Chapter 11
Investigation of ICT Usage in Malaysian Public Sector using Extension of TAM: Case of Higher Learning Institution

ABSTRACT
In terms of student population, Universiti Teknologi MARA is one of the largest universities in Malaysia. It has adopted i-class system through which teaching and learning are facilitated as alternative method of delivering knowledge to students. However, the rate at which the targeted students are using the system is very poor. As such, the chapter revisits technology acceptance from the perspective of a problem-based study and uses the information gathered to extend the original TAM model. The significant contribution of the chapter is the focus on the external variables to perceived usefulness and perceived ease of using i-class. Since the majority of targeted students learning through this mode are adults, perceived computer self-efficacy, perceived convenience, and subjective norm are considered for extension. The results obtained show significant relationships between the causal links among the new constructs.

INTRODUCTION
The adoption of information and communication technology (ICT) in higher learning institutes has dominated education system in Malaysia. Almost every university is changing from absolute traditional method of teaching (i.e., face-to-face) to an online or virtual learning system. In other words, most government owned universities in Malaysia have at least incorporated distance learning and e-learning as part of their curriculum designs for education system. Thus, the Internet has become a strategic education tool being used on daily basis as a resource provider for teaching. Apart from using the technology as a new platform for delivering education and imparting knowledge, it is widely used for registration of new students’ intake where course registration is very obvious. Other areas that the use of the ICT has become famous among learning institutes are its uses for electronic examination slips and results, e-billing (bursary) and student’s class schedule which
enable the education institutes reduce their inefficiencies and avoid errors in the teaching and delivery processes. Therefore, ICT has become the most important tool in the new era of education system, not only in Malaysia but also across varsity education around the globe.

There are many definitions of e-learning, but here, e-learning is defined as learning facilitated and supported through the utilisation of information and communication technologies (ICTs) (see Jenkins and Hanson, 2003). Accordingly, there are various resource options as educational ICT tools which can be divided into three categories: input source such PC, visualised or document camera, slate tablet, application software, student response system. Output sources are projector, interactive whiteboard and display monitor. The third resources will be others such as digital camera, switcher, digital recorder, and other technologies (Elmo Classroom Solution, 2012). A report made by the National Institute of Multimedia Education in Japan proved that exposure of a student to educational ICT, through curriculum integration, has a significant and positive impact on students’ achievements, especially in terms of “knowledge-comprehension,” “practical skill,” and “presentation skill” in subject areas such as mathematics, science, and social studies.

Despite the recognition of the profound benefits in utilisation and adoption of ICT as a new medium of delivering education, there are many potential challenges envisioned. The challenges have been pointed out by many scholars and practitioners. For example, according to Alavi and Leidner (2001):

... while the use of ICT such as online study in education has increased rapidly, key users, particularly students in colleges and university still not grab this opportunity to facilitate the valuable resource of the ICT in their learning thoughts. The benefits of online study cannot be achieved unless students utilize the education website and its associated capabilities such as i-learn (pp.4-5).

Alavi and Leidner (2001) pointed out that e-learning represents one form of technology mediated learning, which is defined as an environment in which the learner’s interactions with the e-learning materials peers, and/or instructors is mediated through advanced information technologies (Alavi & Leidner, 2001). In order for e-learning to work, the technology must actually be used (Leidner & Jarvenpaa, 1993).

In Malaysia, the government has encouraged the adoption of e-learning education system as part of curriculum designed for the new generation of students. For example, a recent report from the daily newspaper revealed that a total of 395 students from six secondary schools in the Bagan division have received free notebooks under the 1Malaysia scheme. The government also hoped the students could master ICT knowledge with the notebooks given and improve their academic performance (David Chua, The Star Online, June, 2012). In addition, “the government had provided infrastructure such as school networks, computer labs and software to support the move of introducing creativity and innovation in the curriculum. Thus, ICT was no longer a choice but a necessity, especially for students who could utilise the internet to carry out research and produce reports,” said Datuk Fadilah Yusof, Deputy Science, Technology, and Innovation (The Star online, May 27, 2012). However, problem arises when the technology is not fully utilised.

Universiti Teknologi MARA, (UiTM), is the largest university in Malaysia. It has branches all over the states of the country. Currently, its students’ population is above 150,000 throughout Malaysia. The university is not only catering for full time students but also for working young and adult students. Many years back, the need to increase k-workers (knowledge based workers), which was one of the government’s agenda for transforming the country to a full developed nation by the year 2020 had made the government approved the online learning curriculum system (called ePJJ program) for UiTM. Hence, UiTM