Factors Affecting Students’ Adoption of ICT Tools in Higher Education Institutions: An Indian Context

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ABSTRACT

In the recent years, technology has been an important component in teaching and learning. The literature has highlighted many studies investigations on the students’ intention to use technology in many Western, African and South East Asian countries. This article brings in the factors influencing students’ adoption of ICT tools in higher education institutions in India. The Unified Theory of Acceptance and Use of Technology (UTAUT) model was used to determine the predictors of ICT adoption in learning their coursework in colleges. The results were obtained by structural equation modelling, using the data collected from 398 students doing their undergraduate engineering programs. The findings show that performance expectancy, effort expectancy and social influence has a positive significant relationship on behavioral intention to use ICT tools and facilitating conditions has a direct relationship with usage behaviour. The findings have led to relevant theoretical and practical implications and future researches are suggested.

KEYWORDS

Behavioural Intention, Higher Education, Students Usage Behaviour, Technology Adoption, UTAUT Model

INTRODUCTION

Information technology and its applications have been in the limelight for the past few years in business and management. The application of IT extends itself to education sector too, changing the traditional practices and procedures. Recently, India has seen many universities and colleges giving importance to the usage of Information and Communication Technology (ICT) for teaching and learning in Higher Education. In India adoption of ICTs in education are much quicker. Considering the number of universities and colleges in India, use of ICT is a significant scope of improvement in education. This would help in meeting the demands of the millennial generation where the focus is changing from teacher centric approach to student centric approach. The present generation is growing in the digital environment, unlike their teachers who are digital migrants.

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The conventional ways of teaching and learning are increasingly replaced by technology which amplifies the learning capacity of the student and also helps the teacher to teach difficult concepts effectively within short lapse of time (Pyla, 2012). Thus, using ICT is cost effective, less expensive, helps increase desirability for students to learn the subject and increase productivity of teachers. Although there are different advantages of using ICT in the regular coursework learning for students, it is not compulsory for them to use these tools. The greatest challenge of using technology would be its swift and changing developments (Neeru, 2009) and adoption of the same effectively and efficiently by the students become a major concern. This study brings in different factors influencing the students to adopt ICT in their regular coursework in the Indian Higher Education Institutions (HEIs).

A number of research studies have been done on the usage of ICT tools in Indian education sector. But these studies bring in the advantages of usage of ICT and how its usage impacts the quality of education (Meenakshi, 2013; Purushothaman, 2011; Krishnaveni & Meenakumari, 2010; Neeru, 2009). Despite usage and advantages, no study has attempted to measure the factors influencing the adoption of ICT by students in Indian Context. In India, the model has been tested for adoption of online public grievance redressal system, cloud computing, paperless income tax filing by young professionals (Ojha, Sahu & Gupta, 2009), internet banking (Bashir & Madhavaiah, 2015), e-commerce and mobile payment systems (Rakhi & Mala, 2014). Hence, the objective of the study is to identify the factors to measure the level of ICT adoption by students in their regular coursework learning. We used the UTAUT model in order to recognize the factors leading intention to use ICT tools in higher education. Similar study has been done among college students of Ghana where they applied UTAUT model to identify the factors (Attuquayefio & Addo, 2014). However, the moderators in UTAUT are dropped since this is only an initial study that determines only the factors influencing the behaviour. The outcome of the research could be used to facilitate educational institutions in understanding the main contributors of intention to use and actual usage of ICT tools, to enable them to take necessary corrective actions taken to enhance teaching and learning in universities and colleges.

LITERATURE REVIEW AND THEORETICAL BACKGROUND

Several studies have been done on the acceptance or adoption of ICT tools in different sectors for the adoptions like e-commerce, internet banking, software application and other applications of information technology. Adoption of ICT in higher education has not been explored much. Higher education in India can be classified into five categories - central, state, deemed universities, institutions of national importance and private universities. Centre for public policy research in 2015 gave out data on Indian education system stating that it has expanded in a fast pace by an increase in number of universities 34 times from 1950 to 2014.

The theoretical models that accompanied with the studies include Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975), Theory of Planned Behaviour (TPB) (Ajzen, 1991), Technology Acceptance Model (TAM) (Davis, 1989), Social Cognitive Theory (SCT) and Diffusion of Innovation Theory (DOI) (Rogers, 1983). Theory of Reasoned Action (TRA) by Ajzen and Fishbein (1980) determined the intention to use and attitude that leads to usage behaviour. Ajzen (1991) developed the Theory of Planned Behaviour proposed that acceptance of a technology or system is influenced by system will help individuals to attain gains in job behavioural, perception on social obligation and control beliefs. The Model of PC utilization developed by Thompson, Higgins and Howell (1991) is appropriate to forecast the behaviour of using a spectrum of information technologies. The mixed models of the above theories also tried to predict an individual’s intention to adopt a particular technology. A large number of researchers have empirically studied the variables that cause individuals
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