Impact of Innovation Attributes and Psychological Wellbeing Towards E-Learning Acceptance of Postgraduate Students: Comparison of Sri Lanka and Malaysia

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ABSTRACT

E-learning is a method of delivering knowledge using electronic media for the remote users. The advantages of e-learning method can be fully achieved with the postgraduate studies as majority of the postgraduate students are engaged in learning while they are working and also geographically dispersed due to the family and work life thus physically appearing for the lecture sessions are difficult to them. The Diffusion of Innovation theory identifies five attributes of innovation namely relative advantage, compatibility, complexity, trialabiltity, observability which impact for the acceptance of technology. Further, psychological wellbeing of the postgraduate students also play a major role in accepting technology as they are adult learners. Thus this study is going to compare the e-learning acceptance of postgraduate students between Sri Lanka and Malaysia as these two countries have more similarities in terms of history, geography and culture. A Random sample of 400 was drawn from the postgraduate students in locally based universities in Sri Lanka and Malaysia and structural equation model is used for the analysis. It was found that both Sri Lankan and Malaysian postgraduates' e-learning acceptance is nearly similar.

Keywords: *e-learning, acceptance, postgraduate, Sri Lanka, Malaysia ,innovation attributes, psychological wellbeing*

INTRODUCTION

The teaching and learning activities have been developed with parallel to the technological developments. In the digital age, electronic media are mainly used to disseminate knowledge. According to a widely accepted definition for e-learning by The Ministry of Education in New Zealand, e-learning defines as *"e-Learning typically involves some form of interactivity, including online interaction between the learner and their teacher or peers. e-Learning opportunities are usually accessed via the Internet and its associated tools and software. However e-Learning is evolving to include an increasing use of a wide and diverse range of other technologies and tools. These include video and audio conferencing, mobile phones, data projectors, digital cameras, global positioning systems and interactive whiteboards."* (Ministry of Education New Zealand, 2009). e-Learning facilities can be in either synchronous or asynchronous form. Asynchronous e-learning is where the teaching and learning takes place even when the participants cannot be online. Though the users can still access to information and content and download them send feedbacks to the instructors via email, discussion boards, blogs, discussion forums etc. In contrast to this synchronous learning is real time interaction between the learner and the instructor through videoconferencing, teleconferencing chat, instant messaging etc (Hrastinski, 2008; Koller et al., 2001). Therefore e-learning is a very advantageous method of accessing geographically dispersed users easily with the use of technology.

In view of the fact that the postgraduate studies are mainly followed by the individuals who are working fulltime, geographically dispersed than undergraduates and with other obligations to fulfill such as commitment to families and social lives, and also as they possess a different set of characteristics, there is a requirement for more flexible

postgraduate courses offering with the help of the technology to address the needs of that particular clientele which allow them to obtain necessary qualifications overcoming the barriers. It is also found that higher educational institutions have also benefited from virtual classrooms as their cost can be reduced. The past studies done in abroad found that the online MBA courses are attracted adults over 35 years of age, females, part time, married students (Cao, 2010). Engelbrecht(2003a) (2003b) found that the students enrolled for e-learning Master's programme in Taxation of the University of South Africa are full-time employees and many of them are in the process of building a career and family and students indicated work pressure and family commitment as reasons for not completing the studies. This condition is also similar among the postgraduate students in Sri Lanka and Malaysia as they also engaged in learning while they are working and thus physically appearing in a class room is rather difficult to them.

Nowadays most higher educational institutions in Sri Lanka and Malaysia are offering e-learning facilities. E-learning is now becoming popular in Sri Lanka and many higher educational institutes are now adopting e-learning to access the remote users. On the other hand it was found that though higher educational institutes implementing e-learning solutions, their usage of such systems are not fairly good (Gunawardana & Ekanayaka, 2009; Gunawardena & Pathirana, 2011). Further it is understood that Malaysia is a country with e-learning is more popular than Sri Lanka. It is known that both Sri Lanka and Malaysia has similarities in terms of location, history and had a similar socio economic status after the independence. Sri Lanka is one of the top countries in Asia in terms of healthcare, education, widespread of English language usage, trained human capital in the field of accountancy. However Malaysia developed more rapidly than Sri Lanka with the consistent political policies and was able to gain considerable economic growth. Therefore it is suitable of making a comparison between Sri Lanka and Malaysia as these two countries were similar in the past yet Malaysia showed a substantial growth than Sri Lanka. Therefore comparison with Malaysian postgraduate students' acceptance of e-learning is also to be made as to identify the lessons learnt by these two countries.

Thus the objective of this study is to compare the e-learning acceptance of postgraduate students between Sri Lanka and Malaysia.

E-LEARNING DEVELOPMENT IN SRI LANKA

The Open University of Sri Lanka (OUSL) is a pioneer in higher education institute in Sri Lanka in providing distance education since its inception in 1980 and now OUSL offers its programmes using ICT such as providing audio and video self study materials, email communication, virtual class room sessions etc ((PANdora: Distance and Open Resource Access, 2009). The School of Computing of the University of Colombo introduced the e-learning Centre (eLC) in late 2002 to provide e-learning services to undergraduate and graduate students. Currently eLC offers courses through e-learning to its undergraduate and postgraduate students. In 2003, Sri Lanka Distance Learning.

Centre (DLC) opened under a World Bank project and it facilitates to connect Sri Lanka with 50 international DLCs via worldwide video conferencing system. National Online Distance Education Service (NODES) operating under the Ministry of Higher Education facilitates and coordinates online distance learning programme development in educational institutes in Sri Lanka. NODES is linked with Sri Lankan mobile operator Mobitel to use m-learning facilities with the view of overcoming geographical discrepancies when disseminating higher education throughout the country (www.nodes.lk). As a pioneer in introducing state-of-art technology, University of Colombo offers Postgraduate Diploma in Business Management and Executive Diploma in Marketing through m-learning facilities. University of Moratuwa also offers Bachelor of Information Technology programme for the external students through online. University of Kelaniya offers Master of Business programme through m-learning mode.

E-LEARNING DEVELOPMENT IN MALAYSIA

The Government of Malaysia promotes the ICT sector through the implementation of Malaysian plans introduced by time to time. Under the 6th Malaysian Plan the National Information Technology Council has been established and the more stress has been put on the development of the manufacturing sector through ICT. Under the 7th Malaysian Plan the National Information Technology Agenda was formed and the Multimedia Super Corridor (MSC) Project was launched to attract the best ICT companies to Malaysia. Under the 7th Malaysian Plan, the Multimedia University was established to develop human capital and promote research on ICT and multimedia. The 8th Malaysian Plan has given priority to expand ICT among general public and rural communities. Under this, cellular telephony, internet and broadcasting technologies were integrated. The 9th Malaysian Plan prioritizes the further expansion of ICT by reducing the digital divide, development of cybercities and encourages new sectors such as bioinformatics (Strategic ICT Roadmap for Malaysia, 2007).

In 2000, Malaysia established the National e-learning Centre (NELC) with the view of promoting research and development, to promote and increase the awareness of e-learning, advisory and consultancy and develops e-learning standards. The Open University Malaysia and University Tun Abdul Rasak are the pioneers of providing e-learning programmes in Malaysia. As to date many other Malaysian universities such as, Multimedia University, University Pendidikan Sultan Idris, University Malaysia Sarawak, University of Malaya, University Utara Malaysia offer e-learning

facilities for the students.

Apart from that the Asian e university (AeU) has been set up in Malaysia under Asia Cooperation Dialogue (ACD) of which Sri Lanka also has been a member. AeU was established in Malaysia after the ACD Ministerial meetings held in Islamabad 2005 and Doha 2006. It offers Bachelors and postgraduate programmes around the world through the e-learning mode.

LITERATURE REVIEW

Adapting to an e-learning system is always a new approach for its users. Therefore e leaning can be considered as an innovative method of learning. Rogers Diffusion of Innovation theory (DOI) has been used in many fields such as agriculture, medicine and ICT to measure the adoption of new innovations. According to Rogers (2003) the innovation decision process contain five stages namely, knowledge, persuasion, decision, implementation and confirmation. In the second stage of innovation process, i.e in the persuasion stage an individual may build either a negative or a positive attitude towards the innovation. Attitude is defined as "in individual's enduring evaluation of feelings about and behavioral tendencies towards an object" (Pride & Ferrell, 2005) (p.208). Since Rogers describes the innovation diffusion process as 'an uncertainty reduction process" the process attributes that are discussed under the persuasion stage help to decrease the uncertainty on innovation. The attributes that are discussed in this stage are relative advantage, compatibility, complexity, trialability and observability.

Rogers explains relative advantage as the "degree to which an innovation is perceived better than the ideas it supersedes" (p.229). Relative advantage is measured in terms of economics, social prestige, convenience and satisfaction. Also motivational aspects, demand, value are the most hunted advantages that an individual seeks. Compatibility is the "degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters. (p.240). The Compatibility dimensions include to what extent an innovation fits the values, beliefs, previous ideas and needs of the users (Perkins, 2011).As per Rogers complexity is 'the degree to which an innovation is perceived as relatively difficult to understand and use" (p.257). If the complexity of the innovation increases the adoption is decreased. If the system is user friendly and the users have a prior training on the use of computer equipment, support systems and technical knowledge then the adoptability increases (Jesus, 2003). As Rogers defines, trialability is 'the degree to which as innovation may be experimented with on a limited basis" (p.258). More the innovation is tried the faster the adoption is. According to Rogers observability is "the degree to which the results of an innovation are visible to others" (p.258). If the results are visibly observable by people then the adoption is increased.

Based on the attitude that the user built up in the persuasion stage he or she might accept or reject the innovation. i.e a person act upon the attitude he or she built in the persuasion stage. In attitude-behavior researches such act is defines as' behavioral intention'(Ajzen & Fishbein, 1977).

Rogers's diffusion of innovation has been tested by many studies on users' technological acceptance and various conclusions have been made in different contexts.

According to Liao & Lu (2008) perceived compatibility positively influences the students' intention to use e-learning and trialability is negatively related with e-learning adoption. Further it found that perceived e-learning advantage; complexity and observability have no significant effect on students' intention of adoption of e-learning. As per Duan, et al.,(2010) only the perceived compatibility and trialability have a significant influence on e-learning adoption among the Chinese undergraduates. Another Chinese study done on e-learning adoption of undergraduates, found the most influential factors for e-learning adoption was found to be pricing under relative advantage, education quality under compatibility, IT equipment under complexity and flexibility under relative advantage (Fu et al., 2010). Fu et al., (2010) found perceived e-learning relative advantage, compatibility, trialability and observability have a significant positive influence on students' e-learning adoption and that perceived level of complexity has no significant effect on students' e-learning acceptance. Similar findings were derived by Al-Gahatni (2003) where relative advantage, compatibility, trialability and observability shows a positive signification correlation with computer technology adoption in Saudi Arabian knowledge workers and complexity shows a negative relation with computer adoption. Lai & Chang (2011) also found that compatibility has a significant positive impact on intention of using e books among the Taiwanese. A study done in teachers' adoption of web technology in secondary school in Sydney has revealed that relative advantage and traialbility has a strong and significant relationship with using web technology for preparation for study materials and compatibility has a strong and significant relationship with teachers' usage of web for delivery (Jebeile, 2003). Further Huang (2010) found that relative advantage positively impact for attitude of smart phone usage and trialability found a negative impact on attitude of using smart phone.

The researchers also made attempt to find out the impact between innovation attributes and attitudes of using technologies, because attributes of innovation would have been an effect on changing the attitude of a person before altering the behavioral intention of the users. A study conducted to measure the impact of innovation attributes on the

attitude of using information technology of the lecturers in the National University of Lesotho has concluded that relative advantage, complexity and observability has a positive influence and observability found to be the highest influenced attribute. Further this study found that compatibility and trialability do not contribute for the attitude of using information technology (Ntemana & Olatokun, 2012). A study done among USA citizens on their attitude for using internet for voting has revealed that relative advantage has a positive impact on attitude towards using internet for voting and compatibility was not a significant factor (Carter & Campbell, 2011). Nor & Pearson (2007) found that relative advantage and trialability has a significant positive impact on attitude towards using internet banking among Malaysian postgraduate students and compatibility is not a significant positive impact factor on attitude on using internet banking. It further found that attitude of using internet banking has a significant positive impact on intention of using internet banking. A study done in Jos, Plateau state in Nigeria on Automated teller Machines adaptation in among the citizens , it was found that relative advantage, complexity, compatibility has a significant positive impact on attitude on using ATM which in turn has a significant impact on intention of using technology. Among them observablity has the highest impact on attitude while trialability was the least impact factor on attitude (Olatokun & Igbinedion, 2009). Similarly Putzer & Park (2010) found that observability and compatibility are the significant factors which contribute for the attitude of using Smartphone among the nurses in Southeastern hospitals in United States. A study done among Taiwanese potential internet bank users on the attitude of using internet banking had found that relative advantage and compatibility has a positive significant impact on attitude of using internet banking which in turn has an impact on intention (Lin, 2011). A Malaysian study done on consumer attitude on online shopping found that relative advantage and compatibility has a significant impact on attitude while complexity is not a significant predictor of attitude towards using online shopping (Zendehdel & Paim, 2013). Folorunso (2010) concluded that relative advantage and complexity did not show a significant impact on attitude but compatibility, observability and trialability have a positive significant impact on attitude of using social network sites of the student in Nigerian universities. They further elaborated that though students see speed, availability, ease of use in other social network sites they do not like to switch from one network to the other network. Therefore relative advantage does not provide any significant effect on attitude. It also found that social network sites are not easy to use and not widely spread. Therefore contribution of complexity is also found to be insignificant. The observability of the technology was affected from the others perception and influence. The trialiability shows a higher significance towards the attitude of using technology, because students have already tested the trialability of the site and perceived it as high. It is also found that innovation attributes are significant determinants of internet banking attitude of the users.

**PERCEIVED PSYCHOLOGICAL WELLBEING OF ACCEPTING TECHNOLOGY**

The Well-Being Institute of University of Cambridge defines wellbeing as "positive and sustainable characteristics which enable individuals and organizations to thrive and flourish"(Dingley, 2010). Organization for Economic Co-operation and Development (OECD) defines human wellbeing as "the necessity of congregating various human needs which are vital and at the same time to achieve the goals which leads to success and makes one satisfied with one's life"(OECD, 2011).

It was found in many research studies that certain psychological phenomena of the people shape the attitude and behavioral intention of using technology for their day-to-day activities. People, who feel lonely, depressed and lack social skills are found to be more users of internet (2003; Hamburger & Artzi, 2002; Kim et al., 2009). Morahan-Martin & Schumacher (2003) found that lonely people are more towards to use online communication than non-lonely students to increase their social behavior and also report a higher satisfaction. A study done on Israel students' wellbeing and e-learning attitude it was found that high self-esteem students shows a positive attitude towards e-learning and that there was no correlation between loneliness and attitude towards learning (Kurtz & Hamburger, 2008). In contrast to this Ehrenberg et al (2008) found that low self esteem students are more towards using instant messing than high self esteem students. Further lonely Turkish adolescents found to be developed increasing attitude towards online than non-lonely adolescents (Erdoğan, 2008). Erdogan (2008)further argued that different studies found conflicting results of psychological wellbeing towards attitude of using internet due to the cultural differences.

It is observed that Rogers DOI theory would be more comprehensive if the psychological wellbeing factors also be included as it gives broader picture on how postgraduate students' e- learning acceptance is affected. Thus the following conceptual frame work in Figure 1 is derived.

THE CONCEPTUAL FRAMEWORK

The innovation attributes of relative advantage, complexity, trialability, compatibility observability and psychological wellbeing of the students (loneliness, depression, self esteem) impact on both the attitude using e-learning and behavioral intention of e-learning of the students.
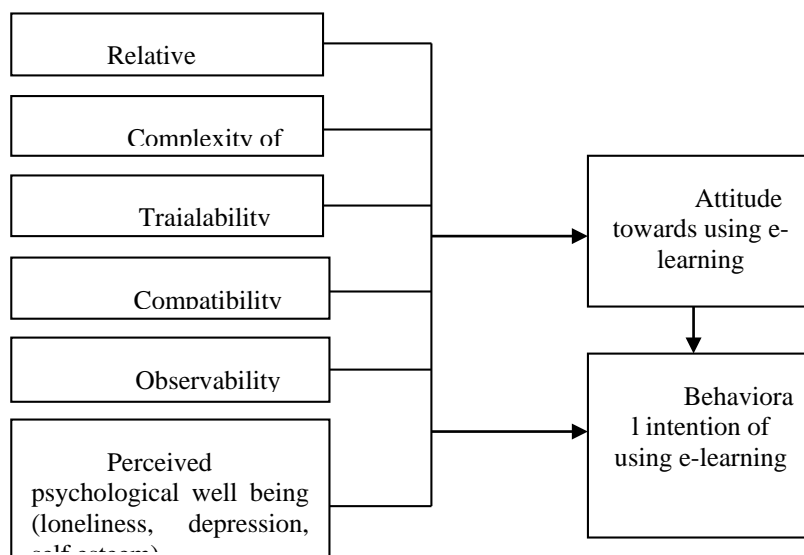
Figure 1: The conceptual framework

METHODOLOGY

This study intends to exploit Structural Equation Modeling (SEM) as the statistical data analysis method. Since SEM approach is known as a large sample size technique it requires at least a minimum sample of 200 as a goal (Hu & Bentler, 1999; Kenny, 2012; Kline, 2011). Thus 200 respondents from each country were selected as the sample. The University Grant Commission (http://www.ugc.ac.lk) of Sri Lanka has 15 universities, 7 postgraduate institutes and 9 other institutes in Sri Lanka under its purview and the total postgraduate enrolment for the 15 universities in 2010 as per statistics published by UGC is 17,844 and in postgraduate institutes 5,709 and in other institutes 763. Therefore the highest numbers of postgraduate students are registered with the universities. The highest number of enrollment is recorded from the universities located in the Western Province which is 15,470. This represents 85% of the total postgraduate enrollment in the whole country. Out of the 6 universities operating in the Western province, 4 of them was selected based on the random numbers generated using Excel 2007to draw the sample. Then through the Registrar of each university the list of postgraduate students enrolled in year 2010 was obtained and it was merged which contained 5,322 students. Then 215 random numbers were generated using Excel 2007 to select the respondents.

According to the Annual report 2010 of the Malaysian Department of Higher Education the total enrollment of local students for postgraduate studies in public universities and private universities are 70,562 and 17,842 respectively. Therefore the total enrollment for postgraduate studies in Malaysian universities is 88,404. Among this the highest local students enrolled for postgraduate studies are recorded from the state of Selangor which is 40,961 for public universities and 5,469 for private universities. The total enrolment is 46,430. This represents 57.4% of the total postgraduate enrolment in Malaysia. According to the Annual report 2011 of the Malaysian Department of Higher Education, there are 19 universities currently operating in the state of Selangor. By generating random numbers in Microsoft Office Excel 2007, the researcher has chosen 5 universities among the list of universities which operate in the state of Selongor. Then the list of local postgraduates who were enrolled in year 2010 was obtained from the Examination Departments of the selected 5 universities. Then all the lists of the postgraduate students were merged and it contained 8,454 local students. A sample of 215 random numbers was generated using Microsoft Office Excel 2007 to select the respondents from the list.

A pilot study is carried out to investigate the feasibility of the study by identifying potential problems which affect quality and the validity of the results and hence will identify the modifications, if any, needed for the main study. Hence a pilot study was carried out with 30 postgraduate students. The table 1 shows the reliability statistics of the pilot study and the main study.

Table 1: Reliability statistics of the Pilot and the main study

		Pilot study				Main study	
Scale	# items	Cronbach's alpha		Action taken	# items	Cronbach's alpha	
		Sri Lanka	Malaysia			Sri Lanka	Malaysia
Relative advantage	9	.806	.912		9	0.850	0.884
Compatibility	7	.844	.962		7	0.893	0.909
Complexity	6	.785	.812		6	0.879	0.891
Observability	4	.767	.890		4	0.811	0.780
Trialability	6	.609	.941	1	5	0.866	0.873
Loneliness	6	.754	.847		6	0.708	0.702
Depression	13	.801	.852		13	0.831	0.840
Self esteem	15	.698	.837	2	14	0.678	0.741
Intention	5	.903	.943		5	0.841	0.858
Attitude	4	.923	.963		4	0.840	0.797
Action taken after the pilot study was as follows							
Item 3 is removed from the construct							
item 15 is removed from the construct							

DATA ANALYSIS

The SEM approach used in this study employed a two stage method over one stage method. In two stage method, the Confirmatory Factor Analysis (CFA) is first performed as the preliminary step of SEM analysis. In CFA it determines the relationship between the latent construct and its observed variables to assure that the hypothesized structure has a good fit to the data. In CFA the cut off value for factor loading between the observed variable and latent variable should equal to 0.5 (Naziman et al., 2012; Wang & Wang, 2012). The factor loadings below 0.5 indicate a lack of convergent validity. Therefore such indictors should be removed from the construct. After removing the items with low factor loadings, then the model fit indices were checked and if there are any modifications to be done to the construct they were done based on the modification indices shown by the AMOS 20 software.

After the confirmatory factor analysis, the initial measurement model is drawn and it shows the model fit values as χ^2/df=1.749,SRMR=0.0521,Hoelter's CN=245 (0.05 level), CFI=0.925, IFI=0.926, TLI=0.918, RMSEA=0.041 and PCLOSE=1. The Bollenstine p value is 0.06. Therefore the initial model can be accepted since it has met the model fit criteria.

Table 2: Regression results of e-learning acceptance

		Sri Lanka		Malaysia	
Exogenous variable	Endogenous variable	Standardized regression	P value	Standardized regression	P value
Relative advantage	Attitude	.151	.268	.246	.041*
Complexity	Attitude	.116	.168	.073	.382
Trailability	Attitude	-.155	.183	-.021	.819
Compatibility	Attitude	.361	.009*	.244	.022*
Obervability	Attitude	.368	.023*	.299	.021*
Loneliness	Attitude	-.005	.954	-.156	.092
Depression	Attitude	-.155	.055	-.038	.643
Self-esteem	Attitude	.132	.148	.063	.432
Relative advantage	Intention	.297	.031*	.179	.111
Complexity	Intention	.004	.965	.027	.725
Trailability	Intention	-.122	.302	.002	.985
Compatibility	Intention	-.240	.089	.013	.894
Obervability	Intention	.390	.022*	.155	.207
Loneliness	Intention	.148	.110	-.001	.989
Depression	Intention	-.064	.433	.050	.503
Self-esteem	Intention	-.074	.417	-.061	.410
Attitude	Intention	.606	.000**	.553	.000**

*significant at 0.05 level **significant at 0.01 level

According to the Table 2, there is a significant positive influence of compatibility and observability on attitude of using e-learning among both Sri Lanka and Malaysian postgraduate students. This finding confirms the findings of Olatukun & Igbinedion (2009), Putzer & Park (2010), Lin (2011), Zendehdel & Paim (2013) and Folorunso et al (2010) which compatibility has a significant impact on attitude of using e-learning. However with contrast to this finding Ntemana & Olatokun (2012), Cater & Cambell (2011) and Nor & Pearson(2007) found that compatibility has no impact of attitude of using technology. Similar with this study Ntemana & Olatokun (2012), Olatukun & Igbinedion (2009), Putzer & Park (2010) and Folorunso et al (2010) also found that there is a significant impact on observability on attitude towards using technology. Folorunso et al (2010) and Huang (2010) found that trialability has a significant impact on attitude and similar findings were derived by Ntemana & Olatokun (2012) and Olatukun & Igbinedion (2009) found that trialability has no impact of attitude of using technology. Similar with this study, Zendehdel & Paim (2013) and Folorunso et al (2010) have concluded that complexity has no impact on attitude of using technology as found in this study. In contrast to this Ntemana & Olatokun (2012) and Olatukun & Igbinedion (2009) was found that there is a significant impact of complexity on attitude.

Relative advantage has a significant positive influence on attitude of using e-learning among Malaysian postgraduate students and no significant impact was found among Sri Lankan postgraduate students. Ntemana & Olatokun (2012), Cater & Cambell (2011), Nor & Pearson (2007), Olatukun & Igbinedion (2009),Lin (2011), Zendehdel & Paim (2013) also found that there is a significant positive relationship between relative advantage and attitude of using technology while Folorunso et al (2010) found relative advantage has no impact of attitude of using technology.

Sri Lankan postgraduate students' intention of using e-learning is significantly determine by relative advantage and observability while there are no significant impact was found in innovations attributes on intention of using e-learning among Malaysian postgraduate students. Liao & Lu (2008) found that relative advantage has no impact on intention of using technology and Fu et al (2010) Al-Ghatani (2003) Jebeile (2003)found that there is a significant relationship between relative advantage and intention of using technology. With similar to this study Liao & Lu (2008) also found that trialability has no impact on intention of using technology while contrast to this study Fu et al (2010) Duan et al(2010), Al-Ghatani (2003) and Jebeile (2003)found that there is a significant positive relationship between trialability and intention of using technology. Similar with this study Liao & Lu (2008)and Fu et al (2010) also found that complexity has no impact on intention and Al-Ghatani (2003) found that there is a negative relationship between complexity and intention of using technology. Related with this study Liao & Lu (2008) found that there is no relationship between observability and intention of using technology, although Fu et al (2010)and Al-Ghatani (2003) found that there is a significant impact of observability on intention of using technology.

It is also observed that psychological factors of the postgraduate students do not influence on either attitude of using e-learning or intention of using e-learning. In contrast, Hamburger (2002), Kim et al(2009), Caplan (2003), Erdoğan (2008) found that loneliness leads to higher level of technology usage while similar to this study Kurtz and Hamburger (2008) found that there is no relationship between loneliness and attitude towards technology usage However, Ehrenberg et al(2008) found that there is a relationship between low self esteem and attitude of using technology. Also Kurtz & Hamburger (2008) found that there is a relationship between high self esteem and attitude of using technology. Erdagon (2008) argued that different cultures have different impact of psychological wellbeing on attitude of using technology.

Both Sri Lankan and Malaysian postgraduate students' perception of attitude towards using e-learning has a significant positive influence on intention of using e-learning. This is similar with Nor & Pearson (2007), Olatokun & Igbinedion (2009) and Lin (2011).

DISCUSION, CONCLUSIONS AND RECOMMENDATIONS

It was observed that almost both Sri Lankan and Malaysian postgraduate students show similarity in terms of how innovation attributes impact on attitude of using e-learning. In both countries compatibility and observability shows a significant impact on attitude of using e-learning and however only Malaysian postgraduate students are perceived that relative advantage has an influence on attitude towards e-learning. Traialbility and complexity did not show any significant impact on attitude towards e-learning in both countries. This similarity might due to the fact that both Sri Lankan and Malaysian workforce and the higher education sector now have been exposed to the latest developments of the technology and students now only seek how the technology is consistent with their life style and career goals (compatibility) and whether benefits can be seen (observability). If so, they would build positive attitude towards e-learning. On the other hand prior experiments on e-learning (trialability) and the intricacy in using e-learning (complexity) is not a matter for the postgraduate students in Sri Lanka and Malaysia as they are using technology for everyday life.

Though the factors of influencing attitude towards e-learning in both countries seems to be almost similar, the factors influencing intention of using e-learning found to be fairly different between Sri Lanka and Malaysia. While Sri

Lankan postgraduate students' intention of using e-learning is significantly determined by relative advantage and observability, there is no any significant factor found to be on intention of using e-learning among Malaysian postgraduate students. Though the postgraduate students in Malaysia build a significant positive attitude through relative advantage, compatibility and obeservability no factor is affecting for act upon such attitude. This difference is might due to the fact that since e-learning is more popular in Malaysia, the postgraduate students already aware on the technological attributes of e-learning and therefore those attributes might not make any significant influence of altering the intention of using e-learning in Malaysian postgraduate students. However the popularity and awareness of e-learning is rather low in Sri Lanka, the postgraduate students of Sri Lanka specifically interest to know about the benefits and facilities of e-learning before using it.

Neither any psychological wellbeing factors were affected in Sri Lankan or Malaysian postgraduate students' attitude and intention of using e-learning. Erdagon (2008) argued that different cultures have different impact of psychological wellbeing on attitude of using technology. Since Sri Lanka and Malaysia posses similar cultural and geographical backgrounds, the believes and values of the two countries are identified to be similar. Thus this similarity might lead to the finding of none of the psychological wellbeing factors has a significant effect on altering the attitude of using e-learning or intention of using e-learning. Therefore loneliness, self esteem or depression are not significantly affecting for attitude and intention of using e- learning in both Sri Lankan and Malaysian postgraduate students.

Both Sri Lankan and Malaysian postgraduate students show a significant positive impact on attitude of using e-learning on intention of using e-learning. Thus both perceived that intention is significantly determine by the attitude towards e-learning.

Therefore it can be concluded that both Sri Lankan and Malaysian postgraduate students perceived similarity in terms of attitude towards e-learning and intention of using e-learning.

It was discovered that both Sri Lankan and Malaysian postgraduate students' perceived relative advantage is a significant positive predictor of intention of using e-learning and attitude of using e-learning respectively. Therefore the educational institutes who provide e-learning contents should further communicate the students on usefulness that can be gained from e-learning in terms of cost, flexibility, efficiency and effectiveness. Also lecturers who are currently involving and hoping to involve in e-learning mode also consider the ways of improving the students' e-learning advantages as it develops likeness and intention of using e-learning. Further e-learning solution providers can consider how they can develop the software, platforms and other necessary infrastructure by reducing the cost and increasing the efficiency and effectiveness of e-learning.

Also the higher educational institutions and the e-learning service providers of the two countries should thoroughly consider the compatibility and observability of e-learning as they are found to be the significant factors. Thus e-learning should be promote as a method which well-suited for the life style and career goals of the working students as it would certainly increase the likeness of e-learning among the postgraduate students in Sri Lanka and Malaysia. Also the positive attitude towards e-learning lead to increase the intention of using e-learning in both countries, the educational institutes should conduct awareness programmes on e-learning to increase the positive attitude towards e-learning which eventually lead to increase the intention of using e-learning hence increase the students who follow e-learning mode.

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