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## **ATTITUDE TOWARDS E-LEARNING: THE CASE OF MAURITIAN STUDENTS IN PUBLIC TEIS**

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### **Abstract**

*Universities in Mauritius are looking forward to introduce e-learning systems to satisfy the needs of the growing number of students. Today, it is relatively common for our students to use modern technologies in their day-to-day activities and hence it has resulted into discussing whether there is a need to incorporate these modern technologies in our learning process. This paper tries to bridge the gap by investigating students' attitudes and patterns of use of a typical e-learning system. The study focuses on the Mauritian university students as the consumer in the e-learning process. A survey was conducted using structured questionnaire to target university students from public HEIs in Mauritius. Out of a sample of 200 respondents only 156 questionnaires were received back where only 150 were found reliable for testing. Data collected was statistically examined using SPSS and the research hypotheses were tested using regression analysis. The results reveal that students are adopting technologies in their studies and wish to use it in a more progressive way.*

### **Keywords**

*Student's Attitudes, E-Learning, HEIs, Mauritius*

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## **1. Introduction**

Today students studying in Tertiary Education Institutions (TEIs) have experienced incredible revolution, specifically with the introduction of information and technology (Bassey, Umoren, Akuegwu, Udida, Ntukidem, and Ekabua, 2007). E- Learning embraces a wide range of educational instruments and techniques which continuously improves in order to fit the requirements of students and lecturers. E-learning methods present a better and easy way of interaction that facilitates students to communicate with their lecturers and peers. Three major areas covered by E-learning are: increasing opportunity to get trained and gain knowledge; improving the quality of education; and the necessity for TEIs to gain and sustain advantage in a competitive market to attract more students (Newton, 2003). Ultimately, e-learning offers a strategic possibility TEIs to access the new spectrum in education. This method allows learners to get into different subjects whenever and wherever they want which provides learners more autonomy over their study, allowing them to compile all the resources they require for their study whenever they have time (Liu & Wang, 2009). Besides, e-learning is a platform to foster individual learning and group sharing of knowledge and experiences which in turn improves learning effectiveness, and competitiveness for individual and group.

Prenkys (2007), asserted that the new generation of students insist on technology to “be used as part of their education, in part because they are things that the students have already mastered and use in their daily lives, and in part because they realize just how useful they can be.” Even (Gros, 2003) and (Frاند, 2000) agree that the new generation of students prefer to receive resources rapidly; be capable at handling information promptly; have a low endurance for long hours of lectures; support dynamic instead of unresponsive education and depend a lot on communicating technologies to gain access to knowledge and to connect socially as well as professionally.

Many researches have showed that there are considerable connections between perceptions and attitudes and between attitudes and behaviors, and that perceptions form the foundations of an individual’s attitudes which impact one’s activities (Asabere & Enguah, 2012). Even, Workman (2005) affirmed that when someone has a positive attitude towards a certain technology, that individual is very prone to make use of that technology. He even claimed that a person is to be guided by his personal preferences; in other words, an individual’s perception

considerably influences others' attitudes regarding that precise technology which in turn is more prone to motivate those individuals to utilize that technology.

Many TEIs are including e-learning programs to sustain the increasing requirements of students looking for the accessible of e-courses so as to keep on being viable in a fast evolving market. Since, e-learning offers prospects to enrich education and to build appropriate conditions for both students and lecturers to impart knowledge, it is very imperative to come up with a thorough e-learning platform for lecturing, learning, sharing resources, and managing the tertiary education (Nelasco, Arputharaj & Paul, 2007; Drigas, Kyragianni, Nikolopoulos & Kalomoirakis, 2005; Zimmerman, 2008). In order to find out whether our students are prepared to accept e-learning facility to improve their studies, the paper investigates the attitude of the university students towards e-learning.

### **1.1 Aim of the Study**

The integration of e-learning in Higher Education has numerous advantages, and this is why it is regarded as one of the superior system in education. Many studies and scholars have supported the benefits gained in adopting e-learning technologies in education (Klein and Ware, 2003; Algahtani, 2011; Hameed, Badii & Cullen, 2008; Marc, 2002; Wentling, Waight, Gallagher, La Fleur, Wang & Kanfer, 2000; Nichols, 2003). The purpose of this research is to assess learners' attitude concerning e-learning and to determine the factors which influences the attitudes so that TEIs may use the results when planning to implement an e-learning system in the future. Identifying learners' attitude with regard to e-learning is important in forecasting students' course of actions.

### **1.2 Literature Review**

E-learning can be described from various point of views where there are researchers who believe that e-learning represents any process of teaching that incorporates any kind of technology. On the other had many assert that e-learning stand for distance education learning assisted by a massive integration of technology. Nichols (2003) terms e-learning as follows "the use of various technological tools that are either Web-based, Web-distributed or Web-capable for the purposes of education." From the above definition it can be deduced that a foremost element of e-learning, is the Internet and Web Technologies that enable students and lecturers to exchange of material in any locality and at any time. E-learning is a mode of learning which requires participation, enthusiasm and competence in communication technologies from

students. The absence of communication will very much affect their achievements in education. Students are required to converse regularly with their classmates and lecturers enable completion of all course works.

E-learning is a comprehensive system, frequently believed to comprise the use of computers in the teaching of some components or the whole of a module for teaching in schools and institutions (Moore, Dickson, Deane, & Galyen, 2011). Hence, e-learning has been termed as the amalgamation of modern technologies such as audio conferencing, blogging, instant messaging combined with the teaching and learning process (Ru-Chu, 2013).

From the above, it can be deduced that e-learning offers an alternate learning solution instead of the traditional classroom/face-to-face mode. In addition to being a substitution, e-learning is a process to boost study by gaining or supporting the distribution of knowledge, by means of several technological methods such as the internet. Even Laadem (2017) advocated that the quality of the e-learning platform ensues in quality of education. Therefore, e-learning makes it possible for TEIs to educate and reach a more people in the education market.

Scholars have revealed that in general learners who make use of e-learning tools enhance their knowledge contrasted to those learners who do not use these tools (Lockyer, Patterson & Harper 2001; Tuckman 2002; Beyth-Marom, Chajut, Roccas & Sagiv 2003). However, as indicated by a study organized at Bloomsburg University of Pennsylvania in the context of e-learning, a valuable learner need to have these traits: self-motivation, tolerance, and self-discipline, adept in using information and communication technologies and sound practical skills and aptitudes concerning time management and organizing.

These above mentioned factors directly influence learners' attitude with respect to e-learning. Consequently, an attitude can be optimistic, if the new trend in the learning system matches the learners' requirements and profiles, or it can be adverse, if a learner is not able to familiarize with the new system as the learner does not possess the required profiles (Bhatia, 2011).

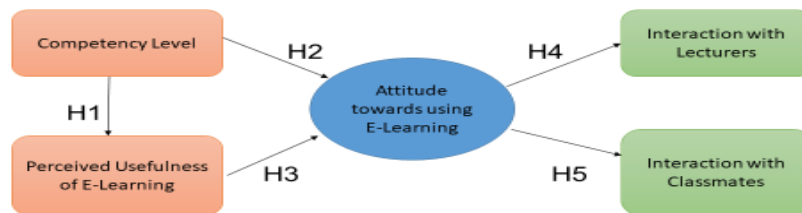
Learners' attitude towards e-learning is motivated by its alleged benefits and weaknesses. This is why determining attitudes is imperative in investigating students' behaviour since there is a deep relation between behaviour and attitude as a result, students are more likely to accept the learning mode if there is a positive learner's attitude.

### 1.2.1 Relevant Contributions

Wangpipatwong (2008), conducted a study at the Bangkok University, where he asserts that the intent of exploiting e-learning is mainly motivated by learners attitude regarding technology and their opinion on e-learning. The model was centered on attitude scale based on computers determined by Lyod and Gressard (1984) and even the Technology Acceptance Model (Davis, 1989). The aspects examined by Wangpipatwong are, firstly, learners should be self- dependent concerning their skills to use a computer, satisfaction of using the computer, the apparent effectiveness and, conversely, comfort in using e-learning, its apparent efficacy and the fun and satisfaction experienced in using the modern education model.

### 1.3 Research Model and Hypotheses

The intended research model analyzed in this research is presented in Figure 1. The model establishes that students' perception of e-learning (ease of use, ease of understanding, usefulness, and enjoyment) and students' attitude (increase in confidence, appreciation, and effectiveness) will positively motivate students to use e-learning.



**Figure 1:** Conceptual Research Model. Source: Own Source

Accordingly, the following hypotheses are devised:

H1: Competency level will significantly influence student's perception regarding usefulness of e-learning.

H2: Competency level will significantly influence student's attitude regarding use of e-learning.

H3: Perceived usefulness will positively influence student's attitude towards using e-learning.

H4: Attitude towards e-learning will significantly influence student's intention to use e-learning to interact with their lecturers.

H5: Attitude towards e-learning will positively influence student's intention to use e-learning to interact with their classmates.

## **2. Methodology**

Lately, scholars have contended to use a mixture of both quantitative and qualitative methods in research related to Information System (Berger, 2013; Gregor & Hevner, 2013; Venkatesh, Brown, & Bala, 2013). Thus, this study took on board a positive and typical framework combining the quantitative and qualitative approaches. Eventually the purpose was to investigate how far perception influenced students' attitude towards e-learning and determined their actions pertaining to the use of e-learning. As a result, survey method was found most permissible to represent the sample of students which "is representative of the general population and confidently generalise findings to the entire population" (Creswell, 2003; Fowler, 1995). The exploratory research was conducted through an online survey sent to students via their individual email addresses. The target population was the students studying in the public TEIs.

The questionnaire was divided into three parts with headings as follows: demographics of the students, use of technologies, students' perceptions towards e-learning, students' attitude towards e-learning, students interaction with lecturers and students interaction with peers. The first segment related to demographics covered aspects such as age, gender, and educational classification and enrollment status. The second part had properties which assessed the competency level of students regarding computer usage; frequency of usage with the Likert scale being defined as follows: (1) Never, (2) Once in a week, (3) Three times in a week, (4) Everyday, and (5) More than once in a day. Whereas students' perceptions towards e-learning, students' attitude towards e-learning, students interaction with lecturers and students interaction with peers were rated using a 5-point Likert scale ranging from 1 as strongly disagree to 5 as strongly agree.

The target population was students from University of Mauritius (UoM), University of Technology (UTM), Mauritius Institute of Education (MIE), Mahatma Gandhi Institute (MGI), Rabindranath Tagore Institute (RTI), Open University of Mauritius (OU), Université des

Mascareignes (UdM), Mauritius Institute of Training and Development (MITD), Mauritius Institute of Health (MIH) and The Fashion and Design Institute (FDI).

For this research the systematic stratified and random sample technique have been used where the sampling frame was split into the categories established on the following: age, enrollment status, year of study, and institutions. Out of a sample of 200 respondents only 156 questionnaires were received back where only 150 were found reliable for testing. The reliability of the data in this research was ascertained by Cronbach's Alpha using IBM SPSS v. 23. The reliability results are presented in Table 1 below.

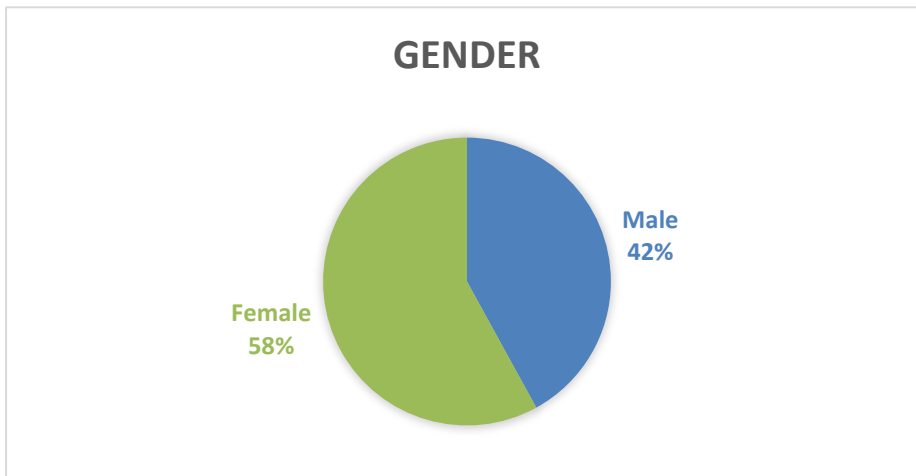
**Table 1:** *Reliability using Cronbach's Alpha.*

<b><i>Factors/Constructs</i></b>	<b><i>Number of Items</i></b>	<b><i>Cronbach's Alpha</i></b>
Competency level in using Technology	5	0.609
Perceived Usefulness of e-learning in courses	6	0.918
Attitude towards using E-Learning	6	0.813
Interaction with Instructor in e-learning	5	0.746
Interaction with classmates in e-learning	4	0.936
Total	26	0.913

Cronbach's coefficient for each factor was computed and submitted to a reliability assessment. As per Nunnally (1994), reliability coefficients greater than or equal to 0.50 are regard as sufficient for exploratory studies. The factors were reasonably reliable with Cronbach's alpha coefficients ranging from  $.609 < \text{Cronbach's } \alpha < .936$  (Table 1). At the same time, the overall reliability measurement (Cronbach Alpha) was 0.913 and considered appropriate for internal consistency. Hence, additional analysis was performed to attend to the research question.

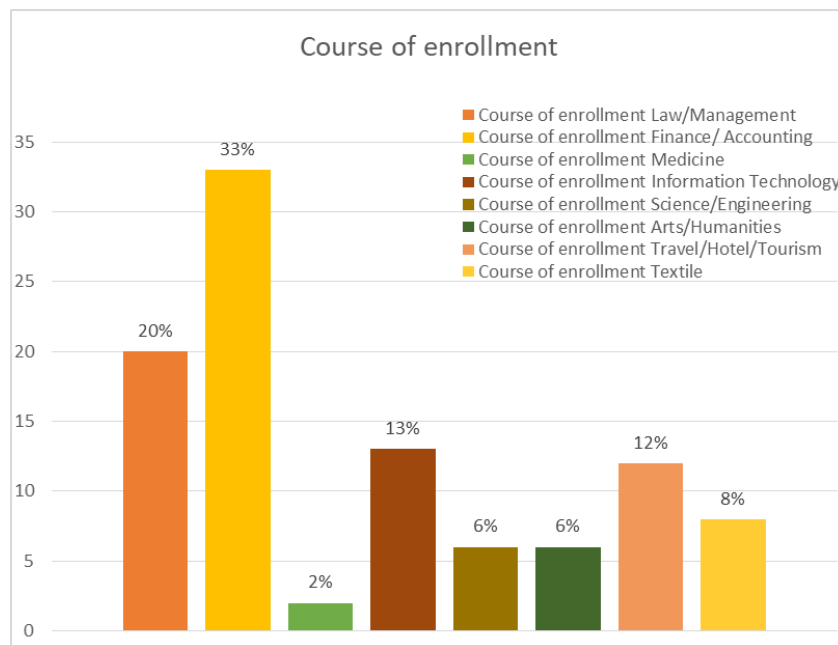
### **3. Results**

A response rate of 75% was achieved which is acceptable as stated by Nulty (2008) a participant rate of 50% and above is suitable. A total of 63 (42%) of the students were male and 87 were female (58%) and the percentage distribution of observers is represented in the figure 2.



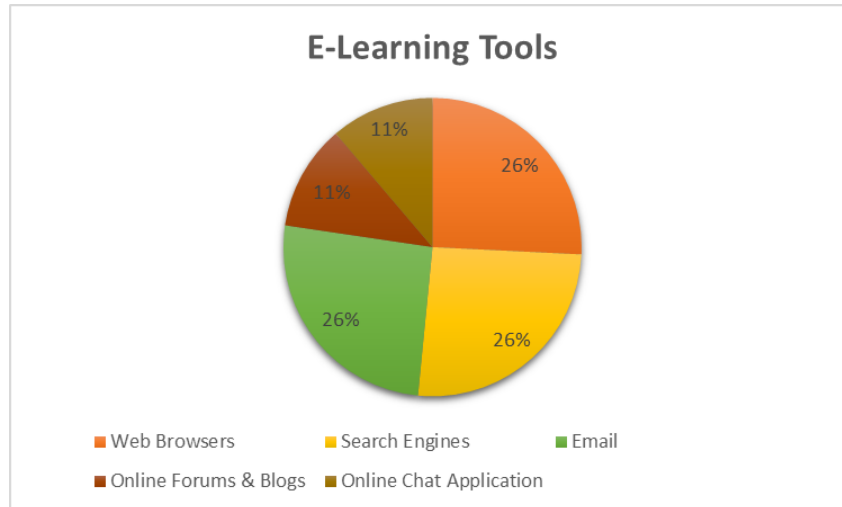
**Figure 2: Gender**

Figure 3 illustrates the percentage distribution of participating students enrolled on different programmes in the public TEIs.



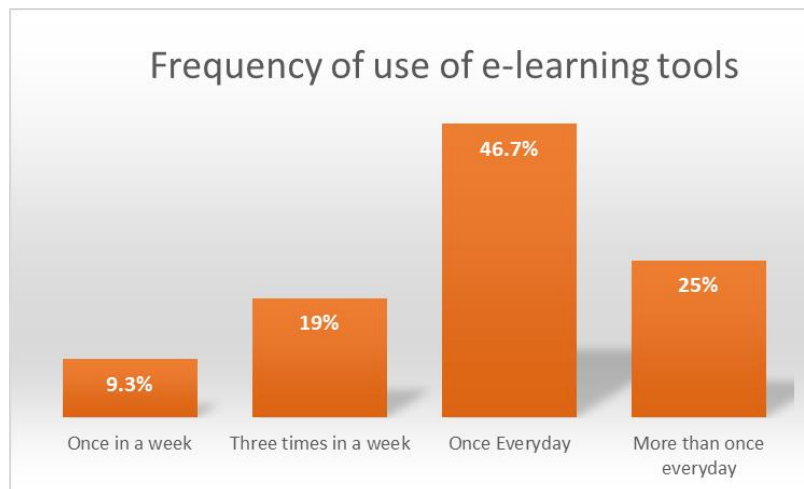
**Figure 3: Course of Enrollment**





**Figure 4:** *E-Learning Tools*

Respondents were asked select the e-learning tools they most often used during their study. Results obtained showed that email, search engines and web browsers are the most commonly used as compared to online forums & blogs and online chat applications which are the least used. The data is illustrated in Figure 4 showing the five most commonly used e-learning tools by students. The frequency of use of the e-learning tools was also determined among the students in the selected TEIs and presented in figure 5 below which suggests that the students do use the e-learning tools in their educational activities.



**Figure 5:** *Frequency of use of E-Learning Tools*

Supplementary analysis was performed to test the research model shown in Figure 1 by testing the hypotheses using a regression analysis. All the 5 hypotheses are supported as illustrated in Table II. In linear regression matrix there are five parameters,  $R^2$  which is the

coefficient of the correlation shows the strength and direction of a relationship. On the other hand, the P- Value points out the significant of the relationship where the P value has to be equal or less than 0.05 for a relationship to be significant. Similarly,  $\beta$  (Beta) is another component in linear regression which indicates the direction and slope of a relationship. Hence, the standard error (STdErr) of Beta ( $\beta$ ) suggests the chance of any percentage of error occurring implying that a smaller standard error of  $\beta$  will have less error occurring.

**Table 2:** Summary of Hypotheses Testing using Linear Regression

<i>Hypot heses</i>	<i>Tested Relationship</i>	$\beta$	<i>STdErr</i>	<i>t</i>	<i>p-value</i>	$R^2$	<i>Results</i>
H1	Competency level has a significant influence on the university students' perceived usefulness.	0.160	0.176	1.969	0.050	0.026	Supported
H2	Competency level has a significant influence on the university students' attitude regarding e-learning.	0.160	0.037	1.969	0.050	0.026	Supported
H3	Perceived usefulness has a significant influence on the university students' attitude regarding e-learning.	0.608	0.057	9.305	0.000	0.369	Supported
H4	Attitude towards e-learning has a significant influence on the university students' behavioral intention to use e-learning to interact with their lecturers.	0.436	0.097	5.900	0.000	0.190	Supported
H5	Attitude towards e-learning has a significant influence on the university students' behavioral intention to use e-learning to interact with their classmates.	0.638	0.050	10.092	0.000	0.408	Supported

#### **4. Discussion of Results**

From Table II above, the students' competency level has a significant influence on the perceived usefulness ( $R^2 = 0.026$ ,  $\beta = 0.160$ ) which has a significant impact ( $R^2 = 0.369$ ,  $\beta = 0.608$ ) on their attitude regarding e-learning. Students' behavioral intention to use e-learning to interact with their classmates and lecturers are influenced by their attitude regarding e-learning ( $R^2 = 0.190$ ,  $\beta = 0.436$ ), ( $R^2 = 0.408$ ,  $\beta = 0.638$ ). Certainly the result is such because the students

are keen to use the e-learning tools, concurrently contemplating on their advantages. Some academics observed that the attitude towards using e-learning is the contributing factor towards behavioral intention to use to interact with their classmates and lecturers and this is what this study has found (Liu, Liao & Pratt, 2009; Lee, Cheung & Chen, 2005).

According to Berteau, (2009), attitude does suggest specifically the likelihood of assuming particular actions. Referring to the e-learning practice, a significant and constructive attitude of students concerning it advocates a better probability that the students will adopt the e-learning tools. As confirmed by the findings, there is a relation between perception and attitude. The students assented that the e-learning tools were useful for them in their courses which signifies that perception has a positive effect on students' attitude and it was in the same way indicated by Cheng (2006) who conducted a research by using the Technology Acceptance Model (TAM) and Flow Theory to online e-learning client's acceptance behaviour. It was established that students' attitude was influenced by the perception and hence deduced that perception was an important determinant for their intention to use the e-learning in their course. The results also concurs with Wong and Teo (2009) who conducted a research on the predictors of the intention to use Technology and observed that perception is a significant determinant of students' and lecturers' approval to use technology in during their study.

This findings are also consistent with former research results like Masrom (2007) who established that perception regarding usefulness has a positive influence on the students' attitude and eventually their intention to use the e-learning tools. The results from this study illustrate that there is a significant relationship between perception regarding usefulness and students' attitude towards using e-learning tools and students assented that applying the e-learning tools would boost their efficiency in learning and competence in course work.

## **5. Conclusion**

It can be concluded that university students in studying in the public TEIs in Mauritius have a positive attitude towards using e-learning tools as they perceive them to be easy to use and useful for their study. It can also be deduced that easy accessibility to e-learning tools will result in a more favourable attitude towards its usage. Focusing of the results of this study, the use of e-learning tools was examined based on some factors such as perception regarding ease of use and usefulness, attitude towards e-learning tools and intention to use them. Though, for e-

learning to be extensively applied in Mauritian TEIs, suitable training provision at various levels is required, fostering knowledge for using e-learning, and exploring ways to collect data to apprise potential developments (Rhema & Miliszewska, 2014).

A possible limitation arises from using paper-based questionnaire for the survey. Like described in the Methodology, the questionnaires did experience a low response rate and 6 out of 156 faced misconception issues. Note worthily the findings described in this paper offer valuable knowledges which encompass the limited research linked to e-learning in Mauritius, they are centered on a study of only public TEIs and a limited number of students. It would be significant to see the findings reported in this paper could be expanded to more participants and from private TEIs in Mauritius.

However, no attempt was made to test TAM fully and security aspect also was not considered in this study. Hence, it will be valuable to establish if there is a significant relationship existing between students' attitude towards e-learning tools and these other variables for future studies. Also, in order to further investigate some of the results of this study, additional research can be conducted to explore the impact of gender on students' attitude regarding E-Learning tools and their adoption.

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