Abstract**

*This study sought to identify factors influencing utilization of Computer Assisted Audit Techniques in Tanzania: A case of SMEs in Tanga City. TOE Model was employed in this study. This study used descriptive research design. Population of this study was SMEs operating their business in Tanga city and registered by the Tanzania Revenue Authority. Simple random sampling technique was used to select respondents. Both primary and secondary data was used in data collection exercise. Primary data was collected using questionnaire whereas secondary data was obtained from various sources including published sources and unpublished sources. Data was analysed using descriptive and inferential statistics with the aid of the SPSS version 26. The study findings portrayed that the organizational factors to the large extent influence utilization of CAATs followed by technological factors while to the moderate extent the environmental factors influence utilization of CAATs in SMEs. The study suggests that the government and SMEs collaborate to overcome the obstacles that are impeding the use of computer assisted audit procedures in Tanzania. Further research should be conducted in this area to explore the profitability associated with the technology to businesses. And there is a need to explore more independent variables that can have an impact on CAATs utilization.*

**Keywords:** *Computer Assisted Audit Techniques, SMEs, Performance, Utilization, Auditing*

## **1.0 Introduction**

Computers are currently employed to process all information useful to management and to produce accurate findings in the shortest amount of time (Omonuk 2017). Even simple clerical tasks are being undertaken by computers. Computers are rapidly being used in Tanzania to preserve accounting and other corporate records, as well as for decision-making and other administrative tasks such as planning and managing. A growing number of businesses are increasingly employing computers to process accounting data (Payne 2019). Until recently computers were used only by large entities and even those were making very limited use of computers in processing their transactions. The use of computers was mainly limited to payroll processing. However, computers use now extended to all other areas of accounting and all size of firms (Kamesam, 2021).

According to Jaksic (2019), the present technological and information revolution is supposedly influencing the continuous upheavals in the economic sector. In the bulk of today's commercial organizations, computer-based tasks have successfully replaced paper-based work. Auditing is one of the industries that has seen significant changes. Paper-based auditing has likewise been phased out in favor of computer-based auditing. The auditing industry has traditionally been seen as being more difficult than necessary. It is a sector fraught with difficulties. The auditing profession is one of several that have been

influenced by the global developments brought about by the technology and information revolution (Saygili 2020).

The Auditor is responsible of carrying out the audit and providing a report at the conclusion of the procedure. The auditing profession is now functioning in a dynamic and demanding environment, with multiple influences influencing audit firm business operations (Kent 2018). Computers have now transformed financial data contained in books. The majority of the information required for auditing is provided by computers and networks. Auditors must use the computer as an auditing tool, audit automated systems and data, comprehend the business reasons for the systems, and understand the environment in which the systems work in order to be effective. A time is coming when it will be impossible to conduct an audit without using audit software (Khorwatt 2016).

The first operational business computer is said to have started a technology revolution in accounting and auditing more than half a century ago (Beasley 2022). Many large and small businesses use computerized accounting systems. It is also stated that there should be a thorough grasp of the controls in a computer-based environment, as well as how they affect the auditor's risk assessment and subsequent audit procedures (Reinsel 2021). Paper-based auditing is a thing of the past, while some auditing companies still use it. At the same time, paper-based auditing was quite replaced by electronic auditing. Electronic auditing has been referred to as "computer-assisted audit techniques (CAATs)", where electronic records are used to complete all or part of the audit" (Bierstaker 2018).

Computerized auditing is the use of technology by auditors to conduct audit work that would otherwise be done manually or outsourced. The use of computers in the audit process is now quite popular; unlike in the past, auditors commonly outsource technical support in some auditing areas to information system auditors, also known as electronic data processing auditors.

Globally, the CAATs has resulted in significant transformations in business, governance, and communication (Lowe 2019). CAATs have resulted in substantial changes in the way private corporations' function and operate; the way governments function and operate; and the way government institutions deliver auditing services (Saygili 2020). CAATs were introduced in the late 1970s in sophisticated countries such as Europe and America, making auditing operations more efficient and effective (Toh 2018). However, in compared to poor countries such as Africa, CAATs was a nightmare. Until the 1990s, government agencies and service delivery were characterized by paper work, lengthy lines, bureaucracy, confined locations, and frustrations (Reinsel 2021).

In 2000s, in Tanzania, public bodies launched CAATs, which assessed a number of computerized components of the professional business of financial management activities from the use of manual auditing to an automated system. In the finance section, always improved performance has increased considerably (Bharadwaj 2018). The auditing practices were carried out manually before CAATs was introduced. CAATs simplifies the selection of sample transactions from key electronic files, sort transactions with specific characteristics, test an entire population instead of a sample, and obtain evidence about control effectiveness (Lowe 2019). Furthermore, CAATs help to check the accuracy of electronic files and re-perform selected procedures such as aging of accounts receivable (Bierstaker 2018).

Small and Medium Enterprises (SMEs) have the remarkable ability to fuel economic growth. They create many new job opportunities, drive the bandwagon of innovation and expand the tax base. SMEs also increase the competition amongst the peers and heat up the market scenario. CAATs is a vital resource for

today's SMEs as it has the ability to facilitate towards an effective decision making, planning and controlling activities of an organisation (Toh 2018). SMEs are highly required to manage their accounting and finances efficiently in order to maintain and improve their business since one of the aims of running a business is "profitability". Computerized auditing is critical issue for growing businesses. Hence, adequate and high-quality auditing systems is crucial to achieve this goal. This is because the lack of proper examination and evaluation of financial statements may contribute to the failure of SMEs. Recent audit standards urge SMEs to use CAATs to increase audit efficiency and effectiveness (James 2019). Despite the present emphasis on CAATs, research indicates that SMEs owners do not employ CAATs on a regular and systematic basis (Lowe 2019). It is against this background this study intended to assess factors influencing utilization of Computer assisted audit techniques in Tanzania particularly SMEs in Tanga City.

According to Jacob (2017) CAATs enable independently access the data stored on a computer system without dependence on the client, increase the accuracy of audit tests; and perform audit tests more efficiently, which in the long-term will result in a more cost-effective audit. Despite of the benefits of CAATs to the SMEs and businesses in general, the extent to which SMEs operators adopted this technology remains low (Li et al. 2018). Several scholars have sought to investigate the factors influencing utilization of CAATs: some of the international studies conducted include; Mohammad (2017) examined the factors that influence the intention to adopt of Computer Assisted Audit Techniques (CAATs) by external auditors in Jordan. Shamsuddin and Dhinesh, (2020) examined the factors that influence the usage level of CAATs by internal auditors in Malaysia. Adebayo (2021) focused on factors influencing the adoption of computer-based auditing in public limited liability companies in Nigeria. Dias & Marques (2018) employed survey questionnaire on 51 internal auditors in Portugal to identify the automated tools that are mostly utilized by internal auditors and to investigate the factors influencing the use of audit software. None of these studies focused on the factors influencing utilization of Computer assisted audit techniques in SMEs. Therefore, this study sought to assess factors influencing utilization of Computer assisted audit techniques in Tanzania using SMEs in Tanga City as case study.

## **2.0 Literature Review**

### **2.1 Technology Organizational Environmental Model**

The TOE will be utilized at the organizational level to understand variables influencing the adoption of artificial intelligence in Tanzanian insurance companies. In 1990, Tranatsky and Fleisher developed the TOE theory to identify innovation adoption variables based on technology, organization, and environment setting. TOE addresses the adoption of technological innovation at the organizational level. Internal barriers to an organization are classified as technological and organizational, whereas external obstructions are classified as an environmental construct. According to Tranatsky and Fleisher (1990), it was impossible for a single person to comprehend the advanced technology used at the organizational level. The TOE framework will be used to assess factors influencing utilization of Computer assisted audit techniques in Tanzania.

Within the TOE paradigm, technological components such as system security, network infrastructure, compatibility, industrial machinery and computer systems utilized to perform organizational operations are regarded to be part of technology. Organizational context included characteristics of the organization, such as business size, management practices, and organizational structure. The environmental context related to the features of the industry, regulatory concerns, market rivalry, nature, and the status of the industrial sector.

The TOE structure is consistent with Rogers' (1983) hypothesis of innovation diffusion (Pan and Jang, 2008; Shirish and Teo, 2010; Wang et al., 2010), which regards the following five technological qualities as reference points for any adoption choice: relative advantage, unpredictability, similarity, and trialability. As a result, the TOE method explains the adoption of innovation, and a substantial number of experimental evaluations have focused on various IS sectors. TOE has been effectively linked to several evaluations. As a result, the TOE framework was appropriate for researching factors influencing utilization of Computer assisted audit techniques in Tanzania particularly SMEs in Tanga City.

## **2.2 Empirical Literature Review**

Adebayo (2021) focused on factors influencing the adoption of computer-based auditing in public limited liability companies in Nigeria. A sample size of 82 was drawn from three selected audit firms in Lagos. The major instrument used for data collection is the questionnaire and the data analysis technique used is the chi-square. The following findings emerged from the study: the adoption of computer-based auditing has increased due to the management commitment and support and availability of financial resources while there is a relationship between security, compatibility and technological infrastructure and the adoption of computer-based Auditing. Also, there is a relationship between technological, organizational and environmental factors and the adoption of computer-based Auditing. The paper concluded that recent development in technology has left no aspect of the accounting profession untouched and the auditing field is no exception, the impact of computer based auditing on the auditing profession cannot be over emphasized, it has made the job of the auditor easier, faster and even gone further to reduce the risk in the job of the auditor by guaranteeing a greater level of accuracy, it has brought about increase in the efficiency and effectiveness of an auditor and has helped the auditor in meeting deadlines for audit assignments by saving time. The study focused on factors influencing the adoption of computer-based auditing in public limited liability companies in Nigeria; therefore, this study seeks to assess factors influencing utilization of Computer assisted audit techniques in Tanzania specifically SMEs in Tanga City. Dias & Marques (2018) employed survey questionnaire on 51 internal auditors in Portugal to identify the automated tools that are mostly utilized by internal auditors and to investigate the factors influencing the use of audit software. They found that a vast majority of the auditors used a tool developed internally by the firm. This suggests that Small to medium sized firms are still facing difficulties in adopting CAATs such as the organization's tight capital (budget), the software licensing cost, training cost, hardware cost, time and support from management, usage difficulty, required technical knowledge about CAATs. In addition, their study showed that the audit experience, the existence of CAATs in the company and size of the internal audit department are associated with increased use of IT tools to support auditing.

Bierstaker (2018) indicated that to meet the challenges of rapid advances in client technology, audit standards urge auditors to use computer assisted audit tools and techniques (CAATs). However, recent research suggests that CAAT use is fairly low. This paper uses the Unified Theory of Acceptance and Use of Technology (UTAUT) to identify and then examines factors potentially influencing auditors' use or non-use of CAATs. Examining auditor use of CAATs is important because CAATs hold out the promise of improving audit efficiency and effectiveness. Data was obtained from 181 auditors from Big 4, national, regional, and local firms. Results indicate that outcome expectations, the extent of organizational pressures and technical infrastructure support influence the likelihood that auditors will use CAATs.

Shamsuddin and Dhinesh, (2020) examined the factors that influence the usage level of Computer Assisted Audit Techniques (CAATs) by internal auditors in Malaysia. The study is vital since CAATs hold out the promise of improving audit efficiency and effectiveness. Data were collected via survey

questionnaire on 108 internal auditors that are working in companies and audit firms in Malaysia. Statistical tests such as descriptive analysis, reliability and normality tests as well as Spearman Rho were carried out. The results indicated that effort competitive advantage and business rivalry are also influencing factors that affects the usage level of CAATs. The findings revealed that adoption of CAATs is favoured by business management since they are easily understandable, have all the necessary functions and capabilities in facilitating their tasks. Ndika (2018) investigated the effectiveness of auditing through computer in public sector specifically the Ministry of Health and Social Welfare. The study revealed that business leadership and availability of human resource along with budget capability to the large extent influence usage of CAATs. In addition, MOH & SW was using manual system of auditing at a larger extent compared to auditing using computer. Finally, the study recommended MOH & SW to improve its internal controls, procedures and policies so as to smoothen the way to adopt fully the use of computer in auditing. Also, training to auditors is very important as the CAATS needs competent auditors.

### 3.0 Methodology

This study used descriptive research design as it enables the review of the relationship of the variables under study. The study was conducted to SMEs at Tanga city. The reason behind this selection is that SMEs are known to play a major role in social economy development. This is apparently the case of

Tanga city, where SMEs contribute significantly to employment creation, income generation and stimulation of regional growth. This study is a strictly quantitative study due to the collection of numerical data, as it is objective by gathering main and secondary data and using numerical data to achieve the conclusion through statistical evidence

To accomplish the study's objectives, the study selected SMEs operating their business in Tanga city and registered by the Tanzania Revenue Authority because the researcher believed they had considerable knowledge in presenting a solution to the problem under consideration. As for this study, simple random sampling technique was adopted. The major reason for this choice was that, simple random sampling technique gives equal chance to individuals selected in the target population or sample and hence, biasness of information is well avoided since information from each individual is accounted. From the total population of 2000 a sample size 185 respondents were taken. Sample size is determined through the following formula;

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

$$n = \frac{2000}{1 + 2000 \cdot 0.07^2} = 185$$

Where n = number of samples, N = total population; e = standard error of sampling (7%) is tolerated. Primary and Secondary data were collected in this study. Instrument used to collect primary data was a self-administered questionnaire which was provided to chosen sample respondents. For the purpose of this study, the published articles and researches conducted by other researches as well as company policies were reviewed and secondary data was collected. To analyze quantitative data using descriptive and inferential statistics, the Statistical Package for Social Sciences (SPSS) version 26 was used as a

data analysis tool. The data was checked, coded, and input into the computer. Descriptive statistics, such as means, frequency, percent cross tabulations, and standard deviations, was created. Inferential statistics was used correlation and regression analysis to determine the degree of relationship between the dependent variable and the independent variables

#### 4.0 Findings presentation

A total of 185 questionnaires were distributed, with 169 returned for a 91% response rate. The response rate was possible because the researcher distributed the surveys in person and waited for them to be completed. A substitute was created in a few circumstances when respondents were unwilling to fill.

#### 4.1 ICT infrastructure investment

Based on the mean values, the five-point scale ranges are as follows: mean scores of less than 1.5 = no extent; 1.5 - 2.5 = little extent; 2.5 - 3.5 = moderate extent; 3.5 - 4.5 = large extent; 4.5 - 5 = very large extent. The study intended to identify factors influencing utilization of Computer assisted audit techniques in Tanzania. Table 1 shows the findings with respect to the factors (Technological, Organizational and Environmental factors) influencing utilization of Computer assisted audit techniques in Tanzania.

*Table 1: Factors Influencing Utilization of CAATs in Tanzania*

|                       |   | Mean        | Std. Deviation |
|-----------------------|---|-------------|----------------|
| TechnologicalFactors  | Hardware availability   | 3.5         | 1.21           |
|                       | Business information security   | 4.4         | 1.19           |
|                       | Compatibility of the system   | 4.3         | 1.23           |
|                       | Network infrastructure  | 3.6         | 1.18           |
|                       | Cost of implementation  | 3.6         | 1.30           |
|                       | Efficient technological infrastructure  | 3.8         | 1.18           |
|                       | System compatibility influence CAATs utilization  | 4.3         | 1.28           |
|                       | Power backup  | 3.5         | 1.24           |
|                       | <b>WEIGHTED MEAN</b>  | <b>3.88</b> |                |
| OrganizationalFactors | Technological familiarity of the management team  | 4.6         | 1.37           |
|                       | Management commitment and support   | 4.5         | 1.31           |
|                       | Availability of the expertise and technical knowledge   | 4.4         | 1.25           |
|                       | Coordination and collaboration readiness  | 4.3         | 1.33           |
|                       | Availability of policies guiding CAATs utilization  | 3.7         | 1.20           |
|                       | The size of the company influence utilization of the CAATs  | 4.6         | 1.33           |
|                       | Highly skilled and knowledgeable staff influence CAATs utilization  | 4.8         | 1.20           |
|                       | Availability of the financial resources to acquire the hardware and software needed influence CAATs utilization | 4.3         | 1.24           |
|                       | Sufficient human resources influence utilization of the CAATs   | 3.6         | 1.32           |
|                       | Business leadership influence utilization of the CAATs  | 4.7         | 1.37           |
|                       | <b>WEIGHTED MEAN</b>  | <b>4.35</b> |                |
| ntal                  | Competitive benefits offered influence CAATs utilization  | 3.5         | 1.28           |

|  |  | Mean        | Std. Deviation |
|--|--|-------------|----------------|
|  | The government incentive schemes influence CAATs utilization   | 2.0         | 1.14           |
|  | The rules and regulations in place influence CAATs utilization | 2.5         | 1.16           |
|  | Business competitors influence CAATs utilization               | 3.5         | 1.28           |
|  | <b>WEIGHTED MEAN</b>   | <b>2.88</b> |                |

Source: Field data (2022).

Respondents gave their views and opinions to factors influencing utilization of Computer assisted audit techniques in Tanzania. Majority of the respondents to the large extent indicated that the hardware availability (Mean = 3.5, Standard Deviation = 1.21), business information security (Mean = 4.4, Standard Deviation = 1.19) and compatibility of the system (Mean = 4.3, Standard Deviation = 1.22) as well as network infrastructure (Mean = 3.6, Standard Deviation = 1.18) influence CAATs utilization. Majority respondents asserted that, to the large extent that cost of implementation (Mean = 3.6, Standard Deviation = 1.30) and efficient technological infrastructure (Mean = 3.8, Standard Deviation = 1.18) influence utilization of the CAATs. Findings indicated that system compatibility (Mean = 4.3, Standard Deviation = 1.28) and power backup (Mean = 4.3, Standard Deviation = 1.28) influence utilization of the CAATs to the large extent.

Respondents posited that, to the large extent that technological familiarity of the management team (Mean = 4.6, Standard Deviation = 1.37), management commitment and support (Mean = 4.5, Standard

Deviation = 1.31) and availability of the expertise and technical knowledge (Mean = 4.4, Standard

Deviation = 1.25) influence utilization of the CAATs. To the large extent, respondents revealed that CAATs utilization is influenced by coordination and collaboration readiness (Mean = 4.3, Standard Deviation = 1.33), availability of policies (Mean = 3.7, Standard Deviation = 1.20) and size of the company (Mean = 4.6, Standard Deviation = 1.33). Study findings unveiled that, to the large extent highly skilled and knowledgeable staff (Mean = 4.8, Standard Deviation = 1.20) and availability of the financial resources to acquire the hardware and software needed (Mean = 4.3, Standard Deviation = 1.24). Also, to the large extent sufficient human resources (Mean = 3.6, Standard Deviation = 1.32) and business leadership (Mean = 4.7, Standard Deviation = 1.37) was rated as organizational factors influence utilization of the CAATs.

Moreover, to the large extent Competitive benefits (Mean = 3.5, Standard Deviation = 1.28) and business competitors (Mean = 3.5, Standard Deviation = 1.28) were rated as environments factors influence utilization of the CAATs. Although, to the moderate extent the rules and regulations in place (Mean = 2.5, Standard Deviation = 1.16) and government incentives (Mean = 2.0, Standard Deviation = 1.28) were rated as organizational factors influence utilization of the CAATs.

On ranking factors, the organizational factors to the large extent (Weighted Mean of 4.35) influence utilization of CAATs in SMEs - Tanga City followed by technological factors (Weighted Mean of 3.88). The environmental factor scored Weighted Mean of 2.88 which implies that to the moderate extent the influence utilization of CAATs in SMEs - Tanga City.

## 4.2 Correlation Analysis

The table below shows the correlation analysis between independent variable and dependent variable.

**Table 1: Correlations**

|                        |                     | CAATs Utilization | Technological Factors | Organizational Factors | Environmental Factors |
|------------------------|---------------------|-------------------|-----------------------|------------------------|-----------------------|
| CAATs Utilization      | Pearson Correlation | <b>1</b>          |                       |                        |                       |
|                        | Sig. (2-tailed)     |                   |                       |                        |                       |
|                        | N                   | <b>169</b>        |                       |                        |                       |
| Technological Factors  | Pearson Correlation | <b>.715</b>       | 1                     |                        |                       |
|                        | Sig. (2-tailed)     | <b>.007</b>       |                       |                        |                       |
|                        | N                   | <b>169</b>        | 169                   |                        |                       |
| Organizational Factors | Pearson Correlation | <b>.772**</b>     | .120                  | 1                      |                       |
|                        | Sig. (2-tailed)     | <b>.000</b>       | .120                  |                        |                       |
|                        | N                   | <b>169</b>        | 169                   | 169                    |                       |
| Environmental Factors  | Pearson Correlation | <b>.701**</b>     | .319**                | .643**                 | 1                     |
|                        | Sig. (2-tailed)     | <b>.000</b>       | .000                  | .000                   |                       |
|                        | N                   | <b>169</b>        | 169                   | 169                    | 169                   |

**Source: Field data (2022).**

The results summarized in a Pearson correlation matrix indicate that the correlation coefficient between technological factors and CAATs Utilization is positive 0.715. The results showed that Pearson the correlation coefficient between organizational factors and CAATs Utilization is positive 0.772. Also, findings indicated that the correlation coefficient between environmental factors and CAATs Utilization is positive 0.701. The probability Value (P-value) was 0.000 for all variables, this implies that the relationship between variables was statistically significant at 0.05.

## 4.3 Regression Analysis

The study conducted a multiple linear regression analysis to determine the relationship between independent variables and dependent variable. The R square ( $r^2$ ) in the model summary explains 76.8% of the independent variables. This implies that independent variables (Environmental Factors, Technological Factors, Organizational Factors) in this study explain only 76.8% of the CAATs Utilization. The coefficient of determination is very significant because 23.2% of variations are brought about by characteristics not captured in the independent variables.

**Table 3: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|---|----------|-------------------|----------------------------|---------------|
|-------|---|----------|-------------------|----------------------------|---------------|



|   |                   |      |      |         |      |
|---|-------------------|------|------|---------|------|
| 1   | .884 <sup>a</sup> | .768 | .458 | 5.46383 | .224 |
| a. Predictors: (Constant), Environmental Factors, Technological Factors, Organizational Factors |                   |      |      |         |      |
| b. Dependent Variable: CAATs Utilization  |                   |      |      |         |      |

**Source: Field data (2022).**

Given 5% level of significance, the numerator df =3 and denominator df =165 table 4.6 shows computed F value as 48.378. The P value from the model summary is 0.000 which is less than 0.05. This confirms that overall multiple regression model is statistically significant, in that it is a suitable prediction model for explaining how the selected factors affects CAATs Utilization.

*Table 4: ANOVA*

| Model   |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|---|------------|----------------|-----|-------------|--------|-------------------|
| 1   | Regression | 4332.766       | 3   | 1444.255    | 48.378 | .000 <sup>b</sup> |
|   | Residual   | 4925.826       | 165 | 29.853      |        |                   |
|   | Total      | 9258.592       | 168 |             |        |                   |
| a. Dependent Variable: CAATs Utilization  |            |                |     |             |        |                   |
| b. Predictors: (Constant), Environmental Factors, Technological Factors, Organizational Factors |            |                |     |             |        |                   |

Source: Field data (2022).

*Table 5: Coefficients*

| Model |  | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. |
|-------|--|-----------------------------|------------|---------------------------|-------|------|
|       |  | B                           | Std. Error | Beta                      |       |      |
| 1     | (Constant)                               | .241                        | 3.757      |                           | 1.067 | .007 |
|       | Technological Factors (X <sub>1</sub> )  | .253                        | .157       | .151                      | 2.247 | .026 |
|       | Organizational Factors (X <sub>2</sub> ) | .307                        | .089       | .193                      | 2.332 | .021 |
|       | Environmental Factors (X <sub>3</sub> )  | .189                        | .122       | .561                      | 6.467 | .000 |

a. Dependent Variable: CAATs Utilization

**Source: Field data (2022).**

The regression equation as derived from the table above was  $Y = 0.241 + 0.253X_1 + 0.307X_2 + 0.189X_3 + \Sigma$ . The Beta Coefficients in the regression show that all the variables tested: *Environmental Factors*, *Technological Factors*, *Organizational Factors* have positive relationship with CAATs Utilization. The findings show that all the variables tested are statistically significant with p-values less than 0.05.

#### 4.4 Discussion of Findings

In the bulk of today's commercial organizations, computer-based tasks have successfully replaced paperbased work. Auditing is one of the industries that has seen significant changes. Paper-based auditing has likewise been phased out in favor of computer-based auditing. Tanzania considers the use of technology in auditing to be a major aspect in boosting the efficiency and effectiveness of auditing

operations. Results indicated that the hardware availability, business information security and compatibility of the system as well as network infrastructure influence CAATs utilization. These findings concur with Adebayo (2021) that there is a relationship between security, compatibility and technological infrastructure and the adoption of computer-based Auditing. Majority respondents asserted that, to the large extent that cost of implementation and efficient technological infrastructure influence utilization of the CAATs. These findings are consistent with Bierstaker (2018) that, the extent of organizational pressures and technical infrastructure support influence the likelihood of adopting CAATs.

Findings indicated that system compatibility and power backup influence utilization of the CAATs to the large extent. Correspondingly, the TOE framework posited that the security, network infrastructure, compatibility, industrial machinery and computer systems influence the adoption of technological innovation at the organizational level. Respondents posited that, to the large extent that technological familiarity of the management team, management commitment and support and availability of the expertise and technical knowledge influence utilization of the CAATs. To the large extent, respondents revealed that CAATs utilization is influenced by coordination and collaboration readiness, availability of policies and size of the company. This cognate with findings of Dias & Marques (2018) that the audit experience, the existence of CAATs in the company and size of the internal audit department are associated with increased use of IT tools to support auditing.

Study findings unveiled that, to the large extent highly skilled and knowledgeable staff and availability of the financial resources to acquire the hardware and software needed. On the same vein, Pedrosa, Costa and Aparicio (2020) indicated that the perceived usefulness of CAATs, financial resource, sufficient human resource are the main drivers of the adoption and use of CAATs. Adebayo (2021) indicated that the adoption of computer-based auditing has increased due to the management commitment and support and availability of financial resources. Also, to the large extent sufficient human resources and business leadership was rated as organizational factors influence utilization of the CAATs. Similarly, the TOE framework posited that the business size, management practices, and organizational structure influence the adoption of technological innovation at the organizational level. Also, Ndika (2018) revealed that business leadership and availability of human resource along with budget capability to the large extent influence usage of CAATs.

Moreover, to the large extent competitive benefits and business competitors were rated as environments factors influence utilization of the CAATs. Although, to the moderate extent the rules and regulations in place and government incentives were rated as organizational factors influence utilization of the CAATs. Correspondingly, the TOE framework posited that the regulatory concerns, market rivalry, nature, and the status of the industrial sector influence the adoption of technological innovation at the organizational level. This result is also concurrence with the conclusion of Shamsuddin and Dhinesh, (2020) that effort competitive advantage and business rivalry are also influencing factors that affects the usage level of CAATs. The current computerized environment in which Tanzanian SMEs work today presents new opportunities that impact the use of CAATs. SMEs in Tanzania should begin adopting business intelligence tools, which are an important aspect in making sound business decisions. CAATs enable SMEs to test vast amounts of data fast and precisely, increasing their confidence in their conclusions.

## **5.0 Conclusion and Recommendations**

This study concludes that to the large extent organizational factors and technological factors influence utilization of CAATs in SMEs - Tanzania while to the moderate extent, environmental factor influence utilization of CAATs in SMEs - Tanzania. Tanzanian SMEs should utilize computers in general, and CAATs techniques and tools in particular, to complete their audit activities with more accuracy, speed, and quality, as well as for genuine financial statement and document auditing. Such procedures save time

and money, and they provide auditors the confidence to back up their opinions. The researcher advises supporting the broad usage of CAATs; campaigns promoting the technology's use should be created. For example, through televisions, radios, and social media platforms such as Facebook, Instagram, and Twitter. The study suggests that the government and SMEs collaborate to overcome the challenges that are impeding the use of computer-assisted audit techniques in Tanzania. Computer Assisted Audit Techniques is relatively unexplored technology in Tanzania business sector, mainly in SMEs. The study proposes the Further research should be conducted in this area to explore the profitability associated with the technology to businesses. There is a need to explore more independent variables that can have an impact on Computer Assisted Audit Techniques utilization. iii. Also, qualitative study on the assessment of the factors influencing utilization of CAATs in Tanzania should be conducted.

## References

- Adebayo, O. (2021) An Empirical Investigation Of The Factors Influencing The Adoption Of Computer Based Auditing In Public Limited Liability Companies In Nigeria *International Journal of Development and Management Review (INJODEMAR)* Vol. 7 pp. 12 - 24
- Dhinesh, (2020) Factors that influence the usage level of CAATs by internal auditors in Malaysia. *Managerial Auditing Journal*, 29(4), 304-326
- Dias & Marques (2018) Factors influencing the use of audit software in Portugal. *Managerial Auditing Journal*, 16(2), 159–164.
- ierstaker (2018) What factors influence auditors' use of computer-assisted audit techniques? *Advances in Accounting, incorporating Advances in International Accounting*, <http://dx.doi.org/10.1016/j.adiac.2013.12.005>
- Jacob, K. A. (2017). The Effect Of Computer Technology On The Effectiveness of Audit Firms In Uganda.
- Jaksic, D., (2019). Implementation of computer assisted audit techniques in application controls testing. *Management Information Systems*, 4, 9-12.
- James, D. J. (2019). An examination of audit information technology use and perceived importance. *Accounting Horizons*, 22(1), 1-21
- Kamesam, V. (2021). Information systems auditing policy for banking and financial sector. Reserve Bank of India, Information Technology, Mumbai.
- Khorwatt, E. (2016). Assessment of Business Risk and Control Risk in the Libyan Context. *Open Journal of Accounting*, 4(01), 1.
- Lowe, D. J. (2020). An investigation of factors influencing the use of computerrelated audit procedures. *Journal of Information Systems*, 23(1), 97-118.
- Ndika, D. (2018) Effectiveness of Auditing in Computerized Environment in public Sector: A Case of Ministry of Health and Social Welfare. Masters Thesis, Mzumbe Univesity
- Omonuk, J. B. (2017). Computer Assisted Audit Techniques and Audit Quality in Developing Countries: Evidence from Nigeria. *The Journal of Internet Banking and Commerce*, 2015.
- Payne, E. (2019). Modeling voluntary CAAT utilization decisions in auditing. *Managerial Auditing Journal*, 29(4), 304-326

- Reinsel, D. (2021). The digital universe in 2020: Big data, bigger digital shadows, and biggest growth in the far east. *IDC iView: IDC Analyze the future*, 7(12), 1-16.
- Rogers, E.M. (1983). *Diffusion of Innovations*, (5th ed.). The Free Press. New York.
- Saygili, A. T. (2020). Taking Advantage of Computer Assisted Audit Tools and Techniques during Testing Phase in Financial Audits: An Empirical Study in a Food Processing Company in Turkey. *Global Journal of Management and Business Research*, 10(2).
- Shamsuddin, A. and Dhinesh, A. (2020) Factors Influencing Usage Level Of Computer Assisted Audit Techniques (CAATS) By Internal Auditors In Malaysia. *International Journal of Advanced Research in Business*, 1(3), 1–45.
- Toh, J. (2018). Employing generalized audit software in the financial services sector: Challenges and opportunities. *Managerial Auditing Journal*, 20(6), 605-618.
- Tornatzky, L., and Fleischer, M. (1990). *The Processes of Technological Innovation*. Lexington, MA: Lexington Books