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ABSTRACT

This study develops a conceptual model of existing student distrust regarding the quality of online courses and instructors and estimates the impact of perceived distrust on student learning performance. By examining the constructs, professors can obtain new opportunities to build mass customization and a portfolio of educational experiences for students to better deliver their knowledge online.

KEYWORDS

Online learning, Distrust, Learning Performance

INTRODUCTION

Although several studies that compare learning performance between media-based and traditional lecture courses find very similar level of achievement and satisfaction of students (Hiltz 1993; Johnstone & Krauth 1996; Sankaran, Sankaran, & Bui 2000), recent studies report emerging negative student emotion in web-based distance education (Hara & Kling 1999). In their study, Hara and Kling (1999) suggest that students' persistent frustrations are from three interrelated sources: lack of prompt feedback, ambiguous instructions on the Web, and technical problems. Besides the emerging negative emotion of students in online education programs, retention rates for distance education are also found to be lower than those for traditional on-campus programs (Stover 2005), suggesting that students may distrust the quality of online education.

Compared with trust, distrust has not been widely discussed in the virtual environment, and particular in the online learning process. Being separate and distinct, trust and distrust are not just two ends of a single bipolar construct as in the traditional view. Low distrust does not necessarily mean high trust, while high distrust does not equal low trust; trust and distrust can even co-exist when relationship partners have both separate and shared objectives (Lewicki, McAllister, & Bies 1998). Given this perspective, distrust should be treated as an issue as important as trust in research of human behavior. However, the existing literature (Burge 1994; Hara & Kling 1999) on computer-mediated communication in higher education hardly

addresses students' negative emotions in their distance learning process. Actually, students could play polite to their instructors, or may not have opportunities to express their frustrations, or tend to make positive comments because of the relief of finishing a course and their reluctance to hurt their instructors' feelings (Hara & Kling 1999). Thus, distrust could be a more sensitive agency measurement in online education performance to capture students' intuitive judgments on course quality and instructor professionalism than trust.

So far, few published empirical studies about online learning have investigated the student distrust factor, such as the impact of distrust regarding course quality (in terms of course design and Web site structure) and instructors on learning performance. Prior studies typically focus on a direct relationship between student characteristics and learning performance (Hiltz 1997; Leidner & Fuller 1997; Lu, Yu & Liu 2003), or a relationship between instructional strategies and learning performance (Hiltz 1997) without considering the learning context. Some studies (Lee, Cheung, & Chen 2005; Saadé & Bahli 2005) attempt to use the technology acceptance model (TAM) (Davis 1989) and the concept of cognitive absorption (CA) to explain individual attitudes and behaviors in using internet-based learning systems, while ignoring the relationships among technology and relevant instructional, psychological, and environmental factors that will enhance learning outcomes. Responding to a call for greater depth and breadth of technology-mediated learning research (Alavi & Leidner 2001), this paper develops a conceptual model of existing student distrust regarding online education, and estimates its impact on learning performance.

LITERATURE REVIEW

Properties of Student Distrust in Online Education

Lewicki, McAllister, and Bies (1998) argue that trust and distrust are separate but linked dimensions. Bringing this notion into the online education area, trust and distrust as student attitude can be defined as *a set of judgments made by the student, based on his/her personal traits, the pervious experience learned from being a student in either online or on-campus class, and from the perception of some particular instructors.*

According to McKnight and Chervany (1996), trust can be categorized as Impersonal/Structural, Dispositional, and Personal/Interpersonal. *Dispositional* is excluded from our study because it is particularly important in the initial stages of relationship-building in which people have little specific information to assess others' trustworthiness (Mayer, Davis, & Schoorman 1995), while our study focuses on existing student distrust at the post-learning stage in which a personal/impersonal relationship has been built up. Contrary to Dispositional, *Impersonal/Structural* and *Personal/Interpersonal* are situation-specific (McKnight and Chervany 1996). Impersonal trust refers to beliefs about a specific context, whereas personal trust means that one person trusts another person. Interpersonal trust can be explained as mutual trust among people. Since trust and distrust are defined in reciprocal terms (Lewicki et al. 1998), the same categorization of trust can be applied to distrust theoretically. The concept of distrust in this study consists of two dimensions: impersonal and personal distrust.

Impersonal Distrust: Institution-based

Institution-based trust refers to one's sense of security from impersonal structures inherent in a specific context (Shapiro 1987; Zucker 1986). McKnight, Cummings, and Chervany (1998) discuss two types of institution-based trust: structural assurances and situational normality. Structural assurances refer to safeguards such as regulations, guarantees, legal recourse, and contracts (McKnight et al. 1998; Shapiro 1987; Zucker 1986). However, if there is a lack of such structural assurance safeguards acting as a "safety

net" (McKnight & Chervany 1996), one is likely to feel diffident to depend on others. This attitude is termed as structural diffidence in the current study to measure institution-based distrust. Situational normality trust is the perception of how normal (Baier 1986) or customary (Lewis & Weigert 1985) things appear to be. Given this definition, distrust may be triggered when a situation is abnormal, as trust disappears in such situations (McKnight et al. 1998). Situational abnormality therefore is another possible factor to measure institution-based distrust. In the context of online education, institution-based distrust is based on the design of the web course. Students would experience situational abnormality when the course Web site has a questionable interface and requires students to engage in unexpected learning processes. Students would have structural diffidence when the course technology support is ineffective to generate student confidence in online learning.

Personal Distrust: Cognition-based and Affect-based

According to Lewis and Weigert (1985) and McAllister (1995), personal trust can be divided into cognition-based trust and affect-based trust. Cognition-based trust, as a rational view of trust, is associated with integrity, competence (Mayer et al. 1995), responsibility (Cook and Wall 1980), and reliability (McAllister 1995). If people find no "good reasons" to make trust-related decisions, cognition-based distrust may occur as a result of perceived unreliability, non-integrity, incompetence, and lack of responsibility.

Affect-based trust has more emotional connotations, and it is related to issues like care and concern (McAllister 1995), benevolence, altruism, commitment, and mutual respect. Affect-based trust is distinct from but complementary to its cognitive base (Lewis & Weigert 1985). The counterparts of elements in affect-based trust are only able to represent "low trust" rather than distrust. According to Lewicki, McAllister, and Bies (1998), high trust is characterized by hope, faith, confidence, assurance, and initiative, while low trust is characterized by no hope, no faith, no confidence, passivity, and hesitance. By contrast, high distrust is characterized by fear, skepticism, cynicism, wariness and watchfulness, and vigilance, while low distrust is characterized by no fear, absence of skepticism, absence of cynicism, low monitoring and no vigilance.

Student Distrust and Learning Performance

Figure 1 illustrates the research model used in this study. The construct of existing student distrust is central to the structure of Figure 1. The level of existing distrust, which is driven by student characteristics, regarding course quality and the instructor is proposed to influence student learning outcomes.
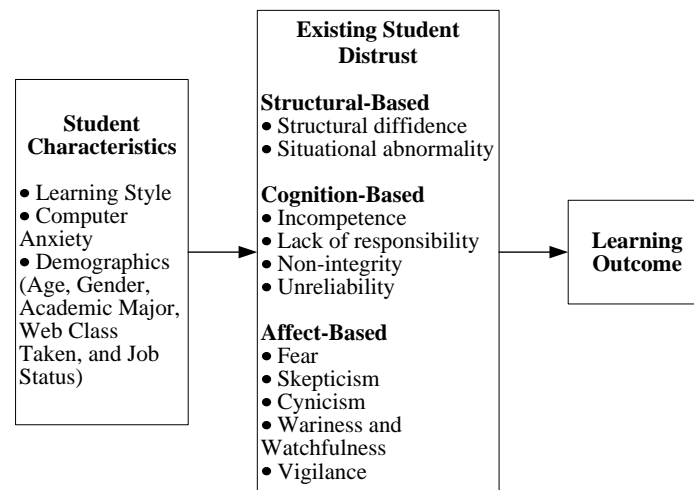
Figure 1. Student Distrust in Online Education: Theoretical Model

Antecedents of Distrust

Researchers have documented the importance of incorporating customer characteristics into trust objects in e-commerce, reflecting buyer's belief and confidence (Akhter 2003). We thus expect that student characteristics, compared to customer traits, should be the antecedent of distrust.

Learning Style

Two learning styles, field independence and dependence have been examined in the previous study. Given the perceived inadequate opportunities for personal contacts, field dependent students are found to be under-performing to field independent students (Luk 1998). Given that online courses provide less rich communication (generally without face-to-face communication) to students than on-campus courses do, field dependent students may have more negative attitudes toward online education than field independent student. We hypothesize:

> H1a: Field-dependent students should exhibit higher levels of distrust toward course quality and instructors in online education than field-independent students.

Computer Anxiety

Computer anxiety means that people have fears of losing important data or making other possible mistakes through computer use (Sievert et al. 1988). Bandura (1997) finds that individuals experiencing higher anxiety report lower levels of efficacy, while reporting lower levels of anxiety as levels of efficacy increase. Given individuals who possess high computer self-efficacy are more likely to form positive perceptions of IT (Venkatesh and Davis 1996), students with lower level of computer anxiety may have more confidence in their capabilities and therefore exhibit lower levels of distrust regarding course quality and instructors.

> H1b: Students high in computer anxiety should exhibit higher levels of distrust toward course quality and instructors in online education than students low in computer anxiety.

Demographics

Student demographic factors, such as age, gender, academic major, web class taken, job status, and others have been used to measure student online learning effectiveness in the previous study. Adult learners (age 25 and up) are found to perform better in web-based class (Tucker 2000). Females are more persistent in online education than males (Proost 1997). A learner's educational background has an important influence on students' views on web-based learning (Cano 1999). Since first-time students lack necessary independence and time-management skills (Ehrman 1990), the number of web classes taken may significantly affect their future success in online education. Full-time or part-time employment is found to be negatively associated with persistence in distance education (Astin 1991).

> H1c: Student demographic factors, in terms of age, gender, academic major, web class taken and job status, are significant predictors of existing levels of student distrust toward course quality and instructors in online education.

Distrust and Learning Performance

Prior research reports that the level of trust is positively associated with performance in virtual environments. Kanawattanachai and Yoo (2002) find that high-performing virtual teams are better at developing and maintaining the trust level throughout the project life. In the context of online education, if students do not trust the course quality and do not believe their instructors care about them, their academic motivation will be decreased and the likelihood of poor performance increased. Weinstein, Madison and Kuklinski's (1995) study on teacher expectations finds that student distrust has a powerful effect on student performance. According to the Metropolitan Life annual survey on teaching, 53% of students with poor performance state that they trust their teachers only at a litter or not at all (Metropolitan 2000). Given that distrust may restrain students from engaging in online learning and gaining better performance, we hypothesize:

> H2: Existing levels of student distrust should have a negative effect on student learning performance.

CONCLUSION AND DISCUSSION

This paper develops a conceptual model of existing student distrust regarding online education and estimates its impact on learning performance. Based upon the subsequent empirical evidence for the proposed model, online instructors will be able to enhance their understanding of the influence of contextual factors on student distrust. Moreover, as suggested by Hirschheim (2005), online instructors can obtain new opportunities to build mass customization and a portfolio of educational experiences for students, and thus better deliver their knowledge.

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