

## THE ROLE OF INFORMATION TECHNOLOGY SYSTEMS (IT) ON THE DEVELOPMENT OF EFFECTIVE INTERNAL CONTROLS. DESKTOP STUDY

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### ABSTRACT

**Research Question:** *What is the role of Information Technology on the development of effective internal controls of companies?*

**Motivation:** *Companies can now support operations with IT systems to improve operating performance. As a result, companies must adapt their technique and method of internal control in accordance with computerization (AIS) to exercise effective control because the adaptation of quality internal control has an impact on operations and the achievement of operations*

**Idea:** *The purpose of the study was to establish the role of Information Technology Systems (IT) on the development of effective internal controls.*

**Data:** *A literature review methodology drawing on grey literature and published work elicited data for the study*

**Tools:** *it can be denoted that despite the importance of information systems, challenges are imminent when adopting and implementing them. Staff should have the ability to embrace the system as well as finding the best system to use*

**Findings:** *The findings indicated that information systems pose challenges when trying to adopt them. The major challenge was finding the best compatible information system and having the staff that portray familiarity and knowledge of the information systems.*

**Contribution:** *Companies should support operations with IT systems to improve operating performance. As a result, companies must adapt their technique and method of internal control in accordance with computerization (AIS) to exercise effective control because the adaptation of quality internal control has an impact on operations and the achievement of operations.*

**Keywords:** Information Technology Systems, Internal Controls.

**JEL Codes:** M41, M16

### 1. BACKGROUND OF THE STUDY

According to Johnson (2018), “even though businesses have internal controls, fraud, bribery, theft, and fund misappropriation are among the crimes that continue to be committed there”. According to ICAC (2022), “there is a case where the former branch manager of Hui's Brothers Foreign Exchange Company Limited misled the business by claiming that customers had settled an unpaid remittance of \$7.6 million using false documents”. “The case is said to have occurred between 23 November 2021 and 4 January 2022”, according to ICAC (2022), “but the fraud wasn't discovered until six months later by a manager who had just been hired. This is due to lax internal controls that existed in the organization, such as a lack of implementation of measures to limit authority and access to certain important information and bank details. Lack of reports further supported the act's concealment”.

Teru et al. (2017) asserts that “the management of an organization and the implementation of an internal control system both heavily rely on the accounting information system. The researcher also pointed out that insufficient internal controls in most businesses are a major contributor to fraudulent operations. Due to this, businesses have struggled to operate effectively, and as a result, their goals have not been attained. The use of additional computer systems makes it possible to encrypt all the information required for the company's information so that only those who can read it may access it”. The research on the effect of information systems on internal controls' capacity to identify and stop fraud was also supported by Abiola (2018), who concluded that “the use of information systems in banks improved the ability to identify fraud”. Teru et al. (2017) further revealed that “companies can now support operations with IT systems to improve operating performance operating systems. As a result, companies must adapt their technique and method of internal control in accordance with computerization (AIS) to exercise effective control because the adaptation of quality internal control has an impact on operations and the achievement of operations, since this was not available in the areas they studied”.

### ***1.1 Research Question***

What is the role of Information Technology on the development of effective internal controls of companies?

## **2. EMPIRICAL REVIEW**

The study is mainly premised around the following variables which this section will be describing.

### ***2.1 Information Systems Technology***

Victoria (2020) found in his study that “Information systems were created with the main objective to reduce costs and time in paper processing, especially in the accounting area, thereby contributes positively to internal controls. He also added that uses of computer technologies are now used to support management, democratizes information, marketing opportunities among other uses”. Supporting, Djalil et al (2017) define information technology “as an organization that consists of hardware, software, telecommunication devices, database management, multimedia resources, computer engineering and design, industrial automation and other technologies used to store data and make data readily available in the form of information to the decision maker of the organization”. Information technology is resources used by organizations to manage the information that is necessary for the sake of realizing its goals and objectives. “In addition, information technologies can consist of computers, computer networks, telephones, fax machines and many other hardware devices. As well, information technology also involves software that facilitates the ability of a system to manage information in a way that is beneficial for its users, and detection of fraud” according to Djalil et al (2017) ; Shati, Wadesango & Lovemore, 2023).

Bure and Tengeh (2019)'s study on the effect of internal systems on small to medium enterprises revealed that “to facilitate the growth of small to medium enterprises, information systems should be adopted in Zimbabwe”. They added that “as developing and implementing effective internal controls entails an ongoing process, the perceptions and attitudes of those who are to be tasked with doing so need to accord with the priorities which internal controls serve. There is need for the adoption of information systems by small to medium enterprises to maximise the benefit internal controls can offer” according to Bure and Tengeh (2019) ; Sandu, Wadesango & Sitsha, 2023).

Khan (2017) found that “on accounting information systems uses were making it easier to compile financial data for use in taxes, payroll, and other bookkeeping requirements, producing external reports useful to external stakeholders, supporting and fasting routine activities, decision-making support, budgeting, financial Control and implementing internal controls. In supporting this notion”. Jasim and Raef (2020) found “that IT improves the quality of accounting information and performance of accounting transactions in a more reliable, transparent and accurate manner as well as advanced security. To add on, they found out that information

reduces time consumption when processing accounting information reduce costs”. To support, Hall, (2017) also lodged that “business owners can easily balance their books with the use of information system. He adds that information technologies allow for a speedy processing and faster calculation of financial data, as well reliable storage of financial data that may need to be referred to in the future”.

Furthermore, Devry (2021) revealed that that “Information technology systems establishes a leading role in the business, that improve the efficiency, effectiveness, communication, collaboration, and competitive in their research. In improving the internal control systems, information technology has proven to have a close relationship together”. “With the optimization of technology utilization in the business, then the business management experiences change of system from the traditional to the contemporary” (Djalil et al, 2017). “In improving the quality of financial information and improving productivity, the utilization of information technology is required to provide prompt and accurate information” (Khasawneh ,2017) ; Thole, Sitsha & Wadesango, 2023).

According to Ahmed and Shbiel (2019)’s results, “accounting information systems improved the organisation performance and management knowledge was the mediating tool”. In this context, Saheed et, al. (2020) also noted in his research book that “with the increasing automation of manufacturing and decision-making processes, the value of IT use is reinforced and becomes an asset for the company”. Dmaour et al (2017) states that “implementing accounting information systems is an enabler to competitive advantage. Casual links were found between information technology systems and the firm’s financial performance”.

### **2.1 Internal controls**

According to Vaidya (2021), “internal control refers to the set of principles, procedures, and practices companies define to ensure they keep a check on risk-causing factors and rectify the same to avoid losses or frauds. It plays a significant role in guaranteeing accountability of companies, which remain under controlled supervision for correctness and reliability”. “The objective of including and implementing controls is to ensure an organization’s, efficiency of operations, compliance with audit rules, standards, laws, and regulations, accuracy and reliability of the financial reporting, safeguarding assets and preventing and detecting fraud and other unlawful acts” according to Deskera (2021); Wadesango, Ruwende and Sitsha, 2023).Tetteh (2020) study “showed a relationship existence between internal control systems (control environment, control activity, information and communication and monitoring) and the company’s performance”.

According to Zang (2022) “goal of preventative controls is to prevent errors and fraud before they occur. This means that preventative controls are there to prevent and avoid errors before they transpire’. Berborta (2021) revealed preventative errors examples, and these are, “includes segregation of duties, validation and authorisation, employee training and required certifications, password protected access to asset storage areas, physical locks on inventory warehouses, security camera systems and segregation of duties (such as recording, authorization, and custody all handled by separate individuals)”.

Hill (2021) defined detective controls as “controls are that are designed to find errors or irregularities after they have transpired”. Hill (2021) outlined the examples of detective controls, and there are “bank reconciliations (cash per the bank is reconciled to the cash per the company's books),control totals (cash per cash register tape is reconciled to cash received in the cash register bag, physical inventory counts (inventory is physically counted and then compared to the inventory ledger), reconciliation of the general ledgers to the detailed subsidiary ledgers and surprise counts of cash on hand (such that petty cash is counted on a random and unexpected basis)”.

Zang (2022) mentioned that “corrective controls are designed to correct the errors and irregularities and ensure that similar errors are not repeated once they are discovered”. Berborta (2021) outlined in his study the examples corrective measures which are: “data backups which can be used to restore lost data in case of a fire or other impeding disaster, data validity tests can require users to confirm data inputs if amounts are outside a

reasonable range, insurance which can be utilized to help replace damaged or stolen assets, management variance reports which highlights variances of differences from budget to actual for management corrective action and training and operations manuals which should be revised to prevent future errors and irregularities”.

Chenguel (2020) states that “the gap to commit fraud is filled once internal controls are not present or are ineffective. For example, the person who request for replenishments in the production should be different to the one who receives the cash and the one purchase and the one who do the counting of the inventory. A limited number of employees should have access to the control elements within the workflow”. Osei-Assibey (2018) also noted that “the primary causes of financial fraud were weak internal controls, lack of continuous training of employees and poor supervision. He concluded that weak controls had a greater lead to fraud”. Ram and Acharya (2021) that “the primary causes of fraud introduction of weak internal controls apart from new information technology systems and inadequate training of the IT systems”. Tamimi (2020) revealed that “management risk control should be paid attention to so as to combat fraud in the banks”.

Erawati (2019) concluded that “internal control had a negative effect on organizational performance due to the lack of internal control within an organization. It implies that the existence of an internal control system empirically proven to improve the performance of local government in his research”. Xiao (2020) found that “most organisations have to ensure effective internal controls so as to improve and strengthen the practical performance of social responsibility and improve the protection of stakeholders’ rights and interests so as to achieve a better financial performance”.

## **2.2 Information systems and internal controls relationship**

“When it comes to internal controls, there are a couple of major areas that have been developed by the use of technology” according to (Hill, 2021). “A positive relationship between information systems and internal controls exists as the study revealed” (Hill, 2021). In a study done by Teru et al. in 2021, they concentrated on the and examined how accounting information systems (AIS) for efficient internal control affected the performance of the firm. According to the study, internal controls and information technology are related. Additionally, they noted that when controls are run effectively and efficiently, performance will be better, accounting information will be more reliable, and both internal and external users would be able to make better decisions. The study's findings, according to Tetteh and Kwateng (2020), showed that information technology moderates the association between internal control and corporate success. The findings demonstrate that the control environment and control actions had a higher interaction effect than the other internal control dimensions.

Haslida and Saleh (2022) studied on the extent of the Information systems on internal control development in Higher Education Institutions in Indonesia. This study took a survey method by distributing questionnaires the higher education institution in 34 provinces of Indonesia. 191 higher education institution were taken up for study. Haslida and Saleh (2022) went on to wrap up their study that information technology was positively related to internal controls in the institutions. This demonstrates how internal controls and information technology systems are related. The effectiveness of the internal audit of Iran Melli Bank branches in Sistan and Balchestan province was examined by Nakhaee and Alireza (2018) in relation to the role of information technology. 92 samples were gathered in accordance with the Krjusi Morgan method's sample size formula. The study concluded that the use of information systems determines how well internal controls work, which in turn improves the accuracy of reports and financial performance.

In his study methodology, Nusa (2020) employed the descriptive approach to identify any issues with the data that pertain to the execution of an information system audit for internal control quality. According to the findings, putting into practice an effective information system audit has a favorable impact on internal controls, which implies that doing so will have an effect on raising the caliber of internal controls. This is supported by Muraguri et al (2017)’s study, which found that the performance of state-owned enterprises was

both favorably and unsettlingly associated to the control environment and information systems. Wadesango, Jori and Sitsha (2023) added that internal control systems through information systems and the control environment had a favorable impact on the financial performance of state-owned businesses in Kenya. In his study on the effects of ICT on internal controls' capacity to identify and stop fraud, Abiola (2018) found that using information technology in banks improves such institutions' resistance to electronic fraud. The study continued by stating that its findings demonstrated a connection between information systems and internal controls, and that this association increased with the adoption of new information technologies.

### ***2.3 Effective internal control system contribution to financial performance***

In a study published by Muraguri et al (2017), they focused on the outcomes of the Ministry of Labour Social and Security Services to examine how the information system and control environment affected the financial performance of state-owned corporations in Kenya. 160 employees were chosen from a few chosen state-owned firms as part of their descriptive research design, which they used for their study. In Kenya, state-owned firms operate better when there is an effective internal control environment, according to the study's findings. This implies that strong internal controls have a positive impact on a company's productivity and financial performance. This was corroborated by Lutui and Ahokovi (2018), who discovered that by implementing an e-accounting system to boost businesses' financial performance, the risks associated with internal control systems could be eliminated. Additionally, Khoruzhy et al. (2018) conducted a theoretical investigation of the efficiency of internal control systems for accounting and analytics in agricultural organizations. The following research techniques were used to create this paper: monographic, calculation and design, abstract and logical, method of comparison, and simulation method. The study's conclusion was that in order to boost an organization's financial performance, implemented internal controls need to be flexible enough to respond to changing business conditions quickly (Paradzal, Wadesango and Sitsha, 2023).

According to The Chronicle Newspapers (2019), Vice President Constantino Chiwenga lamented corruption at the National Pharmaceutical Company of Zimbabwe (Nat Pharm), which he claimed was to blame for the Zimbabwean people's inability to access medications. Medicines that can be accessible and affordable of chronic illnesses such as diabetes, cancer, blood pressure and cancer has been not available due to corruption caused by poor internal controls presence at the Pharmacy. Due to poor internal control measures such as control policies, internal auditing and monitoring and failure improve the internal controls in this complex organisation, transactions, the organizational performance and financial stability of the National Pharmaceutical Council of Zimbabwe has slowly deteriorated in recent years. The bemoaned corruption was also helping the country lose much cash though undetected secret import deals.

Takavingofa, (2017) indulged in a study, aiming to investigate the effective ness of internal control systems used by parastatals in Zimbabwe in reducing the risk of fraud. The author applied stratified sampling technique whereby the target population was divided into stratus which includes mining, agriculture transport, telecommunication, health to name a few. The indications of the study revealed that ineffective internal controls pave way for fraudulent activities in the parastatals. Her findings were that the that internal controls were present but ineffective, which has led to fraud and decrease in financial performance. In accordance with this, Malle et al. (2021) conducted a study to determine the efficacy of fraud prevention and detection techniques in Tanzania's public sector. Using a convenience sampling technique, the author chose 77 accountants and auditors from the public sector. The study adopted a Likert- scale questionnaire and retrieved secondary data from published reviews such as journals and articles in newspapers. on the related matter. The author used a descriptive design methodology. The results obtained were that the highest method in reducing and detecting fraudulent activities that the government may introduce was effective internal controls and once effective controls are put into place, such as organisation policy and information systems security then financial performance may be increased.

Bure and Tengeh (2019) conducted research on the sustainability of small- and medium-sized businesses in Harare, Zimbabwe. They created a questionnaire and using the statistical package for the social sciences (SPSS) program, 135 respondents supplied quantitative data. The findings indicated that small to medium firms should adopt internal controls if they are not present or are not sufficiently improved. A study on the effects of internal control using computerized accounting systems among Small and Medium Enterprises in Oman was undertaken by Alzakwani and Matriano in 2021, focusing on SME's with registered employees and the Omani Ministry of Commerce and Industry. A survey was carried out using a Google Form. 220 population samples were taken for the study. According to their research, the government should support small and medium-sized businesses to create an effective internal control system to decrease errors, boost productivity, and improve financial performance. The main difficulties faced by SMEs in Mogadishu, Somalia, are poor financial decision-making and inefficient controls, both of which can be avoided by implementing computerized accounting systems (Mutambirwa, Wadesango, Sitsha & Wadesango, 2022; Abdulle et al., 2019).

Aladejebi (2017) conducted study on methods for enhancing internal control in Nigerian small and medium-sized businesses. The researcher took her study on internal control theory, conducted questionnaire and online interviews in 8 selected SME's in Nigeria who have adopted and planted internal controls. The research revealed and concluded that developing effective internal controls might decrease financial losses and aid financial losses. Also, the researcher added that the business acquires a competitive advantage and provides employment opportunities and increase financial performance.

Kewo (2017) sought to determine whether the internal control and managerial effectiveness of Indonesian local government had an impact on financial responsibility. The study's goal is to ascertain whether Indonesian local government internal control and managerial performance have an impact on financial responsibility. The population targeted at, 26 local government unit of Sulawesi province and 115 unit tool samples were derived. The information was obtained through primary sources. The study's findings suggested that internal control adoption has an impact on management performance, which in turn has an impact on financial accountability in Indonesian local government. The better internal control is implemented, the better the local government's financial accountability will be.

Alhassan (2018) conducted research to ascertain how internal audit affected the efficiency of financial management at Ghana's Cape Coast Metropolitan Assembly (CCMA). The research design used in the study was correlational. The sample size was set at 100, with 123 people in the research population being the target audience. The respondents were chosen by lottery. A questionnaire was also used in the investigation. The findings indicated that internal auditing factors, particularly internal controls, had a statistically significant impact on the CCMA's ability to manage finances effectively. This indicates that internal controls had a substantial impact on the financial management of the Cape Coast Metropolitan Assembly and had an impact on the caliber of the auditing processes and final reports (Chizana and Wadesango, 2022). The study came to the additional conclusion that internal controls helped auditors gather trustworthy audit data for use in creating audit reports.

Internal controls, according to Mardi et al. (2020), directly affected the timely creation of financial reports in accordance with the principles of transparency, hence enhancing financial performance. In a related study, Al Karaghoul and Sayed (2020) focused only on businesses A listed on the Shanghai and Shenzhen stock exchanges to examine the adoption, adaptation, use, and impact of information systems throughout the pandemic phase and afterwards. Their research concluded that the comparability of accounting information increases with the level of internal control.

Supporting, Zhu and Son (2020) conducted research on the rapid COVID-19 outbreak in China with the goal of determining if internal controls may mitigate the detrimental effect on a firm's performance. The difference-in-difference (DID) method was used with a sample of Chinese listed companies from the first quarter of 2019 to the third quarter of 2020, and the study found that manufacturing enterprises with superior

internal control systems had better financial results during pandemics. This demonstrates that strong internal controls help to contain the impact of pandemics when they do emerge (Mapope, Wadesango and Sitcha, 2020) Shen et al. (2020) also conducted research on how the COVID-19 pandemic affected business performance. The study also demonstrated that internal control enhances firm performance in times of adversity. The study also aimed to encourage managers to spend money on internal control operations before a crisis to lessen its impact on a firm's performance.

Based only on the financial performance of 34 publicly traded manufacturing companies in Sri Lanka, Madhushani and Jayasiri (2021) evaluated the effect of internal control. The study discovered that the internal control system, which consists of the control environment, risk assessment, control activities, information and communication, and monitoring of controls, has a greater impact on financial performance. In this regard, Kisanyanya (2021) discovered that every aspect of control has an impact on the institutions under study's financial performance in a favorable and significant way. Only higher education institutions in Kenya's Vihiga County were included in the study. Eke (2021), who discovered that the control environment affects total revenue and, consequently, influences the financial performance of hospitality organizations in Rivers State, Nigeria, was also in support. The inadequacy of the control environment, however, could spell doom for the organization.

Internal controls were the subject of Haslida and Saleh's (2022) investigation. The impact of information technology on the implementation of internal controls and its function as a mediator in the relationship between internal control and higher education institutions' quality performance are also examined. 191 higher education systems out of 34 provinces of Indonesia were selected. The conclusion after the survey showed that internal controls being strengthened by information systems to make them effective increase the quality performance on higher education and need to be developed. In agreement, Djalil et al. (2017) conducted research on the use of internal controls and information technology on the financial performance of city departments in the government of Banda Aceh, Indonesia. The study targeted 39 government cities of Banda Aceh using random sampling technique, selecting 28 agencies within city government. They collected the primary data using questionnaire. The researched in conclusion realised that use of Information systems together internal control have a positive effect of financial performance of an organisation.

Internal control systems however, according to Ibrahim, Diibuzie, and Abubakari (2017); Jones, Wadesango, Sitsha & Wadesango, 2022) can only provide a fair level of assurance as to the accomplishment of the organization's goals, which are set by the management and board of directors of an institution. They continued by saying that the achievement of the objective falls within the constraints present in every internal control system.

#### ***2.4 Challenges faced during the implementation of computerised information systems***

The goal of Almalki and Zafar's (2017) study was to highlight the difficulties in implementing an information system strategy in a bank and the broader Saudi corporate environment. This research investigated the kinds of issues in a bank and used a case study and a survey to illustrate these challenges. The challenges evolved under 4 main categories, Human, Technical, Management and Environmental challenges that might arise. Almalki and Zafar. (2017) cited that Management challenges included lack of top management commitment to the adoption of information systems strategy, lagging management roles in implementation, insufficient support in creation and adoption of the systems, alterations to the replacement of senior management, poor coordination and segregation of duties, and lack of communication. The study found that a super management has a more potent impact on getting information system strategies to align with an organization's established goals. Victoria (2020) also pointed out that senior staff support is a crucial component to consider when introducing information technology into enterprises. Due to its influence over the

other participants and its role as the project's sponsor, the study discovered a direct correlation between the level of success of an IT strategy and the level of support from top management.

Specifically with regard to data security and safety as well as data encryption, Khasawneh (2022) filed and concluded that the challenges associated with digital technologies have established a new control environment and requirements that are different from the traditional one, posing a significant challenge to internal controls. This brings us to the second category of challenges encountered when implementing information systems, Technical challenges. According to the report, the technical hurdles included upgrading a new system from a conventional one as well as issues with changing and reorganizing business processes to fit with IT systems. The humanistic approach, according to Victoria (2020), had a significant impact on the research he conducted use of information technology.

The third category that contribute to the challenge in implementing information system is Humanistic challenge. Alawamleh and Al-Balqa (2021) also did an investigation on the challenges, barriers and advantages of information systems in private organisations. In his research he found out that there were some challenges met during the implementation of information systems which are humanistic. The study provided some humanistic features, such as collecting data that may contain material errors, lack of proper training of administrators, insufficient knowledge of information systems, most researchers and programmers might not be familiar with the current system's working environment, and the administrator and users weren't involved in the machine's construction or infrastructure. Additionally, the machine's executors might not be eager to become accustomed to it or adapt, and they might not even be aware that they are doing so.

With a case study of Private Hospitals in Johannesburg, South Africa, Marimba et al. (2018) conducted research to determine the reasons behind difficulties faced while deploying computer-based knowledge management systems in healthcare institutions. The study's three private hospitals were chosen. Interviews were conducted with six participants—two from each private hospital—objectively. The study used purposeful sampling. The authors investigated and gathered the retrieved data. According to the research, adult challenges include the inability to change organizational culture to align with the computer-based environment, appropriate knowledge in information systems, a lack of support and commitment, an inability to keep up with the rapidly changing technological environment, a shortage of personnel with adequate training in information systems, and the inability to turn significant information into systematic knowledge.

The Environmental factors or challenges as cited by Alawamleh and Al-Balqa (2021) are the lack professionals or few to develop the infrastructure and system applications. This causes unreliability of the system since the system should be tailored made so suite the needs of the organisation, as agreed by Amaki and Zafar (2017) ; Wadesango, 2021). As well, the authors found other challenges under environmental challenges which are inconsistency criteria during the development of the system. As well the scarcity of procedures, methods and levels in the systems continuous growth. Another challenge under environmental was the unavailability of analysis of management information systems. Baballe and Bello (2021) backed up this idea by stating that there is a lack of human resource education in the context of appropriate management accounting preparation programs in universities. Insufficient media coverage of a computer and technology use philosophy was another concern made by the authors. In their conclusion, Alawamleh and Al-Balqa (2021) further stated that the Islamic council parliament's and government commission's slow evaluation of important laws, as well as the pertinent issue at hand, posed a threat to the implementation of information technology systems under the environmental category.

According to Max et al. (2018), there are a variety of issues that could arise during the implementation of information systems, and these difficulties have an impact on the preparation, design, and deployment of information systems in enterprises. International Journal of Computer Trends and Technology, which claims that the information system must offer a strategy to deal with the many difficulties and to also be aware of all information management aspects, also supports the finding. As stated by Maleh et al (2021), any organization

has to understand and be aware of the need to ensure the security of the information systems by analysing and managing the risks that weigh on its IT assets to ensure the continuity of operation of its services to ensure sustainability over time. Also agree in their research that most organisations are subject to risks and challenges when implementing information systems. Supporting this, Kyari and Akinwale (2020) discovered in their research that banks have viewed the involvement of Financial Technology businesses, an accounting information system, in the supply of banking services as a threat because the technology is not well understood. This study looked at how much Nigerian banks had embraced Fintech innovation. The results of this study showed that commercial banks in Nigeria have implemented several types of financial technology, with a focus on money transfer payments. However, it is still difficult for those banks in distant locations to use this technology (Wadesango, Muzvuwe, Malatji, Sitsha and Wadesango, 2021).

In their study, Khasawneh and Al-Oqool (2019) increased the difficulties brought on by the advent of information technologies. Their research focused on determining how the growth of IT infrastructure affected the usefulness of accounting data in the Jordanian banking industry. The study focused on 13 Jordanian banks and concluded that there were actually difficulties in implementing information systems. It also demonstrated how the amount of expertise and training impacted the effectiveness of the information systems. As a result of their agreement, Mukhtar et al. (2020) expanded on their investigation into how information systems can be used to create management information systems in a higher education setting.

The study adopted qualitative approach type of research using a case study method. The data was retrieved using observation, interviews and secondary data from previously documented data. The research adopted Robert K Yin study method. The closer examination of the data collected was investigated using pattern matching. The findings indicated that the development of the study program's management information systems is based on the student's, managers', and lecturers' acceptance of information systems and technology. The study came to the conclusion that it is crucial for the latter personnel to share ideas. Second, needs analysis and the requirements of both internal and external customers should be taken into consideration while designing information systems. As it becomes difficult for information technology to be adopted correctly and effectively.

According to Lindsay, the inability to confirm that the processing procedure is correct and the individuals in charge of governance cannot physically observe the accounting process in a computerized accounting system adds to the difficulties and risks auditors face when banks adopt information technologies (2019). The same situation is also supported by Kumar's (2017) claim that the audit trail is lost partially or completely because source documents, intermediate documents, and reports are completely or partially eliminated, making it difficult for those in charge of governance to trace data back to its original source when entering transactions.

Al-Khasawneh (2022) claims that the systems occasionally lose data and files, making it difficult for the IT department to locate them or to find entire information. Information systems become less than optimal for the organization when improperly implemented or if gaps are there, which causes significant data loss. Infrastructure (hardware and software) is a problem that hinders the growth of information systems. It is also difficult to upgrade or switch from one system to another. Journal of Computer Trends and Technology International (2017). This demonstrates the value of information systems but also the challenges that an organization may face when putting them into practice.

A study by ICAEW and DFSA (2017) was produced with the goal of analyzing the effects of technology on audit and finance. The writers came to the same conclusion and agreed that more qualified employees who are able to think, apply, judge, analyze, and draw conclusions from data, as well as trained enough to work effectively with information systems, are required for information system implementation to be successful. Tamimi (2021) also concluded in his study that a company should pay more attention to the personnel's level of training. This conclusion was reached when the author was conducting a study on the role of internal audit in risk management. The study was limited to ten selected banks in Palestine. The data needed

was retrieved through formal and informal interviews. As well, a descriptive method of analyzing data was employed. Thus, reaching to one of the conclusions that the company should invest more in continuously training its staff to be able to fit in with the everchanging technology environment.

### ***2.5 Recommendations on averting challenges faced by companies in implementing computerised systems***

Almalki and Zafar (2017), s study sought for the challenges posed by implementing information systems in Saudi Arabian business. Upon listing the management challenges, the research went on to present the solutions they deem effective in solving the implementation challenges. Almaki and Zafar (2017) noted that identifying the lagging segregation of duties, and continuously changing the senior management offered a robust solution to the problem. He went on to recommend that the senior management should be present and committed and included during the architect of the information system they intend to adopt. Baballe and Bello (2021) also if separation of duties allows for audit trails, for auditors to find proper information during the collection of their audit evidence.

Alawamleh,et al (2021) studied on the challenges posed by implementing information systems. In their theoretical study presented, he outlined some major challenges that were categorised into, Humanistic, Technical, Management and Environmental challenges explained more in the latter section 2.3.5 of this research. These challenges are present but however their study sought to provide the solutions that might help in alleviate the challenged raised. Alawamleh, et al. (2021) drew conclusions from their findings that managers in the public and commercial sectors should exercise a questioning mind because they will be flooded with statistics that are just marginally significant rather than confronted with tangible and totally valuable evidence. By creating a strong and functional management information systems unit to handle management difficulties, this condition can be avoided.

Underthe humanistic challenge, Ahmed and Shieby (2019) studied on the relation between accounting information systems and organisational performance. Since a relationship was determined between information systems and internal controls, the study went on to look for the challenges involved in the implementation of these systems. Their study was limited to humanistic problems. Their finding revealed that workers had a greater influence on the implementation and success of information technology systems. It revealed that employees have to embrace the vast changes in technology and be trained. Organisations or companies should ensure that personnel in connection to the IT department should acquire continuous upgrade in training. Almotawkel and Qureshi's findings from their study in 2021, which found that performance depends on several factors, the most crucial of which are the employee's conviction, the skills he attained, his aptitude for handling information systems, and the taking of legal deeds by senior leaders were supportive of this. In agreement with these authors, Rahamne (2017) asserted that training and development programs are necessary for employees to enhance and develop their performance in forms. As a result, they have increased confidence in the system and are less likely to enter data incorrectly.

Victoria (2020) presented the Technological Challenges that can be identified in an organisation. He noted that the organisations should hire professionals in the development of information systems structure and establish a relationship with the vendor. This allows for easier understanding of the information systems. The professionals have knowledge on then ideal technology for the organisation that suits its needs. Furthermore, Wadesango (2021) highlighted that outsourcing professional technology vendors promotes quality information systems that are up to date and current.

In addition to technology fixes, Oladeju and Oyeleye (2022) investigated the effects of fintech adoption on the financial and non-financial performance of small and medium-sized businesses in Nigeria. In Nigeria's Oyo State, the study was carried out. 381 SMEs in the state of Oyo were selected at random. The one-way ANOVA analytical technique was used to evaluate the data. The findings suggested that to embrace financial

technologies that are most appropriate for their line of business, small and medium-sized businesses should seek expert financial advice and technology innovation knowledge.

Environmental challenges were cited by Muramba et al (2021). His study on impact of information systems on health organisations proved that the methods and processes in the management of information systems should be reviewed. The company should be able to review other organisation's information systems in the same field as theirs so as to determine a system that suits its needs. The procedures should be available in the overall part of the organisation. Alawamleh and Al-Balqa (2021) also added in conclusion in his study that the evaluation of significant laws in the Islamic council parliament and government commission should be conducted by the companies. Another challenge under environmental, unavailability of human resource studies in the context of suitable management accounting preparation programmes in universities. The solution to this problem was summarised saying that the education sector should add more of information technology management programmes, to enhance education in the area. Zhen (2021) also supported that notion saying that more knowledge should be made available to empirical evidence especially in times of pandemics, like the Covid 19.

### 3. CONCLUSION

It was found out that continuous training of employees to make them compatible with the system and boost morale, establishing a relationship with the vendor to improve understandability of the systems as well hiring of professionals in the development of information systems structure and reviewing other organisations' information systems in the same field as the organization were the most effective recommendations. It can be concluded that weak internal controls such as the absence of information technology advancement makes paperwork cumbersome for the employees thereby causing gross errors thereby leading to poor financial performance of the organization. Lack of information detection and preventative systems has made organisations to have challenges like fraud activities and corrupt acts to take its toll in most organisations in Zimbabwe since there the acts are undetected. Information technology systems was positively correlated to fraud detection and prevention for the first time. In conclusion, it can be concluded that information technology systems are more effective in detecting and preventing fraudulent activities in an organisation since all questions had a significant relationship with information systems. There was no significant relationship between information systems and better control of data processing. This is because adoption of information technology systems is perceived to be the main root of fraudulent activities is not properly installed.

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