

UNIVERSITI TEKNOLOGI MARA

**MODELLING ORGANIZATIONAL
INFORMATION SECURITY
CULTURE: THE CASE OF
MALAYSIAN PUBLIC
ORGANIZATION**

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ABSTRACT

In the Industrial Revolution 4.0 (IR 4.0), information security has been highlighted as one of the critical component that needs to be addressed by industry practitioners. To this effect, the deployment of information security controls, both technical and non-technical is very essential so as to safeguard and protect organizational information from any form of threats or danger. Information Security Culture (ISC) is a term used to describe a situation where not only members aware and skillful in terms of information security, but the process and procedure as well as the technologies are also in place to protect and safeguard organizational information. In line with the growing number of reported cases of information security breaches, there is also a growing interest among researchers to study ISC. However, given that the requirements and the characteristics of ISC vary from one organization to other organization, these frameworks and models cannot be easily applied to all organizational settings. Therefore, ISC dimensions in the context of Malaysian public organizations need to be identified and actual ISC practices need to be addressed. Information security policy such as Rangka Kerja Keselamatan Siber Sektor Awam (RAKKSA) was developed by the Malaysian government but could not evaluate perceived practices due to lack of instrument that can serve as a mechanism to measure employee behavior towards information security within Malaysian public organization. Thus, the gap between perceived importance or the dimensions of ISC and the perceived implementation of ISC cannot be examined. It is required to identify the state of practices of each dimension that has been identified to see the gap between perceived importance and perceived implementation in Malaysian public organization. From there, only solid ISC can be developed in Malaysian public organization. The conduct of this study was using a quantitative method approach. A conceptual framework for assessing the ISC was developed from the extant literature. The framework comprised of six dimensions, namely, management support, policy and procedures, compliance, awareness, budget and technology. Each of these dimensions have several sub-dimensions with a corresponding Likert Scale. The respondents were requested to rate the extent to which the sub-dimensions were considered important for developing ISC. These respondents were information technology (IT) directors working in the Malaysian public organizations of the federal ministries. A total of 301 IT directors participated in the study. Seven expert were interviewed to gather data while a total of 292 valid responses were analysed to test the developed hypotheses. The results showed that all of the aforementioned components were indeed crucial and significant in developing ISC and has significant difference between perceived importance and perceived implementation on the context of Malaysian public organization. The contribution of the study can be described in several angles, namely, theoretical, practical and empirical. From a theoretical angle, it has developed an empirical based framework for measuring ISC. From a practical angle, the scale or instrument developed in the study can be used to measure the level of ISC. From the empirical angle, it has provided an additional empirical evidence on the status of ISC in the Malaysian context and finally, from the methodological angle, new instrument has developed guided by the previous instrument in order to measure the effectiveness of cultivating ISC within Malaysian public organization and also can help the practitioner to identify perceived importance of ISC dimensions by recognize perceived implementation that is well comprehensive in protecting the information assets.

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