

Factors influencing ubiquitous technology usage among engineering undergraduates: a confirmatory factor analysis

ABSTRACT

Ubiquitous technologies such as laptops, smartphones and tablets have been widely used by many undergraduates in the institution of higher learning. However, little is known about the factors that contribute towards its utilisation as not many comprehensive studies have been done related to it. A review of related literature demonstrates that factors such as performance expectancy, effort expectancy, behavioural intention, facilitating conditions and social status influence technology usage. Thus, this study focuses on the determined factors which contribute towards the ubiquitous technology used among engineering undergraduates in the Malaysian Technical Universities Network (MTUN). This study was conducted based on a quantitative research in which the Structural Equation Modelling using AMOS was employed. The population of the study consisted of third-year undergraduates from four Malaysian Technical Universities (N= 4,247). The research instrument was in the form of a questionnaire. Of the 493 questionnaires distributed to the undergraduate students, 400 were validly responded and taken into consideration as part of the analysis. The results attained from the Confirmatory Factor Analysis (CFA) showed that the total number of confirmed items for performance expectancy factor had four items (PE1, PE2, PE4 and PE5), four confirmed items (EE1, EE2, EE3, EE4) for effort expectancy, four confirmed items (SS1, SS2, SS3, SS4) for social status, four confirmed items (FC1, FC2, FC3, FC4) for facilitating conditions and four confirmed items (BI1, BI2, BI3, BI4) for behavioural intention.

Keyword: Ubiquitous technology; Engineering undergraduates; Confirmatory factor analysis; Unified theory of acceptance and use of technology