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Towards Culture Influenced Virtual Learning Environment Trust (CIVLET) Framework

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Abstract: At present the common model of virtual education involves the delivery of courses via the internet as compliment to traditional classroom learning. This model is widely adopted in traditional institution. In a more advanced model, all courses are offered solely through the internet, and on satisfactory completion students are awarded degrees. A virtual learning provider still has to find a way to earn students' trust. This paper presents the framework for modelling trust in virtual learning environment. Our propose framework relies on existing behavioural related information system research theories. However, since participants of virtual learning environment are often geographically distributed and the trust dimensions vary, we propose the inclusion of culture as a key construct in our framework.

1. Introduction.

As global internet access continues to grow, so does the prospect of students enrolling in online classes (Amant, 2004) and also the challenges faced by virtual learning providers. Virtual learning providers have to convince would-be students just like any other online consumer that their product in this case knowledge is viable and trustworthy. From the students' standpoints, issues they consider before enrolling in virtual learning education are highly subjective varying within particular student, culture and race. Having noted this, virtual learning providers still have to find a way to earn students' trust. According to Johnston and Warkentin (2004), if companies are to enjoy long-term success in the Internet marketplace, they must effectively manage the complexity and multidimensional process of building online consumer trust. This challenge also applies to virtual learning providers and is much more daunting. While online marketplace have secured technical infrastructure like reliable encryption, digital certificates which somehow aid create virtual trust environment for customer; the online trust in education is driven by different elements. Past researches have strived to decomposed the elements that constitute online trust with a view of designing a generalised online trust model (Gefen, 2002, Kim et al., 2003, Vishwanath, 2004, Johnston and Warkentin, 2004, Salam et al., 2005, Wang and Emurian, 2005, Zhang and Zhang, 2005). Understandably most of these efforts have been centred on online trust with regards to only buying and selling of commodities or services over the internet but not on virtual education.

2. Virtual Learning

The tremendous growth in the number of internet users and the enormous potential of electronic commerce via the internet have attracted merchants to conduct their business online (Wang and Emurian, 2005). Recently

learning institutions have joined the ranks of businesses offering services (education) via the internet. Some argue that this is closely linked with recent developments in technology, particularly the digital revolution. For instance the increasing availability of affordable hardware and software for both user-end (student) and producer-end (institution) facilities have contributed to when, how and what students choose to learn and how they are delivered. Others argue that it is closely linked to existing open and distance education structures, systems and approaches (Department of Education Science and Training, 2003). Public and private schools increasingly view students as consumers and market their institutions (Gomes and Murphy, 2003), as a result most institutions adopt some of the business practises of the successful companies.

At present the common model of virtual education involves the delivery of courses via the World Wide Web or internet as compliment to traditional classroom learning. Most institutions now have such facilities, common once are WebCT, Blackboard, Vista, First class, Top Class, etc. Students are provided with course materials including video, audio, assignments, etc and are able to communicate with lecturers and via emails and messages boards. This model is widely adopted in traditional institution and it is often the stepping stone to more complete virtual learning environment. In a more advanced model of virtual learning environment, all courses are offered solely through the internet, and on satisfactory completion students are awarded degrees. The "virtual classrooms" replace the solid buildings where students would attend lectures, at set times in set rooms (O'Donoghue et al., 2001). In both models, there are unique advantages for all involved. Students are able to gather information at their convenience; reduced building resource costs and the availability of teaching support all day (O'Donoghue et al., 2001).

Clark (1983), states that technologies are merely vehicles that deliver instruction, but do not influence students' achievement. He noted that, meta-analysis studies on media research have shown that students gain significant learning benefits when learning from audio-visual or computer media, as opposed to conventional instruction; however, the same studies suggest that the reason for those benefits is not the medium of instruction, but the instructional strategies built into the learning materials. On the same note, Schramm (1977), suggested that learning is influenced more by the content and instructional strategy in the learning materials than by the type of technology used to deliver instruction. This then suggest that uprising trends in VLE development is as result of available and affordable for ends (user and producer).

Another issue that has been at the forefront of implementing virtual learning environment has been the issue of trust. While virtual learning sector might be able to offer goods and quality education comparable to that of a physical academic environment, the trust of potential students with regards to receiving good quality education still has to be earned before they enrol and maintained till completion of the course. As in other teaching environments, effective learning depends on trust and trust depends on honest and ethical behaviour (Gabb, 2001). To build online trust is formidable task because trust is a complex, abstract, difficult to define and to identify all the elements that construct it (Wang and Emurin, 2005). Again trust could be

subjective varying across persons, race and culture. Clearly the dynamics of virtual education environment is different from any other online based product. Like any online business transactions, participants of virtual learning environment are often geographically distributed but there is recurrent need of communication between the teachers and students. As noted by (CIFE), in addition to spanning geographic distances, students enrolled in virtual education are likely to be composed of people from different cultures with different basic assumptions. These differences often affect communication between members of the VLE and to some extend how perceived trustworthiness is formed and maintained. CIFE posed that trustors who have less personal communication with a trustee will have lower perceived trustworthiness for that trustee than for trustors with whom they have more personal communication.

Towards modelling online trust past researches have proposed a variety of constructs to measure trust. For instance, Mishra (1996), relied on constructs like competence, openness, concern and ability to model trust. Barber (1983), argued that persistence, technical competence and fiduciary responsibility are important to trust models. Rempel et al., (1985) uses predictability, dependability and faith while Mayer et al., (1995) relied on benevolence, ability and integrity. But for this research we model trust relying on constructs from existing behavioural dependent information systems theories. In (Omosule et al., 2007), TRA, TPB, TAM and ECT were identified as some of the behavioural dependent information system theories.

3. Proposed CIVLET Framework

Virtual learning trust could be developed as a result of the constructs of these identified behavioural related IS research theories combined with culture, usability (perceived ease of use, usefulness and accessibility) and relationship development/ management.

3.1 Culture:

Working together often involves some level of interdependence, and people must depend on others in various ways to accomplish their personal and organisational goals (Mayer et al., 1995). Trust dimensions in virtual learning environment vary considering the fact that participants are normally from diverse cultural background and are situated at different geographic locations.

Culture is defined as the underlying value framework that guides an individual's behaviour; its reflected in an individual's perception of observed events, in personal interactions, and in the selection of appropriate responses in social situations (Johanson, 2003).

Johanson (2003) summarises the implications of culture in the following five points: -

i. Culture is not only a fundamental dimension of any society but a very visible force affecting market demand as well as managerial behaviour.
ii. Culture tends to affect strategy implementation and execution, "how" things are done, more than strategy formulation.
iii. Our respective culture has given us certain useful behavioural skills. In new situations, those skills may be of

little use and even be counterproductive.

iv. In negotiations, attempting to adapt completely to a new culture may be counterproductive since behaviour is unexpected and might erode trust.

v. Cultural differences are examples of market entry barriers and can be overcome with sensitivity, hard work, and a superior product of service.

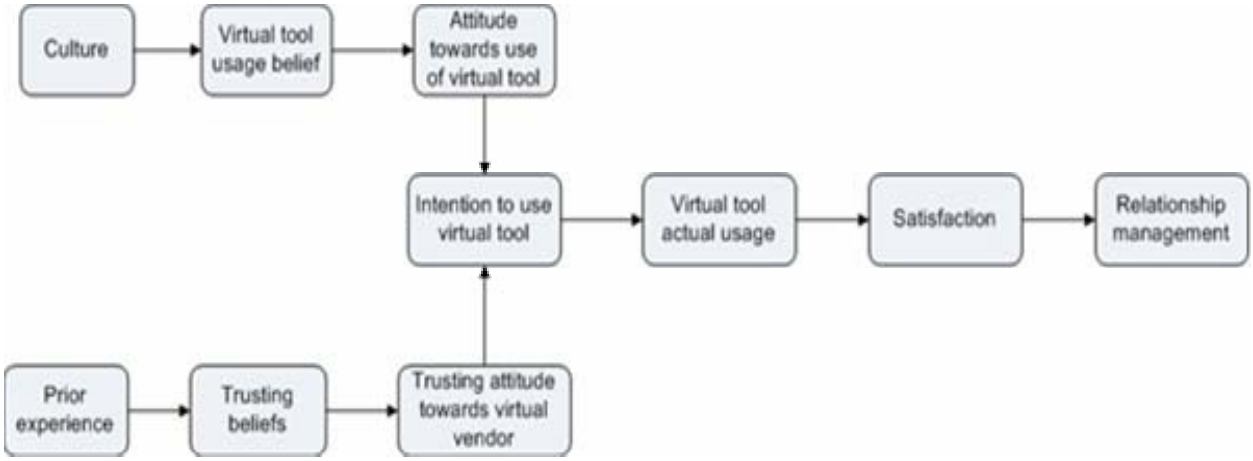

Figure 1: A proposed Framework for Culturally Influence Virtual Learning Environment Trust

In Clark's review of national character, he described culture "as a distinctive enduring pattern of behaviour and /or personality characteristics" (Clark, 1990) cited in (Doney et al., 1998). (Hofstede, 1984) described culture as the collective programming of the mind which distinguishes the members of one group from another. From an information system (IS), we see culture as a primary key identifying behaviour. Primary key in the sense that culture is stable and does not change through time and it is unique to each group of individuals. Members of each cultural group exhibit similar behaviours.

3.2 Usability (Perceived usefulness, ease of use and ease of accessibility):

Usability as referred to in this paper is the Perceived usefulness, ease of use and ease of accessibility. Perceived usefulness is the prospective user's subjective probability that using a specific application system will increase his or her task performance (Brosnan, 1999). Perceived ease of use refers to the degree to which the prospective user expects the target system to be free of effort (Davis et al., 1989) cited from (Brosnan, 1999) while perceived ease of accessibility is the degree to which individual users are put into consideration during virtual tools development that is the degree to which users feel the system is user centred.

Using students' webCT (virtual tool) usage for example, using the concept of TAM we would be measuring whether students could easily use ('ease of use') webCT, how useful its contents and to what degree do the students feel that the interface properties is actually accessible to them. Measuring these

predictors combine with their attitude (from TRA) allows us predict the students intended use of webCT (virtual tool) and its actual usage.

3.3 Attitude towards Virtual environment/tools use:

As an example, supposing we aim to predict whether students intend to use webCT facility. Theory of Reasoned Action allows us to measure whether students are in favour of using webCT ('attitude'); and how much students feel pressured to use it ('subjective norm'). Likely source of pressure could be from the tutor, coursework or pressure to pass an examination. By measuring these 'predictors' (Francis et al., 2004), TRA posits that we would be able to measure the students' intent regarding the use of webCT facility.

3.4 Intention to use Virtual environment/tools:

Extending the students' webCT usage example, using the concept of TAM students could perceived that they could easily use ('ease of use'), useful and have access (user-centred) to webCT (virtual tool) combine with their attitude (from Theory of Reasoned Action) lead to students intended use of webCT (virtual tool) and its actual usage.

3.5 Actual use of Virtual environment/tools:

Again extending the students' webCT (virtual tool) usage example, using the concept of TAM we would be measuring whether students could easily use ('ease of use') webCT and how useful its contents would be to them. Measuring these predictors combine with their attitude (from Theory of Reason Action) allows us predict the students intended use of webCT (virtual tool) and actual usage.

3.6 Relationship Management:

The elements of pre and post virtual environment usage/communication; Information contents, organisational policy, security and privacy need to be well managed with the students. From the students' webCT (virtual tool) usage example, student expects to pass examinations hence they use webCT to access information contents of the organisation example in the course contents, organisation policy and organisational observed security and privacy measures combined with students expectation of prompt responses (feedback) which are of high quality and where all these are reliable, then perceived performance equals expectations hence the students' satisfaction and then reuse, which is trust in virtual environment.

4. Conclusions

Advancement in information technology is responsible for the uprising in the number of institutions offering virtual learning environment. While virtual learning sector might be able to offer goods and quality education comparable to that of a physical academic environment, the trust of potential students with regards to receiving good quality education still has to be earned before they enrol and maintained till completion of the course. Like any online business transactions, participants of virtual learning environment are often geographically distributed thus making trust difficult to manage. The proposed

framework integrates cultural/geographic variations that might exist between users of virtual education learning facilities. It also includes usability (Perceived usefulness, ease of use and ease of accessibility), attitude towards use, Intention to use tool, actual tool use and relationship development/management. Most of these constructs have been used in modelling online trust although in e-commerce framework. At present, the necessary data needed to support the proposed framework is being analysed.

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