

International Conference On

GREEN ENERGY, COMPUTING AND SUSTAINABLE TECHNOLOGY (GECOST) 2022

Green Sustainable Technologies for Creating a Better World



GECOST 2022 is a virtual conference organised to discuss and present the latest developments and applications related to the challenges of securing green and clean energy sources for the 21st century to protect the environment.

26 - 28 OCTOBER 2022

MIRI SARAWAK MALAYSIA | VIRTUAL CONFERENCE



Organised by



Supported by



In Collaboration with



Conceptual Model of Information Technology Governance in Higher Education Institution

Yanti Rosmunie Bujang
Faculty of Computer Science and
Information Technology, UNIMAS
Kota Samaraham Sarawak, Malaysia
byanti@unimas.my

Rosita Mohamed Othman
Faculty of Computer Science and
Information Technology, UNIMAS
Kota Samaraham Sarawak, Malaysia
morosita@unimas.my

Nadianatra Musa
Faculty of Computer Science and
Information Technology, UNIMAS
Kota Samaraham Sarawak, Malaysia
nadia@unimas.my

Abstract — Information Technology (IT) is widely used in teaching, learning, and administration in higher education institutions. The managers of those institutions are more aware that IT is a strategic tool for their institutions. Therefore, Information Technology Governance (ITG) is getting more attention from the practitioner and researcher, given the need to govern IT, extending the organization's strategy and objectives into IT. ITG helps to set clear expectations, gain participation, open communications, establish accountability and provide executive management oversight. Hence, it is essential to consider ITG and its alignment with higher education institutions' business strategies. ITG has been challenging for years, and research has grown substantially. However, the research found the existence of a gap between theoretical frameworks and practices. Current ITG research primarily focuses on hard governance (structure, processes), but soft governance (behaviour, collaboration) is equally important and might be crucial to close the gap. This study aims to identify the factors contributing to ITG adoption's success in higher education institutions in Malaysia. Although yet to be tested, a study adopting the proposed framework is anticipated to enable Higher Education Institution (HEI) to improve the best practices or processes to deliver good service quality.

Keywords—information technology, governance, higher education institution, behaviour

I. INTRODUCTION

The use of IT has the potential to be the major driver for success as well as it provides an opportunity to achieve competitive advantage and support digital transformation in the organization [1]. However, in order to achieve IT benefits, organizations need an effective and successful ITG model which follows and adopts the organization's needs [1]. Higher education institutions are a special type of organization where technological infrastructure consists of various applications, different platforms, academic systems, cloud applications and heterogeneous technologies.

Most available ITG frameworks are too generic and do not focus on the specific organization, size, and maturity of the process involved [1]. Therefore, there is a challenge for higher education institutions in managing the governance of the universities' activities, including the administration of information technology infrastructures. Furthermore, in the pandemic situation, the use of IT applications have become more important to replace face-to-face activities in teaching and learning, such as online lecture and meeting. Thus, HEIs

need to manage their IT facilities and equipment more effectively in the current post-pandemic situation.

II. RELATED WORKS

ITG relates to IT decision-making authority, organization capabilities, structures, processes, and relational mechanisms that align business and IT. Through an IT governance framework, more focus can be placed on evaluating and addressing business issues rather than on how specific technologies can address those issues [2]. Based on a literature review, there is no consensus on a standard definition of IT governance; the literature does suggest various perspectives of IT governance. As a result, various associations and regulatory bodies introduced IT Governance frameworks to support IT Governance implementation and monitoring performance. Each framework addresses specific objectives, including IT control structure, protection of IT investment, security and control of IT, protection of information from losses, assuring information integrity, quality IT services, and quality software.

A. IT Governance

ITG describes as "specifying the decision rights and accountability framework to encourage desirable behaviour in using IT" [3]. Specifically, it involves decision-making structure, processes and relational mechanisms for the direction and control of IT operations [4]. Both definitions involve human behaviour and action in the organization. This study will focus on the behaviour that encourages employees to use IT.

ITG is not a new research area, and many authors have already contributed to this domain. However, there are a few types of study that can be focused on for this domain, for instance, perception, adoption, effectiveness, determinant factors etc. Past research showed that ITG research has mainly focused on four issues: the design of decision-making structures, ITG implementation, ITG performance, and ITG outcomes [5].

As stated by [6], he did a study on IT professionals' perception of ITG in higher education. They focused on Brazilian institutions and found there few lacking in terms of integration between the top management decisions and the ICT area, knowledge of strategic documents, alignment between organizations' objectives and IT, and employees and