Measuring the impact of technical proficiency on continuance intention to use e-campus: Empirical study from Malaysia

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Abstract. Inadequate use of technology has been the subject of IS scholars starting back with ECM (expectation-confirmation model) by [1]. This paper explores the effect of technical proficiency on continuance intention to use e-campus. Data were collected from 500 undergraduate and postgraduate students from private university in Kuantan Malaysia using a validated set of questionnaire. Simple linear regression statistics has been performed to answer the research question. The results suggest that user continuance intention is determined by their technical proficiency explaining a total variance of 24 per cent. Implications from this results are further discussed.

1. Introduction

Technical proficiency is one of an individual's essential elements which can affect him or her in the use of technology. The concept was first used by [2] and incorporated into the field of IS research. According to [2] the level of technical proficiency of users should be taken into account when considering the deployment of information systems. [2] assumed that, if user’s technical proficiency not met, may adversely affect the constructs and relationships proposed by the model. This finding indicates the importance of technical proficiency factors in information system acceptance research. The purpose of this study is to examine the significant role of technical proficiency on continuance to use. The remainder of this paper is organized as follows. In the next section, we review the technical proficiency concept. Next, we describe our procedure, data analysis, and results. Finally, we discuss our findings and provide suggestions for future research directions and the implications accordingly.
2. Literature review

2.1 Technical proficiency

The term technical proficiency can be found in many disciplines of knowledge. In sports discipline, technical proficiency/skill refers to the ability of applying cognitive, perceptual, and motor skills in a process such as including passing, tackling, dribbling, and shooting in football [3] and table tennis players with intellectual disabilities [4]. While in the other discipline such as in medical [5]. Based on the literature review, there are several constructs that closely resemble technical proficiency constructs for examples technology proficiency [6]. Studies by [7] have claimed that technology proficiency needs to be included in skill development. Meanwhile, [8]'s study aims to examine self-efficacy similarities and differences for technology proficiency self-appraisals in a cross-cultural environment. There are also another studies that measure technology proficiency such as [9] and validating the technology proficiency measurement [10], [11],[12],[13]. There were also surprising finding by[14] who found that faculty with high level of technology proficiency generally identified the same barriers as faculty with low levels of proficiency.

2.2 Hypothesis development

Millenials as one of the largest generations is soon going to enter their prime years. The millennials are often attributed to “technology savvy generation”, they are very familiar with the use of technology [15]. [16] propose that the level of users’ technical proficiency should be accounted for when considering deployment of information systems. According to [17] younger people are generally more internet-savvy and thus are more likely to have online shopping experience. According to [18], as the younger generation of participants are more technology savvy, they are more likely to be using technology as a means of making purchases. While study by suggested that marketers should be targeting information technology savvy consumers as part of their marketing strategy for in-game advertising. Therefore, the present study will examine the impact of the physical user technical proficiency on continuance to use e-campus and we posit that:

\[ H_1: \text{The level of technical proficiency will be positively related to continuance intention to use e-campus} \]

![Figure 1. Research model](image)

3. Methodology

A 30-item questionnaire was developed for this study, and in line with existing literature in the IS field, a multi-item Likert scale was applied. The variables were measured using the 5-point Likert Scale, with 5 being ‘Strongly Agree’ and 1 being ‘Strongly Disagree’, except for actual usage which was measured using a 5-rank scale. We developed a questionnaire to collect empirical data from students at private universities. The questionnaire was written in Malay, since most of the subject is Malay. Initially the questionnaire was established in English and then translated into Malay.
4. Data analysis

A simple linear regression analysis was utilized to examine the relationship of the research model. The analysis was conducted by mean of SPSS 22. The test results indicate that the proposed hypothesis are significant. Continuance intention is found to be positively influenced by technical proficiency ($\beta = 0.487$, $p < 0.001$) and successful explains 24% of the variance in continuance intention. (See table 1)

Table 1. Hypothesis testing

| Hypothesis                      | Beta coefficient | t-value | p-value | remark | Variance explained |
|---------------------------------|------------------|---------|---------|--------|--------------------|
| Technical proficiency – continuance intention | .487***          | 9.861   | 0.001   | supported | 0.24               |

***p<0.001

5. Discussion

The main objective of this study was to assess the effects of technical proficiency on user continuance intention. Findings from this research suggest that continuance intention to use e-campus was significantly predicted by technical proficiency. In the context of IS research, individual characteristics play an important role in the adoption of information technology. In the study of [19] found that general technology proficiency combined with normative beliefs of colleagues explains 64.8% of the use of Physics Education Technology (PHET) by these teachers. Service provider should pay more attention to the technical proficiency aspect before deploying IS facilities at any institution and it is advisable for service providers to enhance technical competence among users by providing appropriate courses to boost their technical proficiency.

6. Conclusion

This study contributes to existing information systems acceptance literature in the aspect where; it is the first to examine the effects of technical proficiency on user continuance intention empirically. To capture a technical proficiency construct, we tested technical proficiency concept which was firstly proposed by [2] and this is the first time that technical proficiency has been used as empirical measurement to assess individual technical proficiency. Although our results are motivating and informative, there are several limitations to the present study. One is that we used only one higher learning institution as the target population and generalization to other higher learning institution may be limited. Future work may gather data from different institutions of higher learning for even more perspective.

Acknowledgments

This research is supported by grants from the Sultan Ahmad Shah Islamic University College (KUIPSAS) (Project No. Y201636043).
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