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Computer mediated communications on Ilearn: Use of asynchronous learning discussions by mature students.
 Refereed paper

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Abstract
In the context of developing a distance learning strategy at the University of Mauritius (UoM), computer mediated communications, like asynchronous conferences, will be playing an important role to enable students to take responsibility for their own learning. This paper aims at understanding the factors affecting the use of online conferences by mature students as support to their face-to-face classroom sessions. Thus, we will be in a better position to understand and facilitate mature learners' use of online conferences in the course of their tertiary education programmes. The study builds on the Technology Acceptance Model, which identified users' perceived ease of use and usefulness as major determinants of technology acceptance. Factors, identified from the existing literature, that would influence perceived ease of use and perceived usefulness (like access and availability of technological infrastructures, motivation, technical and tutor support, collaborative learning, transferability of skills, training/induction programmes, design and delivery issues, and social influences), were used to assess their impact on mature students' adoption of asynchronous learning discussions on the UoM developed Ilearn platform. A structured questionnaire was administered to 98 mature learners on four management education programmes after they have used asynchronous conferences, over 15-30 weeks in modules like Human Resource Development, Human Resource Management and IT, Managing Human Resources for International Business, and HR for the eWorkplace. Findings revealed that perceived ease of use and usefulness impacted the adoption of asynchronous conferences and the implications are that the factors contributing to the mature students' perceptions need to be managed closely throughout the learning process so that they can participate actively in the asynchronous learning forums on Ilearn. Hence, some recommendations are discussed to ensure computer mediated communications support the delivery of people management courses and enhance the University of Mauritius distance learning strategy.

In the context of developing a distance learning strategy at the University of Mauritius (UoM), computer mediated communications, like asynchronous conferences, will be playing an important role to enable students to take responsibility for their own learning. This paper aims at understanding the factors affecting the use of online conferences by mature students as support to their face-to-face classroom sessions. Thus, we will be in a better position to understand and facilitate mature learners' use of online conferences in the course of their tertiary education programmes. The study builds on the Technology Acceptance Model,

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Introduction

In the new global economy, a country will generate sustainable competitive advantage through innovation and enterprise by maximising the potential of its human resources. Hence, it has to upgrade the capabilities of its population through emphasis on lifelong learning and professional development. Consequently, tertiary education institutions are under tremendous pressure to upgrade people's knowledge and capabilities. Universities are expected to deliver mass education systems for the population and produce more graduates with limited resources resulting from reduced state funding. So to add to their intake of full time learners, they are reaching for more mature students who tend to demand flexibility in studying approaches to balance their work and life commitments. So technology could provide a solution for increasing access and deliver courses at the universities with a view to meet the needs of country and citizens (Osborne and Oberski 2004). In today's management education context, there is an increasing use of web-based technology in the learning process through online or e-learning, distance learning and even blended learning where traditional face to face sessions are supplemented by online support allowing students to access lectures, handouts, assignments and continue discussion on course concepts and cases beyond classes through computer mediated communications (CMC) like synchronous and asynchronous conferences (Martins and Kellermanns 2004). Therefore, students' acceptance of the technology is critical in ensuring that tertiary education institutions meet the demands of the society. In this context, the University of Mauritius (UoM) embarked on promoting lifelong learning with a distance learning strategy supported by its Virtual Centre for Innovative Learning Technologies (VCILT), which has developed a web-based platform for teaching and learning purposes called Ilearn. Traditional face to face courses are enhanced with web components from Ilearn through computer mediated communications like asynchronous conferences. Thus, this paper aims at investigating the factors that will encourage the use of computer mediated communications on Ilearn, in particular asynchronous conferences, by mature students as support to their face to face management education programmes at the University of Mauritius.

Literature Review

Computer mediated communications refer to systems in an online environment enhancing interactions between lecturers and students, and among the students themselves (Williams 2002; Tu and Corry 2003). The most commonly used medium in online courses is asynchronous conferencing where students engage in delayed communications compared to real time in synchronous or chat sessions. Asynchronous conferencing allow students to reflect on dialogue remaining available over long periods of time, including an element of flexibility with regards to time, place and pace of communication. Discussions can be organised in threads allowing all members to access valuable knowledge and increasing the value of learning. Furthermore, asynchronous conferences enable the lecturers to cater for students' questions in between face to face sessions. The learner to learner interactions between students facilitate collaborative learning, through social interactions, and enhance social bonding. So the main principles behind asynchronous conferencing are round the clock availability of material to students, interactivity, students actively involve in the teaching process, and immediate feedback (Karuppan and Karuppan 1999; Arbaugh and Duray 2002; Taylor 2002; Williams 2002; Jefferies 2003). So asynchronous computer mediated communications generate such benefits as flexibility (time, place and pace of learning),

quality and quantity of participation, open and accessible communication, and post participation revision and access for references purposes. However, participants face some challenges in asynchronous conferencing pertaining to technology frustrations, ad hoc group coordination, timing and delay frustration, and skills deficits (Morse 2003). Therefore, to reap the benefits of computer mediated communications, and overcome the challenges, there is a need to understand the factors that will encourage learners to use the technology. A widely used and accepted conceptual model of user acceptance of new information technologies is the Technology Acceptance Model (TAM).

Technology Acceptance Model (TAM)

The TAM indicates that users' beliefs and attitudes toward the technology are the main determinants of technology adoption. So, two key user perceptions will influence the user's attitude towards acceptance of the technology namely perceived ease of use and perceived usefulness. Perceived ease of use of the technology refers to the extent to which users believe that using the technology is effortless, while perceived usefulness of the technology relates to the extent to which users believe that the technology will be helping them enhance their job performance (Davis 1989; Davis et al. 1989). It was found that there is a strong direct link between perceived usefulness and intention to use the technology while a weak direct link was identified between perceived ease of use and intention to use the technology. In addition, perceived ease of use indirectly affected intention to use the technology by influencing perceived usefulness. The direct effect of perceived ease of use is stronger at the beginning of the technological experience but with time the effect operates indirectly through perceived usefulness, suggesting that the easier a technology is to use, the more useful it is perceived to be (Venkatesh 1999; Szajna 1996). TAM also claimed that the effects of external variables, such as system characteristics, development process, and training, on intention to use the technology are mediated by the two main beliefs of perceived usefulness and perceived ease of use of the technology (Venkatesh 2000; Venkatesh and Davis 2000).

Venkatesh et al. (2003) developed the Unified Theory of Acceptance and Use of Technology (UTAUT), which identified the determinants of user acceptance and usage behaviour. Accordingly, there are four core determinants of intention to use and usage of the technology. Three are direct determinants of intention to use the technology namely performance expectancy, effort expectancy and social influence while intention to use and facilitating conditions are two direct determinants of usage behaviour. They also identified four moderators of these key relationships namely gender, age, experience and voluntariness of use. There seems to be similarities among the constructs of performance expectancy, social influence, and the perceived usefulness of TAM while effort expectancy and facilitating conditions constructs share similarities with the perceived ease of use of TAM.

Therefore, in the context of web enhanced courses the perceived usefulness and perceived ease of use of the computer mediated communications will influence students' attitudes towards and use of the asynchronous conferences. Hence, there is a need to identify the determinants of perceived ease of use and perceived usefulness.

Determinants of Perceived Usefulness

Users will adopt a technology if they perceive it as helping them improve their performance and consequently find it relevant in performing their tasks. So the user's judgement of job relevance based on an awareness of the technology capabilities in enhancing user's performance contribute to enhance the perceived usefulness (Venkatesh and

Davis 2000; Venkatesh et al. 2003). This idea of job-fit is also referred to as near term usefulness which implies improved job performance or job satisfaction (Chau 1996). Positively valued outcomes resulting from the use of the technology will influence users' beliefs about its usefulness (Davis et al. 1989). Hence, extrinsic motivators associated to the use of the technology are related to perceived usefulness (Davis et al. 1992). Attainment of job related and personal outcomes as result of adopting the technology will influence perceived usefulness (Venkatesh and Davis 2000; Venkatesh et al. 2003). In addition to near usefulness, Chau (1996) viewed perceived usefulness as long term usefulness where the user's anticipates improvements in career prospects or gains in social status with adoption of the technology. Venkatesh and Davis (2000) identified social influence processes (subjective norm, voluntariness, and image) as influencing perceived usefulness since significant others can determine the individual's use of the technology. They found that in mandatory contexts, due to compliance, social influences have a direct effect on intention to use the technology, while in voluntary contexts, social influences significantly influenced perceived usefulness, via mechanisms of internalisation and identification or image, towards impacting intention to use the technology (Venkatesh and Davis 2000;Venkatesh et al. 2003). External variables identified as system features, training, documentation, and user support affected perceived usefulness (Davis 1989; Chau 1996).

Furthermore, perceived ease of use is viewed as a direct determinant of perceived usefulness since, keeping everything else constant, the more effortless a technology is to use, the more using it can improve job performance (Davis et al. 1989; Venkatesh 2000; Venkatesh and Davis 2000). Consequently, there is a need to investigate the determinants of perceived ease of use.

Determinants of Perceived Ease of Use

Perceived ease of use can be associated to effort expectancy which refers to the degree of ease linked to the use of a technology. Therefore, the level of complexity in terms of the degree to which a technology is perceived as difficult to understand and use can impact perceived ease of use. Furthermore, existence of facilitating conditions will influence perceived ease of use. This is about the extent to which the user believes that there are organisational and technical infrastructures to support use of the technology (Venkatesh et al. 2003). These facilitating conditions pertain to perceived internal and external constraints (self-efficacy, resource and technology facilitating conditions) on behavioural intention to use the technology, objective environmental factors (availability of computer support) contributing to ease of use, and compatibility with existing values, needs, and experiences of potential users. Venkatesh (2000) addressed determinants of perceived ease of use as anchors (computer self-efficacy, perceptions of external control, computer anxiety and computer playfulness) and adjustments (perceived enjoyment and objective usability). Anchors refer to the notion that prior to direct experience users refer to their general beliefs about the technology to frame their perceptions about the ease of use of the technology. Adjustments refer to users, as they gather more experience with the technology, amending their perceived ease of use of technology to be aligned with their interactions. Hence, training (increasing computer awareness, enhancing computer self-efficacy and reducing computer anxiety) and intrinsic motivation (general computer playfulness and perceived enjoyment) can help in improving users' perceived ease of use of the technology and increase their motivation to adopt the technology (Taylor and Todd 1995; Venkatesh 1999; Venkatesh 2000; Chen et al. 2002). Li et al. (2004) found that affiliation motivation, pertaining to an individual's desire and inclination for social interaction, was significantly related to perceived ease of use since

it influences an individual's confidence and self-esteem through the enjoyment of social relationships.

Therefore, integrating the determinants of perceived ease of use and perceived usefulness would be crucial for successful use of the computer mediated communications by the mature students.

Perceived Usefulness, Perceived Ease of Use and Computer Mediated Communications

Now that the determinants of perceived usefulness and perceived ease of use have been identified, there are several implications about encouraging and facilitating students' use of computer mediated communications. Martins and Kellermanns (2004) have indicated that students will find a system useful when they are provided with performance incentives, with faculty encouragement to use the system, and peer encouragement to adopt the technology. In addition, students will find a system easy to use when they are aware of its capabilities, there is available and reliable help from technical support, they had prior experience with computers and the Web, they had self-efficacy in using the Web, and the technology is easily accessible. Asynchronous conferences, in management education programmes, should be structured in a way to encourage collaborative learning and social interactions through discussions spread over one to two weeks. Students' active participation to asynchronous online discussions should be encouraged with incentives through extrinsic motivation such as continuous assessment marks earned, based on clear evaluation criteria and expectations, as well as through intrinsic motivation like acquiring new and valuable knowledge, transferable skills valued by employers and taking ownership of their learning. The tutor as well should participate actively in the asynchronous conferences through an e-moderator role, providing support and regular feedback to the students. Training through an induction on the system should be provided to the students, to learn how to use the technology, by building their awareness of the technological capabilities, benefits and outcomes, improving their technical and learning skills, and enhancing their confidence about asynchronous conferencing. Access and availability of networked computers, both on and off campus, to students is crucial for the adoption of asynchronous conferencing as well as technical support provided to students whenever they need help (Karuppan and Karuppan 1999; Arbaugh and Duray 2002; Chen et al. 2002; Williams 2002; Jefferies 2003; Lundgren and Nantz 2003; Morse 2003; Tu and Corry 2003; Li et al. 2004; Wu and Hiltz 2004). McPherson and Nunes (2006) identified 66 critical success factors for e-learning implementation in higher education regrouped in four clusters (leadership, structural and cultural issues; design issues; technological issues; and delivery issues) which will definitely influence the students' beliefs of perceived ease of use and perceived usefulness of computer mediated communications.

Methodology

The overall objective of this study is to investigate the mature students' use of asynchronous conferences on Ilearn at the University of Mauritius, with research objective of identifying the factors that will encourage the use of computer mediated communications through the mature students' perceived ease of use and perceived usefulness of asynchronous conferencing. A descriptive research approach was undertaken to survey 98 mature students from three postgraduate and one undergraduate programmes at the University of Mauritius during the academic year 2005-2006. They were following modules delivered by the same lecturer through face to face classroom sessions supplemented by online support facilities on the Ilearn platform. There were 33 students from the undergraduate programme and 65 coming from the postgraduate programmes. Data was collected through a structured

questionnaire consisting of three main sections covering access and availability of computer, internet and Ilearn from home, work, and the university campus; 24 statements relating to the mature students' perceived ease of use and perceived usefulness of the asynchronous conferences; and a respondent profile. Most of the questions were dichotomous, with explanations captured through multiple choices and in open ended form, for rationale behind the answers, thus reducing the risk of making misleading inferences. Respondents' perceptions were secured with the rating of the 24 statements on a five point Likert scale ranging from strongly disagree (1) to strongly agree (5). There were also a few open ended questions which allowed respondents to express themselves on necessary improvements to enhance participation to the asynchronous conferences. The questionnaire was administered after the mature students had completed their modules, with hard copies forwarded to them via their class representatives supported by soft copies sent through emails. There were 37 responses resulting in a response rate of 38%, with four respondents from the undergraduate programme and 33 from the postgraduate programmes.

The data gathered were analysed using SPSS 16.0 to undertake all relevant descriptive statistics and carry out percentages analysis, as well as cross tabulations to analyse several related questions scattered throughout the questionnaire.

The Ilearn Asynchronous Conferences Experience
The University of Mauritius through its Virtual Centre for Innovative Learning Technologies has developed an Ilearn platform to support the delivery of modules. The platform allows lecturers to post their lecture notes, case studies, articles and undertake computer mediated communications with their students via mainly asynchronous conferencing. There is also the use of a submission box for the students to upload their assignments.

In the context of the study, mature students are considered to be learners aged 21 or above engaged in their studies at the University of Mauritius as well as being in employment and following their courses in afternoon or evening sessions. The 98 mature students were enrolled on four management education programmes with three at postgraduate levels (MSc HR studies, MSc International Business and Management, and MBA HRM) and one at undergraduate level (BSc (Hons) Management). They were following 15 to 30 weeks people management modules like Human Resource Development, Human Resource Management and IT, Managing Human Resources for International Business, and HR for the eWorkplace. These modules were delivered by the same lecturer through weekly face to face meetings of three hours and use of asynchronous conferencing on the Ilearn platform. At least a week prior to their face to face sessions, the mature students could download their lecture notes, articles and case studies, posted by the lecturer, for classroom discussions. The asynchronous conferences were structured in two ways - (1) topical discussion forums run over one or two weeks on case studies, articles and issues pertaining to their modules, and (2) a general forum where they are to debate about issues relevant to their modules throughout their 15-30 weeks course. The lecturer launched the short asynchronous forums with discussion threads instigated by the students whereas the general forum discussions and threads were mainly initiated by the students. The Virtual Centre for Innovative Technologies has administrators who provided the technical support to the students and lecturer. They provided the students with an hour of induction on Ilearn at the beginning of their course with support documents in the form of Ilearn tutorial manuals to both the students and lecturer. There were mostly individual discussions on the general forums while the topical ones could incorporate group discussions.

Participation to the asynchronous conferences forms part of the continuous assessment marks which counted towards the total and final marks for the modules. The asynchronous conferences amounted to 15% - 20% of the students' continuous assessment marks and were based on some clear and specific criteria, which were explained at the beginning of the course and reinforced throughout the module by the lecturer. The criteria for assessing participation to asynchronous conferences were as follows – 20% marks for attending the forum, 30% marks for reading all the messages and contributing similar ideas or perspectives to their peers, and 50% marks for adding value in terms of bringing new ideas or perspectives to the discussions. These marks were incentives for the students to participate in the asynchronous conferences. Since they counted towards their continuous assessment and total marks for their modules, participation to these asynchronous forums became almost compulsory. Furthermore, the students had no other means, than the Ilearn platform, of retrieving their lecture notes and supporting materials, as well as submitting some groups' assignments, which were other continuous assessment tasks for the modules. The system generated statistics that helped in monitoring participation with quantitative data about students accessing Ilearn conferences and reading the messages posted as well as number of messages, with the dates of first and last messages, posted by each student. The qualitative assessment about the value of the message posted by the students was performed by the lecturer after reading each posted message. There were no peer assessments. These quantitative and qualitative assessments allowed the lecturer to perform his moderator role by providing continuous feedback to the students, over the 15-30 weeks, through the asynchronous forums and in the classroom sessions. However, it should be noted that this moderator role is very demanding and has implications on the lecturer's workload since this is adding to the lecturer's responsibilities associated to the face to face classroom sessions. Hence, a balanced workload is required for lecturers involved with e-learning (Williams 2002; McPherson and Nunes 2006).

Analysis and Discussion

The respondents' profile are provided in (Table 1) below. The majority of respondents were from the postgraduate programmes with a balanced spread of male/female, and single/married students. The mature students were mainly working in a public sector organisation and at managerial positions with 35% at middle management level.

Table 1: Respondents' Profile

Respondent's Programme	
	%
BSc (Hons) Management	10.8
MSc HR Studies	19.0
MSc International business and Management	37.8
MBA HRM	32.4
Respondent's gender	
Male	51.4
Female	48.6
Respondent's age range	
20-30	51.4

31-40	24.3
41-50	24.3
Respondent's marital status	
Single	48.6
Married	51.4
Respondent's working organisation	
Public	58.3
Private	41.7
Respondent's Position in working organisation	
Top Management	16.2
Middle Management	35.1
Line Management	21.6

Technological Infrastructure	Home	Office	UOM
	%	%	%
Access to a personal computer	89.2	86.5	-
Access to Internet	89.2	78.4	24.3
Staff		27.1	
Access to Ilearn	83.8	73.0	18.9

Access and Availability of Technological Infrastructure

This section pertains to the availability and access of the technological infrastructure relevant for the Ilearn platform from home, work and the University of Mauritius. From (Table 2) it seems that most mature students have access to a personal computer, Internet and Ilearn from home and office with only 24% of the respondents accessing the Internet and even fewer respondents (19%) connected to Ilearn from the University of Mauritius. All of the students accessing Ilearn at the University came from public sector organisations, with 71% of them working in the middle or below management positions. This could be explained by the fact that the public sector organisations do release their employees and even provide time off to attend the University according to their respective timetables. There are no differences about accessing Ilearn from the office between mature students working in a public and private sector organisation. However, 17% more students from the public than the private sector organisations access Ilearn from home. This could mean that the private sector students have more freedom and autonomy in accessing Ilearn from the office than their public sector counterparts. However, there are systematically more students accessing Ilearn from home than the office across all respondents' working positions. This support the claim from respondents, not accessing Ilearn from work, that their workload left no place for learning at the office.

Table 2: Access to PC, Internet and Ilearn.

The respondents who did not access Ilearn from home emphasised that downloading from the Internet was very slow from home and that they use the Internet mostly at work. Since they are working students, some even complained about not being able to access Ilearn from abroad, as they sometimes need to travel for professional purposes.

The main reasons put forward for not accessing Ilearn from the University of Mauritius are provided in (Table 3) below. It seems that the majority of mature students attend the University of Mauritius mainly for lectures and hardly have time to use the personal computer laboratories on campus either before or after the lectures. This can be explained by the fact that the majority of respondents are mature students from postgraduate programmes who attend lectures in the evening. Hence, 32% of respondents complained about the opening hours of the personal computer laboratories not being convenient and 21% claiming that Internet access was rather limited in these laboratories.

Table 3: Main reasons for not accessing Ilearn from UoM

Reasons	%
Opening hours of pc labs not convenient	32.4
Internet access is limited within PC labs	21.6
Attend UOM for lectures only	51.7
Hardly any time to use labs at UOM before lectures	69.0
Hardly any time to use labs at UOM after lectures	62.1

Hence, the majority of mature students do have access to the Ilearn although not through the technological facilities on the University of Mauritius campus which they felt should be available until 8.00 pm. The flexibility in availability and access to reliable and up to date technological resources and infrastructures should be carefully managed since it will affect the users' perceived ease of use of the Ilearn platform and the asynchronous conferencing facilities (Williams 2002; Tu and Corry 2003; Venkatesh et al. 2003; McPherson and Nunes 2006).

Perceived Ease of Use and Perceived Usefulness of Ilearn Asynchronous Conferences

The statements in (Table 4) indicate the respondents' perceptions of the determinants of perceived ease of use and perceived usefulness of Ilearn asynchronous conferences. There are 24 statements among which eight pertain to perceived ease of use and 16 refer to perceived usefulness. In addition, the Cronbach's Alpha is 0.786 indicating a rather good internal consistency for the whole set of items since by convention a good set of scale items should be 0.8 or higher (Bernard 2000).

The majority of respondents found the Ilearn asynchronous conferences to be user friendly (mean = 4.1). This is confirmed by the fact that they did not seem to have encountered many technical problems when using the Ilearn asynchronous conferences (mean = 2.4), and that they did not acknowledge availability (mean = 3.0) and reliability (mean = 3.1) of the Virtual Centre for Innovative Learning Technologies administrators' support to use Ilearn asynchronous conferences as being significant. Although very few respondents did expect troubleshooting support to be available during weekends, a majority of them do not seem to have experienced any external constraints, which would have hampered their perceptions of the ease of use of the asynchronous conferences (Venkatesh et al. 2003). However, they do not seem to consider the training received on the use of Ilearn asynchronous conferences as being extensive (mean = 3.1). Knowing the importance of training on increasing awareness, enhancing self-efficacy and reducing anxiety towards the technology, and thus increasing the users' motivation to use the technology, there seems to be a need to improve the effectiveness of training and induction on Ilearn (Taylor and Todd 1995; Venkatesh 1999; Venkatesh 2000; Chen et al. 2002). This lukewarm appreciation of the training received on Ilearn asynchronous conferences could be explained by the fact that

70.2 % of the respondents consider themselves to be fully conversant with the web technology (mean = 3.9), and that the majority of them do not believe that they have insufficient IT skills which could limit their involvement in the asynchronous conferences (mean = 1.7). Furthermore, they do not believe that they require new study skills to work with the asynchronous conferences (mean = 2.1). This can be explained by the fact that the majority of respondents are in the 20-30 years old range, and that almost 90% of the respondents came from the postgraduate programmes, which means that they must have had significant prior experience and exposure with computers and the Web. Hence, the respondents seem to have a high level of self-efficacy, thus perceiving asynchronous conferencing as easy to use, which enhanced their confidence in using it (Venkatesh 2000; Venkatesh et al. 2003).

The majority of respondents perceived the Ilearn asynchronous conferences as useful. They seem to have experienced much user support from the lecturer towards improving their performance since the lecturer was regularly interacting with them on the asynchronous forums (mean = 4.3) and providing them with useful feedback (mean = 4.2). This indicates that the lecturer was performing his moderator role (Williams 2002), although some students did express the need for more commitment from the tutor on the asynchronous forums. However, since these programmes were operating in the context of regular face to face sessions supplemented with online activities, the lecturer had to balance his workload to be effective in his overall responsibilities (McPhreson and Nunes 2006). In addition, the asynchronous conferences helped them acquire knowledge relevant to their courses (mean = 4.3) and improve their performance in assessments (mean = 3.8). So these contribute to enhance the near term usefulness of Ilearn asynchronous conferences (Chau 1996). However, the use of asynchronous conferences did not seem to have had a significant impact on transferable knowledge (mean = 3.0) and skills (mean = 3.2) acquired towards performing their jobs in their respective workplaces. In addition, the respondents did not seem to acknowledge improvements in IT proficiency level resulting from the use of the asynchronous conferences (mean = 2.8). These findings suggest that the respondents view the use of the asynchronous conferences as being relevant to just their courses, and that their workplaces might not have a strong learning culture in place and have not yet adopted an e-learning strategy (Vencatachellum and Munusami 2005).

For the majority of respondents, social influences did have an impact on perceived usefulness and use of the asynchronous conferences. It was found that the asynchronous conferences allowed them to share knowledge with their peers (mean = 4.2), to acquire knowledge (mean = 4.1), and to engage in collaborative learning (mean = 4.2), thus improving the bonds between them (mean 3.8). These demonstrate that long-term usefulness was enhanced, which reinforced the use of the technology (Chau 1996). Although a majority of respondents (81%) agreed that their participation to the asynchronous conferences was compulsory, the low mean (3.2) suggests that they did not perceive this constraint as significant. The respondents did not seem to participate to the asynchronous conferences because of their friends (mean = 2.1) and limitations did not seem to surface in relation to their classmates (mean = 2.6). Hence, the respondents did not suffer from any learner inhibitions, in their participations to the asynchronous forums, that could result from subjective norm and social comparison (Venkatesh and Davis 2000; Williams 2002). This reinforced the fact that social influences indirectly influenced intention to use the technology via perceived usefulness, confirming the learners' perception of being in a voluntary context with the Ilearn asynchronous conferences (Venkatesh and Davis 2000;Venkatesh et al. 2003). Finally the respondents seem to prefer the short topical asynchronous conferences than the

longer ones (mean = 3.4) confirming that asynchronous conferences, in management education programmes, should be structured and spread over one to two weeks to encourage collaborative learning and social interactions (Williams 2002).

Incentives, in the form of extrinsic motivation, provided to participate in the asynchronous conferences seem to have played some part in enhancing the users' perceived usefulness of the technology, since they acknowledged that the marks allocated influenced their involvement (mean = 3.4). However, some students were suggesting that the amount of marks need be increased for asynchronous conferences, and even proposed that they account for 50% of the continuous assessment marks compared to the 15-20% currently. In addition, since acquiring knowledge was predominant for the respondents (mean = 4.1), attainment of course related and personal outcomes as a result of adopting the technology seem to influence perceived usefulness (Venkatesh and Davis 2000; Venkatesh et al. 2003). This confirms that both intrinsic and extrinsic motivators are useful in encouraging the use of asynchronous conferences.

Therefore, it can be seen that the determinants of both perceived ease of use and perceived usefulness did have an impact on the mature students' use of the Ilearn asynchronous conferences. Hence, understanding and implementing the concepts surrounding the Technology Acceptance Model can only help in improving mature students' participation and use of computer mediated communications like the Ilearn asynchronous conferences. So these findings raise some practical implications and recommendations for further improvements in use of the Ilearn asynchronous conferences in the management education programmes at the University of Mauritius.

Table 4: Perceived Ease of Use and Perceived Usefulness

	Strongly Disagree %	Disagree %	Neither Agree Nor Disagree %	Agree %	Strongly Agree %	Mean
Perceived Ease of Use						
The asynchronous conferences on Ilearn are user friendly	2.7	5.4	10.8	45.9	35.1	4.1
I was trained extensively on the use of Ilearn asynchronous conferences	5.4	13.5	54.1	24.3	2.7	3.1
VCILT administrators were available in supporting me to use Ilearn asynchronous conferences	10.8	16.2	45.9	18.9	8.1	3.0
VCILT administrators were reliable in supporting me to use Ilearn asynchronous conferences	10.8	13.5	43.2	24.3	8.1	3.1

Statement						
I encountered many technical problems when using Ilearn asynchronous conferences	21.6	40.5	18.9	10.8	8.1	2.4
I am fully conversant with the web technology	2.7	2.7	24.3	37.8	32.4	3.9
I have insufficient IT skills limiting my involvement in the asynchronous conferences	59.5	18.9	18.9		2.7	1.7
I need new study skills to work with the asynchronous conferences	37.8	27.0	21.6	13.5		2.1
Perceived Usefulness						
The lecturer was regularly interacting with participants on the asynchronous conferences encountered in the course	5.4		5.4	35.1	54.1	4.3
The lecturer's interventions on the asynchronous conferences provided useful feedback	5.4		13.5	32.4	48.6	4.2
The asynchronous conferences were useful to acquire knowledge relevant to the course	2.7	2.7	8.1	32.4	54.1	4.3
The asynchronous conferences were useful to acquire knowledge for my job in the workplace	10.8	18.9	40.5	16.2	13.5	3.0
The asynchronous conferences help me acquire skills that I have then used in my job	10.8	16.2	29.7	27.0	16.2	3.2
The asynchronous conferences facilitated sharing of knowledge with my classmates	2.7	5.4	8.1	37.8	45.9	4.2
The asynchronous conferences encouraged collaborative learning	5.4		13.5	32.4	48.6	4.2
The asynchronous conferences allow me to bond with my classmates	8.1	5.4	18.9	35.1	32.4	3.8
The asynchronous conferences helped me perform in the module assessment methods	5.4		24.3	45.9	24.3	3.8
My participation to the asynchronous conferences was greatly influenced by the marks allocated to this activity	8.1	5.4	37.8	40.5	8.1	3.4
I view my participation to the asynchronous conferences as a way of acquiring knowledge	2.7	8.1	8.1	43.2	37.8	4.1
I participated to the asynchronous conferences because they were compulsory for the module	2.7	8.1	8.1	43.2	37.8	3.2

I participated in the asynchronous conferences because my friends were doing so	40.5	24.3	27.0	5.4	2.7	2.1
The asynchronous conferences have brought to light my limitations in relation to my classmates	18.9	16.2	51.4	10.8	2.7	2.6
The use of the asynchronous conferences improved my IT proficiency level	27.0	5.4	32.4	29.7	5.4	2.8
Participation to the short topical asynchronous conferences are more interesting than the semester long general asynchronous conference	10.8	10.8	35.1	18.9	24.3	3.4

Recommendations and Conclusion

In order to improve the mature students' use of the Ilearn asynchronous conferences, there is a need to pay attention to the factors contributing to enhancing their perceived ease of use and perceived usefulness of the technology. The study did demonstrate that the University of Mauritius has to improve access and availability of technological infrastructure on campus to support blended learning programmes. Since the mature students access the University, mainly for lectures, and do not have time to use Ilearn through the personal computer laboratories with their current opening hours, we might have to consider extending these hours both during week days and week-ends. Furthermore, flexible access to Ilearn, during the week-ends, is crucial since it is on those days that the mature students will make most use of the technology (Williams 2002). Upgrading the technological infrastructure could be useful to incorporate other forms of computer mediated communications like synchronous discussions or chats. Technical support and extent of training from the Virtual Centre for Innovative Learning Technologies administrators need be upgraded to improve troubleshooting services and increase awareness about the capabilities of Ilearn in supporting learning and personal outcomes. Training and induction programmes should be about refining the mature students' skills on Ilearn asynchronous conferences towards making them more self-directed learners since they already seem to possess a high level of self-efficacy and confidence in their IT or Web proficiency. Lecturer support, as an e-moderator, to the mature students on Ilearn asynchronous conferences could be improved with a balanced workload and responsibilities in particular when dealing with blended learning programmes (McPherson and Nunes 2006). The asynchronous conferences must be structured and designed to maintain a high level of collaborative learning, and social interactions, through the setting up of more short, usually spread over two weeks, and topical discussion forums. These asynchronous conferences could be compulsory at the start and gradually migrating to voluntary participation with learners themselves more engaged in moderation with the support of the lecturer. This will have implications for incentives towards the use of the asynchronous conferences, in particular the amount of marks allocated to this online activity. With the students taking more responsibilities in their learning and for acquiring and sharing knowledge through the asynchronous conferences, the percentage of marks provided could be increased to 50% of the continuous assessment marks. Peer assessments could be considered for the asynchronous conferences with the Ilearn generated statistics being made available to

the students, and the lecturer clarifying the expectations and evaluation criteria in the induction session and throughout the running of the asynchronous conferences. Finally, the University of Mauritius could engage in partnerships with the public and private sector organisations to develop and deliver tailor made e-learning programmes so that the mature students could value more the transferable skills and knowledge acquired through asynchronous conferences.

In conclusion, computer mediated communications in blended management education programmes can prove to have a significant impact on upgrading the capabilities of mature students and commit them to continuous learning. However, the learners' perceived ease of use and perceived usefulness of the computer mediated communications should be closely managed to ensure successful adoption and use of the technology. Therefore, the determinants of perceived ease of use and perceived usefulness of asynchronous conferences should be continuously monitored and improved.

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