Effects of Computer Assisted Auditing Techniques and Auditing Tools (Caatts) on Auditing Activities

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Abstract: This research investigated the effects of computer assisted auditing techniques and auditing tools on the auditing activities. The researchers adopted a quantitative research methodology and the sample size consisted of 20 respondents in which the results from the survey were analyzed and presented using the SPSS version 12, graphs, tables and pie charts. The study revealed that CAATTs are used to automate audit tasks, and allows the auditor to analyze accounting data electronically when it is not quite possible to do so manually. Companies are investing in advanced technologies and auditors have to also invest in skills and in advanced capabilities for them to continue offering robust auditing services and to remain efficient and effective in the business environment since these advanced technologies are impacting how to audit. The study also reviewed adoption of advanced technology such as the artificial intelligence, block chain and cloud computing is still fairly low in Zimbabwe but in some few years to come most organizations will harness these powerful and robust technologies and auditors must be prepared to upgrade themselves and embrace these technologies.

Keywords: Computer assisted auditing techniques; auditing tools; auditing activities; developing country

JEL Classification: M41; M42

1. Background of Study

The drastic change faced in the audit profession were auditors and accountants are now moving from the traditional auditing style to IT auditing that is, to audit the IT used in the business set-ups and integrating advanced technology in auditing that is the use of prominent auditing technologies, computer assisted auditing techniques and tools to make the audit more effective and efficient thereby enhancing auditors' competitiveness (Kanellou, 2011).The use of computer assisted auditing techniques (CAATTs) allows audit work to be executed and conducted in a more efficient and effective manner and help to save time and accomplish the audit

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assignment on time (IFAC, 2011). Modern audit tools and techniques must be used so that audit processes will remain appropriate (Kanellou, 2011; Wadesango et al. 2018; Wadesango & Wadesango, 2016).

Until recently, audits were performed by teams of auditors and accountants manually and scouring quantities of financial transactions and information, but as the data explosion in today's computerized world intensifies, it is critical that the audit profession develop its traditional processes and adopt advanced technology tools such as the robotics, automation and cognitive technologies and the use of audit software (Macaulay, 2016). By doing so, the auditors can unearth insights that allow the audit process to continue to be relevant and effective in helping various stakeholders such as the investors in making important financial decisions.

Due to technological changes in the business environment and the use of advanced technologies by audit clients who are implementing the digital and innovative technologies in order to drive efficiency and effectiveness in the business environments that is to increase productivity, recording transactions and the computer machines are becoming more smarter and also the risk associated with manual or traditional auditing system such as the paper information may disappear for different reasons, thus the need to use advanced technology (CAATTs) in auditing.

This new technology, it is not just changing the financial reporting process and auditing procedures, it is modernizing it. Regardless of the computer systems used by audit clients and organizations, the audit objectives and audit approach will remain fundamentally unchanged, whether the audit is being conducted in a non-computer environment.

According to ISACA (2014), Computer Assisted Audit Techniques (CAATTs**)** are defined as the techniques and aids which are used by auditors to access and view client's system data or the operation of the software using the computer itself. They include continuous monitoring tools, (ISACA, 2014).

The use of CAATTs' increases the efficiency and effectiveness of the conclusions about data analysis and interpretation (Costa, 2012). Most of the auditing firms have already adopted CAATTs and auditing softwares and some are in the process of adopting evolving technology such as the use of artificial intelligence, cognitive technology and Audit data analytics to help them automate their auditing processes.

2. Research Methodology

A quantitative research approach was adopted in this study. The researchers used a sample of 20 people from which 2 were audit partners, 5 auditors in charge, 6 audit clerks and 7 senior auditors from a total population of 30 people. The target population are well vested and have the technical know how about the use of computer assisted audit techniques in their respective audit firm. The sample under study was 20 people from a total population of 30.

Data Analysis and Interpretation

Technological changes in Zimbabwe

Advanced technology being used by audit clients

When the researchers asked the respondents the above question, 20 respondents participated and completed the questionnaire. Table 1 depicts the results of the question,

Table 1. Advanced Technology being used by Audit Clients

Advanced technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	15.0	15.0	15.0
	Neutral	1	5.0	5.0	20.0
	Agree	16	80.0	80.0	100.0
	Total	20	100.0	100.0	

Source: Field surveys 2020

When asked whether the audit clients are using advanced technology and if the advanced technology is impacting the audit, 16 respondents agreed that the audit clients are adopting advanced technology and its impacting their profession. The 16 respondents constitute 80% of the total sample which are also the majority, 3 respondents disagree with the question which constitute a 15% of the total population sample and one respondents who constituted a 5% of the sample was neutral. From the results we can conclude that indeed the audit clients or companies are adopting advanced technology and this was confirmed in the study conducted by Wadesango et al. (2017).

Audit Clients using Computer Technology to Process Transactions

Table 2. Processing Transactions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	5.0	5.0	5.0
	Neutral	1	5.0	5.0	10.0
	Agree	16	80.0	80.0	90.0
	Strongly agree	2	10.0	10.0	100.0
	Total	20	100.0	100.0	

Source: Field surveys 2020

16 respondents representing 80% of the total population sample agreed that the companies are using computers to process transactions, 2 respondents strongly agreed representing a 10% and the minority constituting those who were neutral and those who disagree to the question and representing 5% each of the sample. From the results shown in the table 2 we can conclude that clients are using computers to process and record transaction as supported by Macaulay (2018) who states that clients are automating their processes and slowly moving away from the manual way of recording transactions.

3. Business Organizations Adopting Evolving Technologies such as Artificial Intelligence and Block Chain

Table 3. Evolving Technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	20.0	20.0	20.0
	Neutral	8	40.0	40.0	60.0
	Agree	7	35.0	35.0	95.0
	Strongly agree	1	5.0	5.0	100.0
	Total	20	100.0	100.0	

Source: Field surveys 2020

From the results depicted in the above table 3, 8 respondents representing 405 of the total sample which is the majority were not sure whether the organizations have adopted artificial intelligence and block-chain technologies, 7 respondents representing 35% agreed that organizations are embracing change and are adopting these technologies, 4 respondents disagreed to the question representing a total of 20% of the sample and 1 respondent representing a 5% being the minority group strongly agreed to the question. So the results above show that the respondents are neutral to this question since they are the majority and they are neither agreeing nor

disagreeing.

Adoption of computer assisted auditing techniques and tools by Fairvalue

A total number of 20 respondents were presented a chance to answer the questions relating to the adoption of CAATTs. There are 3 questions which were presented in the questionnaire and the respondents replied each question.

Q1. Does the audit department use CAATTs when carrying out audit?

Table 4. CAATTs used when Conducting Audits

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	5.0	5.0	5.0
	Neutral	2	10.0	10.0	15.0
	Agree	17	85.0	85.0	100.0
	Total	20	100.0	100.0	

Source: Field surveys 2020

From the results presented above, when asked if they use CAATTs in conducting audits, 17 respondents agreed representing 85% of the total sample, 2 respondents were neutral to the question representing 10% of the total sample and the last respondent who disagreed that they don't use CAATTs when auditing representing the minority with a 5%. It can be concluded that the respondents are using computer assisted auditing techniques when they are conducting the audit as supported in literature by Ahmi and Kent (2012) and Wadesango and Mwandambira (2018) that when auditing in computerized environments auditors should use CAATTs which provide the auditor with a powerful tool which enables them to interrogate the client's information systems.

The audit firm offers training to its staff in relation to CAATTs?

When presented with this question, 8 respondents representing a total of 40% of the total sample disagreed that the firm offers training in relation to CAATTs, 2 respondents were neutral to the question representing 10% of the sample and 10 respondents agreed that the firm offers training to its staff. The results are depicted below in the table 5.

Table 5. Training Employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	8	40.0	40.0	40.0
	Neutral	2	10.0	10.0	50.0
	Agree	10	50.0	50.0	100.0
	Total	20	100.0	100.0	

Source: Field surveys 2020

Do all the employees in the audit firm have good computer skills?

The above question was asked by the researcher, and the respondents had to reply with 1- representing strongly disagree, a 2-representing disagree, a 3-representing that the respondent is neutral, a 4-representing that the respondent agrees and lastly a 5-representing that the respondent strongly agree. The results of this question are tabled below.

Table 6. Computer Skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	10	50.0	50.0	50.0
	Neutral	6	30.0	30.0	80.0
	Agree	4	20.0	20.0	100.0
	Total	20	100.0	100.0	

Source: Field surveys 2020

The findings were presented by way of a table as shown above. 10 respondents disagreed representing 50% of the population that all the employees have good computer skills, 6 respondents were neutral that is they neither agree nor disagree and they represented 30% of the sample, lastly 4 respondents agreed that the employees have good computer skills and they represented 20% of the sample. Those who agreed were the minority and from the findings presented above we can conclude that not all the employees have good computer skills as the majority of the respondents have stated.

4. Factors influencing the decision to adopt CAATTs

This question was grouped into six factors and the respondents had to answer by placing a tick on the appropriate scale of 1-5.

Q1. Social factors

When asked whether social factors influence the decision to adopt CAATTs, all the 20 respondents agreed that social influence indeed influence the decision to adopt CAATTs this is supported by the results presented in the table below, the 20 respondents represented a 100% of the total sample.

Table 7. Social Factors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	20	100.0	100.0	100.0

Source: Field surveys 2020

Q2. Effort expectancy

Table 8. Effort Expectancy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	5.0	5.0	5.0
	Neutral	2	10.0	10.0	15.0
	Agree	17	85.0	85.0	100.0
	Total	20	100.0	100.0	

Source: Field surveys 2020

The results are presented above in table 8. Of the 20 respondents, 17 agreed that effort expectancy influences the decision to adopt CAATTs which represented about 85% of the sample, 2 respondents representing 10% were neutral and the other remaining respondent representing 5% of the total sample was not agreeing to the fact that effort expectancy influences the decision to adopt computer assisted auditing techniques. From the findings we can safely conclude that effort expectancy indeed influences and individual's decision to adopt CAATTs as supported by Venkatesh (2012) and Wadesango and Mukerevi (2018), who stated that one of the four constructs that influences an individual use of technology is effort expectancy which is one of the six constructs or variables explained in the Unified Theory of Acceptance Use of Technology 2 (UTAUT2).

Q3. Performance expectancy

Table 9. Performance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	5.0	5.0	5.0
	Neutral	2	10.0	10.0	15.0
	Agree	17	85.0	85.0	100.0
	Total	20	100.0	100.0	

Source: Field surveys 2020

Table 9 shows the results of the respondents in relation to the performance expectancy. From a total of 20 respondents 1 respondent disagreed that performance expectancy influences the decision to adopt CAATTs, a total of 17 respondents representing 85% of the total sample were in agreement with the question and the other 2 respondents who were neutral representing 10% of the total sample. The above results can clearly articulate that indeed performance expectancy influences the decision to adopt CAATTs as supported by Venkatesh (2012).

Q4. Facilitating conditions

Table 10. Facilitation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	10.0	10.0	10.0
	Neutral	10	50.0	50.0	60.0
	Agree	8	40.0	40.0	100.0
	Total	20	100.0	100.0	

Source: Field surveys 2020

Table 10 shows the results related to facilitating conditions. The respondents were asked and replied to the question. 2 respondents didn't agree representing a 10% of the total sample, a further total of 10 respondents representing 50% of the total population sample were neutral and lastly 8 respondents were in agreement that facilitating factors also influences the decision to adopt CAATTs. From the information provided in the table, a conclusion can be drawn that the respondents are neutral and the results of this question are moderate.

Q5. Price Value

Table 11. Price Value

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	1	5.0	5.0	5.0
	Agree	16	80.0	80.0	85.0
	Strongly agree	3	15.0	15.0	100.0
	Total	20	100.0	100.0	

Source: Field surveys 2020

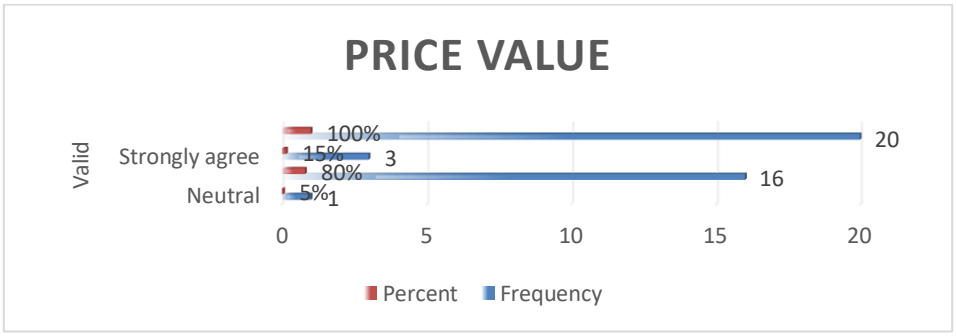

Figure 1. Price Value
Source: Field Survey 2020

The results are depicted in the above graph. The total number of respondents is 20 representing 100% of the total sample. 3 respondents strongly agree representing a 15% of the sample, price value influences the decision to adopt CAATTs, another

80% of the sample constituting of 16 respondents agreed that the price value or cost of technology influences the decision to adopt CAATTs and 1 respondent representing a 5% of the sample was neutral. From the results above it is imperative to note that the cost of technology influences the decision to adopt technology that is there is adverse relationship between the cost of CAATTs and the adoption. This is supported by EY (2015), when they elucidated that these CAATTs software are expensive hence the CAATTs adoption is fairly low especially in Africa.

Q6. Hedonic motivation

This is the satisfaction that one derives when using technology. Respondents were asked if the Hedonic factor influences the decision to adopt CAATTs, the results are depicted in the table below;

Table 12. Hedonic Motivation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	8	40.0	40.0	40.0
	Neutral	4	20.0	20.0	60.0
	Agree	7	35.0	35.0	95.0
	Strongly agree	1	5.0	5.0	100.0
	Total	20	100.0	100.0	

Source: Field surveys 2020

A total of 8 respondents representing 40% disagreed that Hedonic factor influences the decision to adopt CAATTs and 4 respondents were neutral wich constituted 20% of the total sample, another 7 respondents agreed representinng a total of 35% of the total sample and 1 (5%) respondent strongly agreed that the satisfaction derived when one is using technology influences the decion to adopt technology. From the results presented above we can conclude that the hedonic factor can either influence the decision to adopt CAATTs since the results were moderate as supported by Mahzan (2011), that issues such as perceived benefits and company readiness and attitude of top management influences the decision to adopt CAATTs.

Statistics

		Social	Effort	Performance	Facilitating	Price value	Hedonic
N	Valid	20	20	20	20	20	20
	Missing	0	0	0	0	0	0
Mean		4.0000	3.8000	3.8000	3.3000	4.1000	3.0500
Median		4.0000	4.0000	4.0000	3.0000	4.0000	3.0000
Mode		4.00	4.00	4.00	3.00	4.00	2.00
Sum		80.00	76.00	76.00	66.00	82.00	61.00

Source: Primary Data

From the results above we can conclude that the above factors social, effort, facilitating, price value and performance factors influences the decision to adopt CAATTs as supported by the UTAUT 1 and UTAUT2 theories by Venkatesh (2012), that the constructs of these theories affect or influences the decision to adopt technology.

5. Conclusion

Based on the research findings, it can be concluded that there are factors that influence an individual or audit firm to adopt or not to adopt CAATTs. Auditors need to equip themselves with relevant skills and technical capabilities when auditing in computerized environments. Computer assisted audit tools and techniques are likely to improve audit effectiveness and audit quality if the auditors involved in auditing process are equipped with the necessary skills and expertise. The study also established that adoption of advanced technology such as the artificial intelligence, block chain and cloud computing is still fairly low in Zimbabwe but in some few years to come most organizations will harness these powerful and robust technologies and auditors must be prepared to upgrade themselves and embrace these technologies.

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