Submissions Abstract Book - All Papers (All Submissions)

0225

Thu 12 Dec 2019

10:30 - 11:00

Towards An Information Systems Security Governance for Repositioning Polytechnics in Zimbabwe: A case of Harare Polytechnic.

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Research Domain: Higher education policy (HEP)

Abstract: This research study is anchored on investigating the current information systems governance in polytechnics in Zimbabwe to facilitate the development of an information system security governance framework. Information security philosophy should permeate throughout institutions as a result of executive management influence. The development of sound and robust information systems security governance procedures and policies must enhance the viability and reliability and ensure customer satisfaction. The theoretical underpinning will be anchored on designing an information system security framework. The researcher looks at scholarly articles and books, so as to navigate relevant Knowledge Management Systems in order to come up with an information systems security governance frameworks for polytechnics in Zimbabwe. This study, will be conducted as a case study grounded on Harare polytechnic. The researcher, will navigate, evaluate, and recommend appropriate framework for Information System Security Governance in Zimbabwe's polytechnics, the case of Harare Polytechnic.

Key words: Information Systems, Governance,

Paper:

Introduction

Reix, (2004) in Tedjini, A, Morley, C; and Soulier, E (2015) defines an information system as a systematic set of resources which are hardware, software, personnel, data, procedures to acquire, process, store information such as data, text, images and sounds within and among organizations. Information systems resources constitute vital assets for the organisation, and they have to be controlled and administered for organizational value addition. It is viewed as a tactical corporate imperative increasing the net value of information technology. Information system can also be described as organized units working in collaboration to gather, process, store, and disseminate information to help decision-making process coordination, management and examination and reflect in an institution.

Dhillon (2007) states that information system security governance supports in guarding informational assets through production of relevant central management in corporate development ascertaining that liabilities as well as responsibility in institutional setting are maintained. Challenges have arisen as the increase in the application of information system skyrocket. Threats to information assets require solid and well protected systems that ensure that data resources are safe and that internal and external publics have confidence in the integrity of the informational assets. Polytechnics in Zimbabwe stand to benefit from embracing and implementing practices associated to information systems governance. A lot of information management within polytechnics in Zimbabwe requires protection and safeguarding to reduce risks and challenges related to systems breaches or hackings.

Designing an information systems security governance framework may improve services delivery, stakeholder confidence and other related amenities. Good governance is generally characterized by involvement and participation stakeholders coupled with transparency and accountability.

Background of the Study

The research investigation proposes to design information system security governance framework for polytechnics in Zimbabwe, the case of Harare Polytechnic. Harare Polytechnic is the focal point because it is the oldest polytechnic in Zimbabwe, it runs the highest number of courses, has the highest enrolment (over 9500) and number of workers (around 655). Polytechnics in Zimbabwe are governed by same act of parliament (Manpower Development Act Chapter 28.02 of 1984) and fall under the same ministry.Technical Education Program (TEP) department, as the parent directorate, does not have a system that links the institutions for easier management and coordination, and is not funding polytechnic information systems, the institutions have to do it on their own.

Problem Statement

Polytechnics are generally considered as hubs of skills, knowledge and technological development as they are key drivers in the provision of graduates for industry and commerce. The information systems are not integrated; some are manual while others are computerized. Therefore, the problem addressed in this research is the lack of a clear framework for effective usage, integration and security of information systems Zimbabwe's polytechnics.

Research Objectives

The major objective of this research investigation is to design an information systems security framework for Zimbabwean Polytechnics. The sub-objectives are listed below.

1. To identify information system security infrastructure needs for Zimbabwean Polytechnics.

2. To find out the information system security policies required for Zimbabwean Polytechnics.

 3. To ascertain opportunities for information systems governance to develop practical and efficient business performance for Zimbabwean Polytechnics.

4. To design and recommend a sustainable information system security governance framework for Zimbabwean Polytechnics.

Research Design and Methodology

According to General Systems Theory, an information system operates in an environment. The boundaries are the barriers that define a system and distinguish it from other systems in the environment. (Boland 2002) notes that work done by information systems practitioners and managers deals with design. In this research, an artefact is going to be produced and tested whether it matches the needs of the polytechnic environment in Zimbabwe. If the information system security framework is to operate in an environment it has to be relevant to the business needs of that environment. Literature review is going to be done in order to tap into the knowledge base that is already available and allow the researcher to test whether the knowledge gap has the rigour that it should possess for it to be considered relevant. The artefact is going to be developed iteratively as in the diagram below for it to be added to the knowledge base.

Presentation and Analysis of Research Results

In line with the quantitative method approach adopted in this study, the research data would was analysed anchored on quantitative data analysis using Standard Application Programme for Social Science (SPSS). The adopted approach for this research study was influenced by the desire to ensure that data collected through questionnaires were augmented with data collected through observation checklist and document analysis. The approach would ensure that there is cross validation through triangulation.

Information Security System Governance Framework for Zimbabwean Polytechnics was developed through the research investigation and polytechnics may use it as a basis for implementing information system security governance. Infrastructural needs for designing an Information System Security Governance Framework were identified and policies and procedures were noted to be vital to the successful implementation of a sustainable system.

Information Systems Security Governance for Harare Polytechnic by Sinikiwe Mudondo 2019
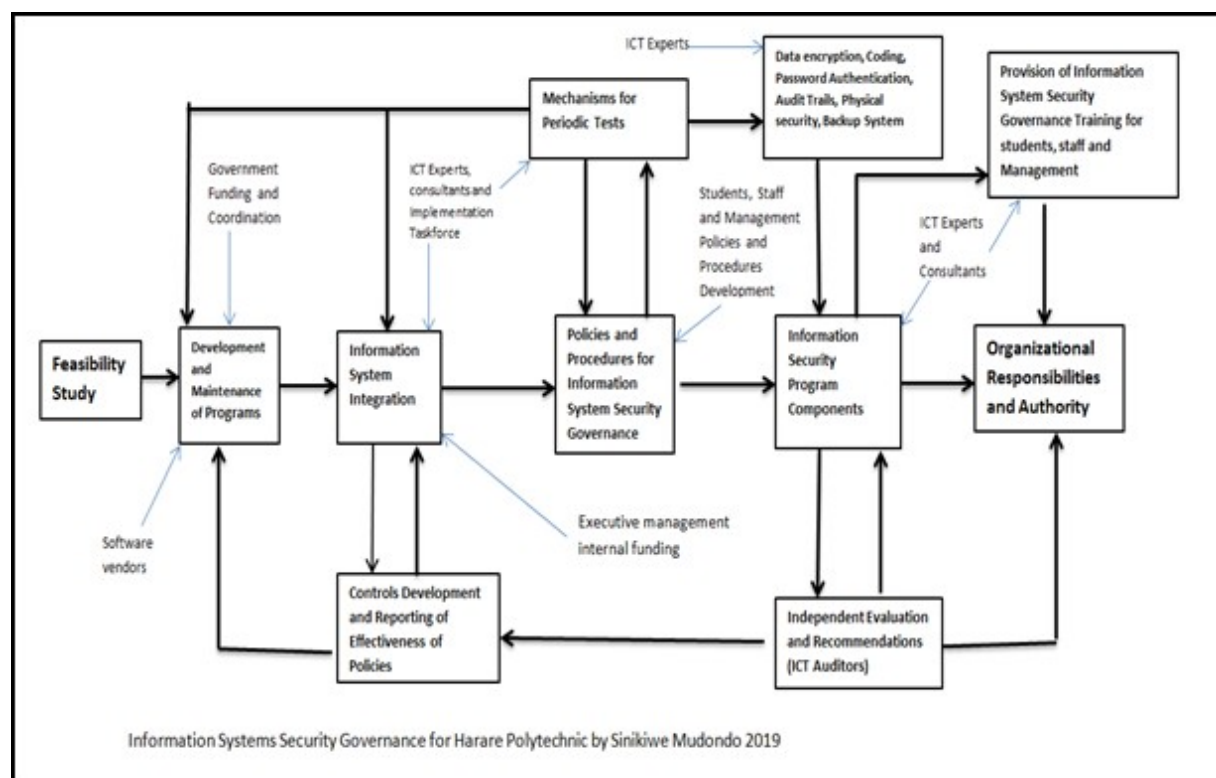
Conclusion

Information system security governance is a critical component of successful organisation. Security governance consists of policies, procedures, internal and external controls which must be a product of committed and dedicated top management.

Recommendations

It is recommended that:

Polytechnics in Zimbabwe adopt and implement the proposed information systems security governance framework. The proposed framework is a product of empirical research emanating from this study. It has also been evaluated by experts and found to be appropriate.

An inventory audit needs to be conducted to ascertain the compatibility of the various ICT assets.

Appropriate policies and procedures related to information system security governance must be developed.

Polytechnics in Zimbabwe must exploit various practical and efficient business opportunities that are brought about as a result of implementing information systems governance.

Future Research

Strategic repositioning in the dynamic technological metamorphosis is paramount which may incorporate cloud computing which is now a key driver in information system to further improve the system in terms of storage, security and handling of complex data encryption concepts.