The Mediating Role of Information System (IS) Process Between Technology, Organization & Environment and Competitive Advantage in Using Cloud Computing Services (CCS)

Sazlin Ahmad Taufek,
Universiti Teknologi MARA (Puncak Perdana Campus)
Email: aleensha83@gmail.com

Norizan Anwar
Universiti Teknologi MARA (Puncak Perdana Campus)
Email: norizan8027@uitm.edu.my

ABSTRACT

In Malaysia, the use of cloud computing services (CCS) has become essential for any kind of organization. An increasing number of organizations are beginning to store, manage, and access their data and apps via the internet by using CCS instead of local servers. In the digital age, CCS helps Malaysian businesses to function more effectively, produce better results, and maintain their competitiveness. The primary objective is to examine the influence of CCS on organizations in Malaysia, emphasizing the crucial interplay between technology, organizational environment, and competitive advantages. Furthermore, the study aims to explore the role of information system (IS) processes as a mediating factor in optimizing CCS to attain competitive advantages among Malaysia Digital (MD) status company. This research seeks to provide insights into the specific case of MD Status company, offering concise, informative, and engaging findings tailored for academic and professional audiences.

Keywords: Cloud computing services (CCS); MD status company; competitive advantages.

1. Introduction

The utilisation of cloud computing services is growing rapidly in the Malaysian business sector. The utilisation of CCS leads to several benefits in various aspects, such as enhanced increased flexibility and agility across the board. Cloud computing services can offer users seamless, practical, and high-quality technological support, enabling them to capitalise on a wide range of potential demand [1]. Using cloud computing services as a competitive advantage in Malaysia's digital landscape during the COVID-19 pandemic can be especially beneficial as it can help businesses adapt to the challenges and opportunities presented by the current economic and social environment.

2. Problem Background and Research Question

Most organizations only care about management without knowing whether the people who manage this management have the proper experience and talent in managing this management [2][3] which highlights the importance of having a skilled and experienced management team when it comes to utilizing cloud computing services effectively. The Technology-Organization-Environment (TOE) theory gives us a complete picture of how companies accept and use new technologies [4]. The researcher has been inspired by previous studies to examine the correlation between the TOE framework and the usage of cloud computing services by organisations with MD status. This is because there is only few research on MSC or MD status organization that have been completed across the entire body of literature [5]. There was an online based survey conducted by Vmware Cloud Index of 799 senior IT professionals across Asia Pacific (including Japan) in September 2012 which stated that Malaysia has shown that only 36% of the surveyed companies "currently plans" to use the cloud in 2023 and 40% of them are cloud computing. Therefore, it can be concluded that the level of CCS usage coverage among SMEs in Malaysia is still low. That does not yet include SMEs that have been registered with MD status company.

3. Research Questions and Research Objectives

The study addresses the following research questions:

a) What is the level of competitive advantages, IS process, Technology, Organization and Environment in using cloud computing services (CCS).

b) To what extent do Technology, Organization & Environment affect IS process?

c) How does IS process is able to influence competitive advantages in using CCS?

d) Does IS process significantly mediate Technology, Organization & Environment toward competitive advantages of using CCS?

The objectives are:

a) To measure the level of competitive advantages, information system (IS) process, Technology, Organization and Environment in using cloud computing services (CCS).

b) To identify whether Technology, Organization & Environment significantly influence the information system (IS) process.

c) To examine whether the information system (IS) process significantly influences competitive advantages in using cloud computing services (CCS).

d) To investigate whether information system (IS) process significantly mediate between Technology, Organization & Environment and competitive advantages in using cloud computing services (CCS).

4. Underlying Theory

The Technology-Organization-Environment (TOE) Framework is chosen as the theoretical foundation for this study because it aligns closely with the research question, which aims to investigate the relationship between technology, organisational environment, and competitive advantages, with a focus on the mediating role of information system processes.

5. Method

The study employs the positivist paradigm, utilising a deductive technique. The population under investigation is the MD Status Company, which is situated in Kuala Lumpur, Putrajaya, and Cyberjaya. The data gathering methods will involve the dissemination of online surveys to a specific group of employees, specifically those in managerial positions. The study will employ convenience sampling to choose participants. Statistical analysis will be employed to investigate the correlation between the variables. The study will employ the (SmartPLS V.3.3.3) software to construct the final structural model.

6. Conclusion

From the theoretical and empirical foundations of the previous sections, this section develops a conceptual framework as shown in Figure 1.
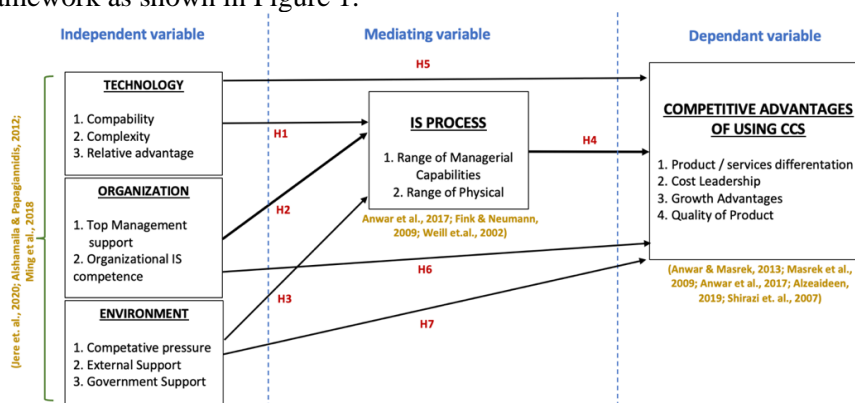

Figure 1: Proposed theoretical framework

The empirical findings of this study have the potential to contribute to the current body of knowledge and inspire additional research on the two distinct yet interconnected concepts, considering the literature's support and criticism of each concept. The research enables the evaluation of its adoption

and execution at many levels, empowering practitioners to improve their performance by implementing suitable corrective actions.

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