

ANTECEDENT OF BRAND TRUST IN ONLINE TERTIARY EDUCATION: AN ASIAN PERSPECTIVE

Kim-Choy Chung

Kazakhstan Institute of Management, Economic and Strategic Research, Almaty,
Kazakhstan

kimchung@kimep.kz

ABSTRACT

The advent of the Internet/World Wide Web and its application to the field of education has provided new opportunities for teaching and learning (in the virtual mode). To cater for the large number of potential new students worldwide, many universities and “for-profit” education providers have introduced online degrees. However, Internet-based education has not attracted as many students as was expected. Further, studies on brand impact on a student’s choice of online tertiary providers are scarce. This study suggests that trust is the antecedent of brand choice for online tertiary education, because trust acts to decrease the perceived risk of using a virtual service. Surveys from high school/junior college students in Singapore, Malaysia and Brunei using mall-intercept method support the notion that brand trust in online tertiary education is related to risk aversion, contingent on institutional and courseware design assurance factors. This tri-nation study also reveals that public opinion (friends/family’s opinion about online tertiary education, industry support, mouth-to-mouth communication via alumni networks) and Website quality enhanced learners’ experience and trust in an online tertiary brand.

Keywords: Online tertiary education, brand trust

INTRODUCTION

Rapid proliferation of the Internet and demand for knowledge in newly emerging economies has created opportunities for universities to improve their finances by offering online tertiary courses. Additionally, increasingly programs are offered partially or fully online in the international teaching environment due to rising costs of conventional education provision and enrolment management issues (Peltier, Dargo & Schibrowsky 2003; Ross 2004). The United States of America (Allen & Seaman 2006), United Kingdom (Souleles 2004) and Australia (Kenny 2003) recorded increases in the popularity of online degree courses.

By comparison, online degrees have not been popular in Asia. In Brunei, online degrees had a slow start, needing time to establish their reputation for quality offerings and because of the lack of resources (Leong 2006). A study by Chung and Ellis (2003) showed a generally low acceptance of online tertiary education in Singapore. This is despite several Singaporean studies (Tan & Lambe 2002; Cheung & Hew 2005) indicating favourable outcomes of online learning. Similarly, Alhabshi (2002) indicated that the Internet-based degree has not attracted as many students as

had been expected in Malaysia, culturally similar to Singapore and Brunei (in terms of population ethnicity, Table 1).

TABLE 1: POPULATION ETHNICITY OF SINGAPORE, MALAYSIA, AND BRUNEI

Country	Malay (%)	Chinese (%)	Indian (%)	Indigenous (%)	Other (%)
Malaysia (25 million, 2004 census)	50.4	23.7	7.1	11	7.8
Brunei (0.48 million, 2004 census)	66.3	11.2	1	3.4	18.1
Singapore (3.2 million, 2000 census)	13.9	76.8	7.9	-	1.4

Source: CIA-Factbook (2009)

** Note: The indigenous minority tribal groups in Brunei are the same as in the neighbouring Malaysian states of Sabah and Sarawak.*

The main reason for the lack of enthusiasm for online degrees in Singapore (Tan & Lambe 2002; Chung & Ellis 2003) and Malaysia (Alhabshi 2002) is the much-preferred method of face-to-face teaching and learning. There is still a lack of confidence among students, parents and educators that online education could be an effective medium for imparting knowledge/skills. In Brunei, the implementation of online learning is usually at the initiatives of the private institutions (Suhaimi & Lim 2007).

In addition, the dramatic globalisation of the world economy over the last two decades has an impact on higher education. Where once universities competed for students, faculty and funds within a national context, today they compete internationally. The overall effect of these technological advances and competition is an increasing variety of niche-oriented, multidisciplinary programs, which are made as attractive as possible to prospective students to increase enrolments (Stensaker 2005). This market-oriented approach of universities has resulted in students facing a variety of education choice/information. For many students today, their undergraduate degree is a large investment that requires them or their families to incur considerable debt before graduating (Moore 2004). With financial outlays increasing, even more importance is placed on the cost benefits and choice of tertiary education. That is, students are faced with a choice of course type, study mode (online or traditional classroom), tertiary provider or even tertiary destination.

Branding can assist consumers in identifying products and therefore reduce search costs; provide an assurance of the quality associated with a particular brand reducing perceived risk; and give psychological rewards of prestige and status, helping to reduce social and psychological risks that are associated with ownership/use of a socially inappropriate product (Berthon, Hulbert & Pitt 1997). As with physical product consumption, the brand with its underlying appeals can function as a route map for students through the bewildering variety of choices/information about tertiary education in our increasingly networked society.

Despite the plethora of studies about online education, little has been written within the marketing paradigm. In particular, there is a void of study of trust within the context of consumer-brand relationship in student's choice of online tertiary education. This study addresses this void and aims to identify the antecedent of brand trust in online tertiary education in Singapore, Malaysia and Brunei. Online tertiary education is defined here as university's undergraduate and post-graduate education via the Internet/Web.

LITERATURE REVIEW

Characteristics of online tertiary education

Kearsley (2000) identifies several major themes that shape online education: connectivity between students and instructors through email and conferencing; time and spatial flexibility (learn anywhere any time); shared knowledge (rich information on the internet); multi-sensory experience via multimedia technology; student-centeredness; and virtual community.

Application of Internet-based technologies to tertiary education can be viewed as the synthesis of the traditional residential university setting with the distance learning university (Hutchison 1995). There are two common methods of using the Web for educational purposes: Web-assisted or Web-based. Web-assisted courses use the Web to supplement face-to-face teaching while Web-based courses utilise the Web as the sole delivery system (Finder & Raleigh 1998).

Typical Web-assisted or Web-based learning program (such as Blackboard) allows students and teachers to communicate with each other in real (synchronous) or asynchronous time. Besides email for communication, students can view, and access course materials, syllabuses, and other relevant databases. In addition, students are able to submit assignments online and view assignment results. Students may complete and submit tests for feedback, and undertake self-tests that do not require submission. There are also a variety of study tools which help students to file frequently used pages and materials, check relevant references, and search relevant courses and words. There are also tools to enable students to take notes, make class presentations and create their own home pages.

Advantages of online tertiary education

The "anywhere any time" and 'curriculum without walls' concepts of Web-based education mean that there is no spatial and time constraints (24 hours access) for study/learning, appealing to those (potential students) who have work or family commitments during the day. For academics, the Web has significant advantages over other media in delivering distance

education. It is effective for delivering virtual courses because of its global appeal, global access, easier updating of content, and information richness (Wulf 1996). Thus, Web-based education represents a convenient delivery system for teaching and learning (Dunning & Vijayaraman 2001).

Concerns and limitations of online tertiary education

Although online methodologies open up access to training because of their electronic reach, they may also present access issues for those students not be able to afford the cost of computer hardware and Internet access. Students living in regional areas may also have access difficulties where the telecommunications infrastructure is inadequate and where the information technology bandwidth makes the downloading of information slow and difficult (Cashion & Palmieri 2002; Kilpatrick & Bound 2003).

In addition, learners who suffer from procrastination and low self-motivation for independent learning may not be good candidates for online education (Naidu 1994; Berge & Huang 2004). For effective utilisation of the Web for education purposes, learners must be able to initiate active peer-to-peer discussion (Ruberg, Moore & Taylor 1996); deal with feelings of isolation and singularity (Dringus 1999); have awareness of content and audience (Dringus & Terrell 1998); and be able to evaluate their own learning process (Land & Hannafin 1996).

Further, the unusual demand for written communication in term of speed, volume and clarity in a Web environment presents a great potential for miscommunication and could make students unnecessarily frustrated and impatient, leading to low student retention in Web-Based Learning (Ragan & White 2001; Alexander 1999).

Rapid proliferation of certificate mills

Online education has grown into a multi-billion dollar industry, and in all probability unscrupulous educators may be lurking in cyberspace to take advantage of the uninitiated by providing low quality programmes or offering education certificates for a fee (certificate mill). The rapid proliferation of “certificate mills” is causing human resource managers and the general public to doubt the credibility of online degrees (Philips 2007). Unless issued by a well-known accredited university (tertiary brand), the quality of the online degree is often doubted (Chung & Ellis 2003).

Function of brand

The American Marketing Association (AMA 2007) has the following definition for brand: “A name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of other sellers. The legal term for brand is trademark. A brand may identify one item, a family of items, or all items of that seller. If used for the firm as a whole, the preferred term is trade name.” This definition suggests that brands are visually distinctive and that their role is to create an indelible impression.

Trust in consumer-brand relationship

Studies by Morgan and Hunt (1994), Fournier (1998) and Gurviez (1996) illustrate the importance of trust in developing a positive and favourable attitude, resulting in commitment to a certain brand in successful consumer-brand relationships. Consumer's trust in a brand contributes to a reduction of uncertainty in consumer purchases (Garbarino & Mark 1999; Gommans et al. 2001) and is believed to increase

customer loyalty (Fullerton 2003; Narayandas & Rangan 2004). Since online learners have no direct contact with their education providers, trust plays an important role in this online tertiary setting. Despite its importance, the concept of 'brand trust' has seldom been explicitly examined in education and consumer-brand literature. This is because diverse views in studying trust across different disciplines have resulted in various definitions, contributing to the lack of measurement consensus of the trust construct (Gefen et al. 2003; Delgado-Ballester & Munuera-Aleman 2001).

Multidisciplinary definition of trust

Economists view trust as either calculative (Williamson 1993) or institutional (Zucker 1986) while psychologists define trust in terms of trustors and trustees and focus upon internal cognition (Rotter 1967). Trust in the psychology discipline is generally discussed as a learned behaviour (Orbell, Dawes & Schwartz-Shea 1994) rather than an inherent personality trait (Gurtman 1992) and is established through a gradual process over time, evolving from past experiences or interactions (Rempel, Holmes & Zanna 1985; Willig 1997). A trustee can be a person, an organization, an object (product), or an idea (brand). Zand (1972) suggests integrity, benevolence and credibility of trustees as the underlying determinants of trust.

In sociology, trust is conceived as a property of collective units (ongoing dyads, groups), not of isolated individuals as is the practice in psychology (Lewis & Weigert 1985). Within this context, trust is assessed in terms of social relationships and social institutions (Lewis & Weigert 1985; Shapiro 1987). In the sociological treatment of trust, risk is calculated, so individuals may choose not to trust if the risk is too great (Hupcey *et al.* 2001).

Amongst social psychologists, trust is generally regarded as a highly stable psychological propensity to trust other people (innate psychological trait) in a social exchange, and unlikely to be appreciably modified by commonplace experiences (Becker 1996; Uslaner 2002). However, some social psychologists (Burns & Kinder 2000; Hardin 2002; Yosano & Hayashi 2005) view trust as social learning and assumes individuals develop different levels of trust across different domains of interaction/experiences.

In management, Zaheer *et al.* (1998) propose a clear differentiation between interpersonal and inter-organisational trust; the former refers to the trust placed by an individual in their individual opposite member, while inter-organisational trust is seen as the extent of trust placed in the partner organisation by the members of a focal organisation. Rocco *et al.* (2001) and McAllister (1995) view interpersonal trust in an organisation as having two dimensions:

- i) Cognitive-based trust, which is grounded in the cognitive judgements of another's competence/reliability (based on the factual knowledge the trustor has of the trustee).
- ii) Affect-based trust, which is based on the affective bonds amongst individuals. Affective trust typically emerges from repeated interactions among individuals,

and experiences of reciprocated interpersonal care and concern. It is also referred to as emotional trust (Rocco *et al.* 2001).

Marketing strongly relates trust with the competence, honesty and benevolence dimension in a relationship (interpersonal relationships between buyers and seller), that focuses on the belief that the partner has the required expertise to perform his/her activities, carry out his/her obligations or accomplish his/her benevolence promises (Doney & Cannon 1997; Mayer *et al.* 1995; McAllister 1995; Morgan & Hunt 1994).

Brand trust in choice of online tertiary education

In the few studies that explicitly examine 'brand trust' in marketing, its conceptualization is associated with consumers' willingness (implies a propensity) to rely on the ability of the brand to perform its stated function (Chaudhuri & Holbrook 2001) or as the confident expectations of the brand's reliability and intentions in situations entailing risk to the consumer (Delgado-Ballester 2004) or simply described in terms of reliability and dependability (Dawar & Pillutla 2000). These definitions of brand trust imply that an individual's propensity to place one's confidence on a brand's qualities/attributes and the conscious inclination to avert risk are critical in consumer-brand relationship. Thus, this study conceptualizes *brand trust as an individual's conscious inclination to place his/her confidence in a brand's qualities or attributes in situations entailing risk to the consumer*, and proposes the following hypotheses:

Hypothesis 1: Brand trust in online tertiary education is related to risk aversion, contingent on course design factors.

That is, the purchase of online tertiary education can be a risky venture because of the low credibility of the online degree (Tan & Lambe 2002; Chung & Ellis 2003; Philips 2007); the uncertainty that the course contents may not meet the skills/knowledge requirement of the student/society; and the lack of physical or human contact between the online learners and the education providers.

Lack of a minimum study period, low entry requirements and unspecified study materials are some of the characteristics of a 'certificate mill' (Philips 2007). A 'certificate mill' refers to the provision of education degrees for a fee. The 'certificate mill' deems previous academic records irrelevant and promises a certificate (based on work experience) within 30 days after enrolment. In order to maintain trust in the online tertiary provider, this study proposes that any course/program developed for online degree must have certain minimum periods of study, and have the same entry requirements and study materials as comparable classroom studies.

Hypothesis 2: Brand trust in online tertiary education is related to risk aversion, contingent on institutional assurance factors.

Regular faculty evaluation and government recognition of online degrees (Chung & Ellis 2003) and course accreditation (Philips 2007) ensure the quality of online courses. This study proposes that instructor quality (relevant qualifications and

motivation), and government recognition of online tertiary providers, act as institutional assurance. Here, a motivated online instructor means one having strong empathy with online learners (time-pressed, computing skills, sense of isolation). Since strong research outputs are a common criteria for generating worldwide university ranking (Stensaker 2005), it is included as an institutional assurance factor as well.

Hypothesis 3: Brand trust in online tertiary education is influenced by direct brand experience, contingent on Website quality factors.

Familiarity with a company or brand generates higher trust, unless a person has a negative perception of a brand (Kania 2001). Similarly, a study undertaken by Cheskin Research & Studio Archetype (1999) also indicates a strong correlation between familiarity and trust. According to Alba (1987), consumers' familiarity with a brand is associated with direct and indirect brand experiences. A brand experience is an individual's experience derived from interaction with a brand (Landa 2006). Every interaction a person has with a brand contributes to their overall perception of the brand. This interaction ranges from visual contact with a logo, newspaper advertisement, website and brochures to contacts with front-line staff of the brand (Berry 2000; Kaperefer 2004). Brand experience heightens individual's interest, loyalty and trust in a brand (Berry 2000; Delgado-Ballester *et al.* 2003; Landa 2006). This is because experience plays an important role in trust by making it possible to compare the realities of the firm with preconceived expectations (Mitchell *et al.* 1998).

Given that online tertiary education is a form of invisible purchase (no face-to-face contact with the providers) where the outcome of the purchase (satisfaction) can only be assessed after course completion, a users' positive experience (direct) with the brand is key in maintaining trust in this form of learning. This proposition is consistent with the argument that brand trust summarizes both the consumers' knowledge and experiences with the brand (Delgado-Ballester & Munuera-Aleman 2005). However, the only form of direct experience an online learner has with an education brand is via the Web site. In fact, Web site quality is discussed as a main factor in engendering trust in the online retailer (McKnight, Choudhury & Kacmar 2002; Sharma 2007; Siau & Shen 2003).

According to Levesque and Kelly (2002), easy and immediate access by online learners to the correct content at the right time (up-to-date information) could motivate people to learn and apply their knowledge and skills to improve their individual and organisational performance. To improve user acceptance of a learning site, Levesque and Kelly recommended user friendly (structured) formats that facilitate easy navigation through the content; book-marking that allows the student to return to the last page studied; and interactivity amongst online learners. Similarly, the availability of technical support or helpdesk facilitates student satisfaction amongst online learners (Leiblein 2000). Leiblein writes an online student is time sensitive to a teacher's response to a query or to feedback, and so the online learning facilitator must ensure prompt feedbacks to student enquiries for effective learning outcomes. Regular feedback to ensure positive student learning experiences in the online mode is also outlined by Mason and Weller (2000) and Levesque and Kelly (2002).

As such, this study suggests that Web site quality factors can influence user’s trust in an online tertiary brand. Website quality factors refer to how well a learning site can provides online learners up-to-date information (knowledge content), ease of navigation, and necessary links to other relevant websites or provides an effective interaction with other online learners.

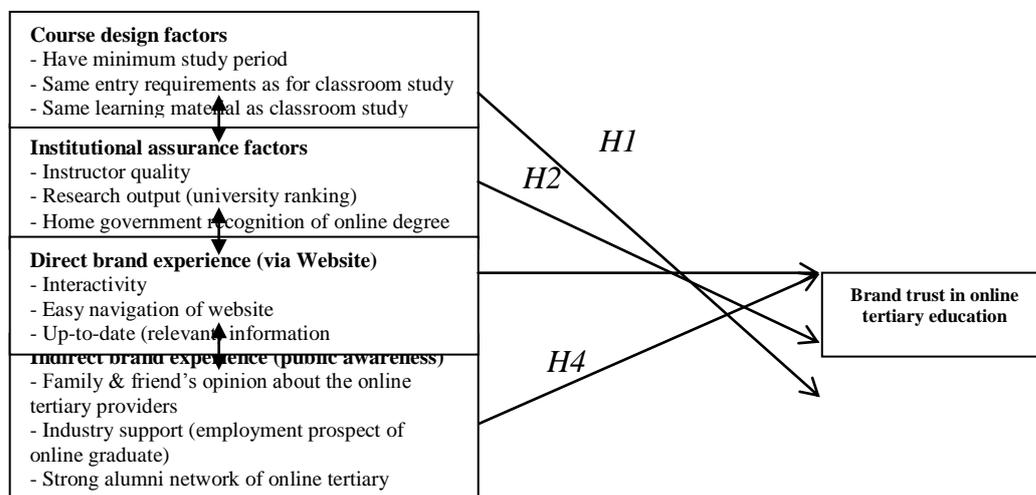
Hypothesis 4: Brand trust in online tertiary education is influenced by indirect brand experience or public awareness.

Indirect brand experience embodies what consumers have seen, heard, learned, thought and felt over time when the brand is presented virtually or in an advertisement (Hoch & Ha 1986). In the education arena, Hemsley-Brown (1999) argues that while students often give utilitarian reasons for making choices about education, these were usually filtered through layers of preconceptions emanating from such influences as family and cultural norms. Consistent with Hemsley-Brown’s argument, Gatfield and Hyde’s (2005) study in Singapore identify university choice being made in consideration with referent group (peers) and parents/family member’s expectations, as well as societal traditions. Similarly, recommendations and advice from friends and family have been identified as an important factor in university choice amongst pre-university students from Malaysia (Duan 1997).

According to Chung and Ellis (2003), public opinion in terms of industry support (recognition of skills achieved), strong alumni networks (for mouth-to-mouth communication) and favourable friends or family’s opinions about online degrees are vital for market acceptance of online tertiary education in Singapore. This study intends to validate this argument in relation to brand trust.

A conceptual model summarising the proposed hypotheses was presented in Figure 1.

FIGURE 1 : HYPOTHESIZED MODEL OF BRAND TRUST IN ONLINE TERTIARY EDUCATION



METHODOLOGY

Questionnaire

An interviewer assisted questionnaire where respondents rank the importance (using a 7-point Likert scale) in trusting online tertiary education considering institutional and course assurance factors, direct brand experience (Website quality) and indirect brand experience (public opinion) factors is utilized in this study. All together there are 15 measurement (including 12 exogenous, the other three are demographics) variables in the questionnaire. The questionnaire was pre-tested on a group of 20 Singapore, Malaysian and Brunei students resident at the University of Otago, New Zealand. On average, it was found the questionnaire took between 10-15 minutes for the respondent to complete. The respondents were also asked for their opinion about the difficulty of completing the questionnaire. No problems were identified with understanding (comprehension for the logic) of the questions.

Samplings

The targeted samplings are high school/junior college students in Singapore, Malaysia and Brunei. English were widely spoken in these three countries and they have fairly similar population ethnicity. In addition, students in their distinctive school uniforms are common sights in the various shopping malls in these countries. Thus, they are easy to identify and solicit responses for the survey. To increase the randomness of this sampling approach, malls were randomly selected in place and time over a two-week period. To ensure that all possible times were represented when students went to a mall, preliminary observations were taken to identify the time frame the mall had the largest concentration of school students. The period from 1-6pm was observed to have greatest concentration of high school/junior college students in all randomly selected malls. The main author positioned himself at the high traffic locations near the mall entrances to randomly select respondents.

Overall, nine hundred questionnaires were distributed in three malls in Singapore, three malls in three major cities in Malaysia (Johore Bahru, Kuala Lumpur and Kuching) and one mall in Bandar Seri Begawan, Brunei. Johore Bahru and Kuala Lumpur represent two large cities from peninsula Malaysia while Kuching and Bandar Seri Begawan represent two large cities from Borneo. Out of the 637 questionnaires returned, 235 were from Singapore, 121 from Brunei and 281 from Malaysia (Kuala Lumpur n=95, Johore Bahru n=89, Kuching n=97). The response data was normally distributed allowing parametric analysis.

Factorial validity and structural model test

The 637 completed surveys met the primary requirements for factor analysis (i.e. 5:1 case/variable ratio, Coakes & Steed 2001). To test the fit of the data for factor analysis, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were used. Tabachnick and Fidell (1996) recommend a correlation coefficient of at least 0.3, a KMO index of >0.6 and Bartlett's $p < 0.05$ as appropriate for factor analysis. All measurement variables (exogenous) in the research hypothetical model were subjected to exploratory factor analysis using SPSS's Principal Component Analysis (PCA) using varimax rotation technique. PCA (varimax rotation) was initially chosen because of its ease of interpretation. For varimax, a simple solution means that each factor has a small number of large loadings and a large number of small loadings. This simplifies the interpretation

because, after a varimax rotation, each original variable tends to be associated with one (or a small number) of factors, and each factor represents only a small number of variables (Pallant 2001)

Inspection of the initial PCA correlation matrix revealed the presence of several coefficients of 0.3 and above. The KMO value was 0.782 and the Bartlett's Test of Sphericity was significant (Sig=0.0), showing factor analysis is appropriate. Four components with Eigenvalues >1 were extracted, explaining a total of 64.47% of the variance. The PCA pattern matrix table showed clear structure with the loaded variables (Table 1) similar to the proposed model (Figure 1). Factor loadings ranged from 0.754 to 0.867 for the course assurance factor, from 0.798 to 0.825 for the institutional assurance factor, and from 0.791 to 0.888 for the direct brand experience factor (Website). The public awareness (indirect brand experience) factor had loadings ranging from 0.806 to 0.893.

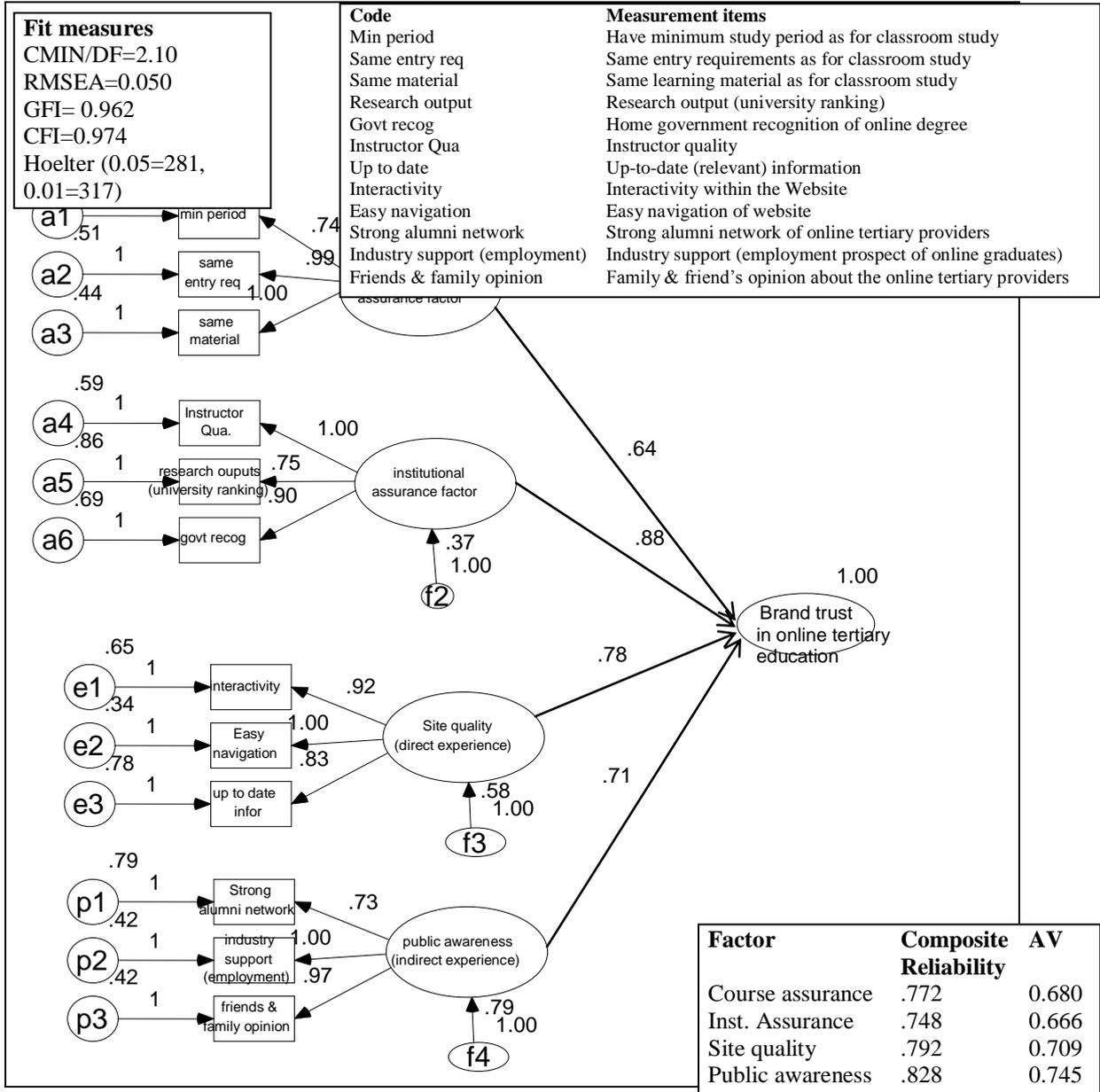
The Average Variance Extracted (AVE) for all four factors was above the recommended threshold of 0.5 (Hair *et al.* 1995) for satisfactory convergent validity. A reliability test conducted showed good internal consistency with all factorial measurement scales [Composite Reliability (CR) > 0.7], confirming that all the measurement scales used in the 4-factor model were statistically valid. The AVE and reliability test results are also presented in Table 2.

TABLE 2 : RELIABILITY TEST STATISTICS AND FACTOR ANALYSIS COMPONENT SCORES

Factorial scale	AVE	CR	Item	Loading
Courseware design	0.680	0.772	Have minimum study period as for classroom study	0.754
			Same entry requirements as for classroom study	0.866
			Same learning material as for classroom study	0.867
Institutional assurance	0.666	0.748	Research output (university ranking)	0.798
			Home government recognition of online degree	0.824
			Instructor quality	0.825
Direct brand experience (Website quality)	0.709	0.792	Up-to-date (relevant) information	0.791
			Interactivity within the Website	0.844
			Easy navigation of website	0.888
Indirect brand experience (public opinion)	0.745	0.828	Strong alumni network of online tertiary providers	0.806
			Industry support (employment prospect of online graduates)	0.893
			Family & friend's opinion about the online tertiary providers	0.887

Structural Equation Modelling (SEM) using AMOS ver. 6.0 software on all factorial models showed that the discrepancy between the sample covariance matrix S and the population covariance matrix $\Sigma(\theta)$ is minimal (that is, $[S - \Sigma(\theta) = \text{minimum}]$). A structural model test (full model) on the 4-factor model used revealed a good fit between the proposed model and the sample data (CMIN/DF=2.10, RMSEA=0.050, GFI= 0.962). The goodness-of-fit and reliability test statistics are presented in Figure 2.

FIGURE 2 : FACTOR EQUATION MODELLING STATISTICS



FINDINGS AND DISCUSSION

No major differences between Singapore, Malaysia and Brunei were found with all measurement variables. Homogeneity of variance (Levene) tests between the samples from Singapore, Malaysia and Brunei were not significant ($p > .05$) for all variables. The two-tail tests of measured significance also showed no significant differences apparent ($p > .05$) between all measurement items (Table 3).

TABLE 3: MULTIVARIABLE TEST STATISTICS

Trust factors	S'pore (n=235)	K. L'pur (n=95)	Johore (n=89)	Kuching (n=97)	Brunei (n=121)	F	Sig.
---------------	----------------	-----------------	---------------	----------------	----------------	---	------

Home government recognition of online degree	6.21	6.12	6.01	5.99	6.07	1.01	0.33
Industry support (employment prospect of online graduates)	5.95	5.83	5.94	5.78	5.81	1.21	0.27
Have minimum study period as for classroom study	5.79	5.88	5.90	5.91	5.79	0.92	0.42
Same entry requirements as for classroom study	5.23	5.17	5.09	5.03	5.13	0.87	0.38
Same learning material as for classroom study	5.69	5.55	5.52	5.70	5.58	0.98	0.13
Research output (university ranking)	5.72	5.58	5.66	5.61	5.65	1.15	0.32
Instructor quality	4.45	4.52	4.54	4.61	4.67	1.33	0.25
Up-to-date (relevant) information	4.77	4.71	4.81	4.85	4.84	0.81	0.51
Interactivity within the Website	4.60	4.61	4.60	4.67	4.70	0.97	0.42
Easy navigation of website	3.16	2.97	3.29	2.93	3.08	0.93	0.37
Strong alumni network of online tertiary providers	3.53	3.41	3.51	3.68	3.60	0.89	0.22
Family & friend's opinion about the online tertiary providers	3.99	3.73	3.86	3.75	3.82	1.12	0.19

i

Note: Mean out of 7, $p=0.05$ (2-tailed), highest scores in bold

As shown in Table 2, the highest mean scored variable in all (sampled) cities are 'home government recognition of online degree' (Singapore=6.21, Kuala Lumpur=6.12, Johore Bahru=6.01, Kuching=5.99 and Brunei=6.07).

Courseware design factors

The SEM results (Figure 2) indicated that courseware design factors had regression weights of 0.64, generally supporting *Hypothesis 1: Brand trust in online tertiary education is related to risk aversion, contingent on course design factors*. The three measured items (exogenous variables) of the course design factors: Have minimum period of study, course entry requirements and study materials the same as classroom study could be interpreted as respondents viewing these factors as necessary to avoid falling into the 'certificate mill' trap.

A regular classroom session in the form of block teaching to complement online teaching is suggested. The venue could be on-campus, hotels or community halls that are central to groups of students. This helps to enhance the credibility and visibility of the online tertiary provider.

Institutional assurance factors

Similarly, *Hypothesis 2: Brand trust in online tertiary education is related to risk aversion, contingent on institutional assurance factors* (regression weights=0.88) was also supported in this study. This confirmed that instructor's quality; university ranking and government recognition of online tertiary degree are important institutional assurance factors, within the context of brand trust in online tertiary education. The indicated importance of these measured items could be interpreted as a potential online graduate needing the assurance that their efforts and money spent with online tertiary education would be rewarded with public recognition; that quality instructors are available to encourage, mentor and motivate them to maintain their interest in their 'isolated' learning journey; and that the institution they enrolled in is highly regarded worldwide for its quality of teaching/research to ensure credibility of online degree. These findings were consistent with Alhabshi's (2002) and Philips' (2007) assertions for the need for government recognition of foreign online degrees to ensure credibility and quality of online tertiary education to reduce the problem of 'certificate mill'.

Direct brand experience (Website quality)

The SEM results also supported *Hypothesis 3: Brand trust in online tertiary education is influenced by direct brand experience, contingent on Website quality factors* (regression weight=0.78). This confirmed McKnight et al. (2002), Sharma (2007) and Siau and Shen (2003) arguments, that Web site quality is vital to engender trust in online retailers' offerings. The measured variables of this construct showed that the Website that provides up-to-date (relevant) information and that enhances interactivity and ease of navigation among online learners can influence brand trust in online tertiary education.

While acknowledging that those interested in online tertiary education are mostly time-pressed or facing spatial proximity problems, an initial on-campus orientation is recommended for community building (networking). Face-to face meeting with online tutors and fellow online learners would have extra advantages of psychological assurance of 'belonging' or contribute to a reduction of uncertainty in the purchase of online tertiary education.

Indirect brand experience (public awareness)

There is also support for *Hypothesis 4: Brand trust in online tertiary education is influenced by indirect brand experience or public awareness* (regression weight=0.71). This construct was measured by three exogenous variables: Family and friend's opinions about an online degree; industry support in the form of employment; and strong alumni networks for word-of-mouth communication, affecting respondent's choice of online tertiary education. This may be due to respondents being concerned about employment, that their investment in time consuming and costly education may be rejected by their community, if the education they undertake is not up to the quality expectations of their peers or society.

One way of reducing perceived risk over the purchase of online tertiary education is to make online course offerings customer-centric. To enhance brand trust in a particular online tertiary provider, its online program should help students to upgrade their skills for career advancement and be relevant for industry needs. A portfolio of their online graduates in prominent institutions (for marketing promotion) and a strong alumni network would greatly enhance the online tertiary provider's reputation.

LIMITATIONS AND FURTHER STUDY

There are several limitations with this study. First, while the large sample size (n=637) improves its external validity, a comparison of the demographic variables collected in this study with a validation sample (collected in the same geographical areas) would be advisable to ensure the generalizability of the results to the resident population and to test the comparability and stability of the proposed hypothetical models (Hair et al. 1998; Spector 1992). However, a validation sample was not available for this study.

Second, by not focusing on a specific institution, the effect of an institution's micro environment (a specific university's perceived brand image, university's frontline staff service quality, corporate missions etc) and its brand positioning statement in relation to brand trust as quality cues in online tertiary purchase is unknown. Finally, further study on the relationship between brand image, brand positioning statements

and brand trust in online tertiary purchase is needed to provide insights of how brand affects student's decision-making process. For the academic community, this is an area where little research has been done. For the university, research information on brand positioning is eagerly sought, given the increasing pressure on universities to attract fee-paying students (Göbbels-Dreyling 2003).

CONCLUSION

From a review of the literature, hypotheses are developed proposing that the antecedent of brand trust in online tertiary education are related to courseware design, institutional assurance factors, Website quality (brand experience) and public opinion (indirect brand experience). A conceptual model summarizing the hypotheses is subsequently validated in Singapore, Malaysia and Brunei reported here. In addition, this study revealed that governmental recognition of online degrees is important for the propagation of online tertiary education in these three countries.

REFERENCES

Alba, J. W. & Hutchinson, W. J. (1987). Dimensions of consumer expertise. *Journal of Consumer Research* 13, 411-53.

Alexander, J. (1999). Collaborative design, constructivist learning, information technology immersion, and electronic communities: A case study. *Interpersonal Computing and Technology* 7 (1 & 2). Available: <http://www.emoderators.com/ipct-j/1999/n1-2/alexander.html> [Accessed: 24 May 2008].

Alhabshi, S. O. (2002). *E-Learning: A Malaysian case study*, Paper presented at the Africa-Asia Workshop on Promoting Co-operation in Information and Communication Technologies Development, National Institute of Public Administration, Kuala Lumpur, 26th March. Allen, I. E. & Seaman, J. (2006). *Growing by degrees: Online education in the United States, 2005*. Olin Way, Ma: Sloan-C.

Berge, Z & Huang, Y. (2004). *A model for sustainable student retention: A holistic perspective on the student dropout problem with special attention to e-learning*. DEOSNEWS 13 (5). Available: http://www.ed.psu.edu/acsde/deos/deosnews/deosnews_13.5.pdf [Accessed: 10 June 2008].

Berry, L. L. (2000). *Cultivating service brand equity*. *Journal of the Academy of Marketing Science* 28 (1), 128-137.

Berthon, P., Hulbert, J. M., & Pitt, L. F. (1997). *Brands, brand managers and the management of brands: Where to next? MSI Report No. 97-122*, Marketing Science Institute, Cambridge, MA.

Burns, N. & Kinder, D. (2000). *Social Trust and Democratic Politics*. Report to the National Election Studies Board, NES Special Topic Pilot Study.

- Calder, B. J. & Reagan, S. J. (2001). Brand design. In: Iacobucci, D. (Ed.), *Kellogg on Marketing*. NY: John Wiley, 58-73.
- Cashion, J. & Palmieri, P. (2002). *The secret is the teacher: The learner's view of online learning*, NCVET, Adelaide.
- Chaudhuri, A. & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty. *Journal of Marketing* 65, 81-93.
- Cheskin Research and Studio Archetype (1999). The eCommerce trust study (January), 1-33.
- Cheung, W. S. & Hew, K. F. (2005). Use of asynchronous online discussion in a hypermedia design class: Pre-service teachers perceptions. Paper presented at the 22nd Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education, Brisbane, 4-7 December, 2005.
- Chung, K. C. & Ellis, A. (2003). Online education: Understanding market acceptance in the higher education sector of Singapore, Paper presented at the 20th Annual Conference of the Australasian Society for Computers in Learning in Tertiary Education, Adelaide, 7-10 December 2003.
- Coakes, S. & Steed, L. (2001). *SPSS: analysis without anguish, ver. 10.0 for windows*, Sydney: John Wiley & Sons Australia Ltd.
- Dawar, N. & Pillutla. M. N. (2000). Impact of product-harm crises on brand equity: The moderating role of consumer expectations. *Journal of Marketing Research* 27, 215–226.
- Delgado-Ballester, E. (2004). Applicability of a brand trust scale across product categories: A multigroup invariance analysis. *European Journal of Marketing* 5 (6), 573-592.
- Delgado-Ballester, E. & Munuera-Aleman, J. L. (2001). Brand trust in the context of consumer loyalty. *European Journal of Marketing* 35 (11/12), 1238-1258.
- Delgado-Ballester, E. & Munuera-Aleman, J. L. (2005). Does brand trust matter to brand equity? *Journal of Product and Brand Management* 14 (3), 187–196.
- Doney, P. M. & Cannon, J. P. (1997). An examination of the nature of trust in buyer-seller relationships. *Journal of Marketing* 61 (4), 35-51.
- Dringus, L. P. (1999). *Resource requirements for online learning environments*. *Journal of Instruction and Delivery System* 13 (4), 20-25.
- Dringus, L. P. & Terrell, S. (1998). *Awareness as a metaphor in online learning environment*. Paper presented at the *International Conference on Technology and Education (ICTE)*, Santa Fe, NM, 8-11 March 1998.

- Duan, P. (1997). *The influence of various factors on international students in selecting universities: A South Australian study of Chinese students from Hong Kong and Malaysia*, PhD Thesis, University of South Australia.
- Dunning, K. A. & Vijayaraman, B. S. (2001). Motivational factors, characteristics and computer skills of MBA students in Web-based courses, *Ohio: University of Akron Press*.
- Finder, K. & Raleigh, D. (1998). *Establishing a framework useful for developing Web-based assignments in K-12 Education*. Paper presented at the Society for Information Technology & Education conference, Washington DC, 10-14 March 1998.
- Fournier, S. (1998). Consumers and their brands: Developing relationship theory in consumer research. *Journal of Consumer Research* 24, 343-73.
- Fullerton, G. (2003). When does commitment lead to loyalty? *Journal of Service Research* 5 (4), 333-344.
- Garbarino, E. & Mark S. J. (1999). The different roles of satisfaction, trust and commitment in customer relationships. *Journal of Marketing* 63 (2), 70-87.
- Gatfield, R. L. & Hyde, M. (2005). An examination of two case studies used in building a decision-making model. *International Education Journal* 6(5), 555-566.
- Gefen, D., Karahanna, E. & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly* 27(1), 1-90.
- Göbbels-Dreyling, B. (2003). University financing alternatives: The German examples. *Higher Education in Europe* 28 (2), 165-170.
- Gommans, M., Krishan, K. S. & Scheddold, K. B. (2001). From brand loyalty to e-loyalty: A conceptual framework. *Journal of Economic and Social Research* 3 (1), 43-58.
- Gurtman, M. B. (1992). *Trust, distrust, and interpersonal problems: A circumplex analysis*. *Journal of Personality and Social Psychology* 62, 989-1002.
- Gurviez, P. (1996). *The trust concept in the brand-consumer relationship*. In: Beracs, J., Bauer, A. and Simon, J. (Eds), European Marketing Academy Conference, Budapest, 559-574.
- Hair, J. F., Anderson, R. E., Tatham, R. L. & Black, W. C. (1998). *Multivariate data analysis* (5th Ed.), Englewood Cliffs, NJ: Prentice Hall.
- Hardin. R. (2002). *Trust and Trustworthiness*. New York: Russell Sage.
- Hemsley-Brown, J. (1999). *College choice: Perceptions and priorities*. *Educational Management & Administration* 27 (1), 85-98.

- Hoch, S. J. & Young-Won Ha (1986). *Consumer Learning: Advertising and the Ambiguity of Product Experience*. *Journal of Consumer Research*, 13, 221–33.
- Hupcey, J. E., Penrod, J., Morse, J. M., & Mitcham, C. (2001). *An exploration and advancement of the concept of trust*. *Journal of Advanced Nursing*, 36(2), 282-293.
- Hutchison, C. (1995). *The 'ICP OnLine': jeux sams frontieres on the cyber campus*. *Journal of Computer Mediated Communication* 1 (1), 15-23.
- Kania, D. (2001). *Branding.com*, Chicago, IL: NIC.
- Kapferer, Jean-Noel (2004). *The new strategic brand management: Creating and sustaining brand equity long term (3rd Ed)*, London: Kogan Page.
- Kearsley, G. (2000), *Online education: Learning and teaching in cyberspace*, Montreal, Canada: Wadsworth.
- Kenny, J. (2003). *Student perceptions of the use of online learning technology in their courses*. *ultiBASE*, Royal Melbourne Institute of Technology (RMIT). Available: <http://ultibase.rmit.edu.au/Articles/march03/kenny2.htm> [Accessed: 31 Oct 2008].
- Kilpatrick, S. & Bound, H. (2003). *Online delivery and learning in regional Australia*, NCVER, Adelaide, 185-203.
- Land, S. M. & Hannafin, M. J. (1996). *A conceptual framework for the development of theories-in-action with open-ended learning environments*, MA, *The MIT Press*.
- Landa, R. (2006). *Designing brand experience*, NY: Thomson Delmar Learning.
- Leong, Y. P. (2006). *Some policy issues in ICT in education*. In: Zaitun, H. T., Brown, D., Suffolk, J., & Chukwu, O. (Eds.). *Current Studies in Science, Mathematics and Technical Education* 11, 133-140.
- Levesque, D. R & Kelly, G. (2002). *Meeting the challenge of continuing education with e-learning*. *Radiology Management* 24 (2), 40-43.
- Lewis, J. D. & Weigert, A. (1985). *Trust as a social reality*. *Social Forces* 63 (4), 967-85.
- Lieblein, E. (2000). *Critical factors for successful delivery of online programs*. *Internet and Higher Education* 3, 161-174.
- Mason, R & Weller, M. (2000). *Factors affecting students' satisfaction on a Web course*. *Australian Journal of Educational Technology* 16 (2), 173-200.
- Mayer, R. C., Davis, J. H. and Schoorman, F. D. (1995). *An integrative model of organizational trust*. *Academy of Management Review* 20 (3), 709-734.

- McAllister, D. J. (1995). Affect and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal* 38 (1), 24-59.
- McKnight, D., Choudhury, V. & Kacmar, C. (2002). Developing and validating trust measures for e-Commerce: An integrative typology. *Information Systems Research* 13 (3), 334-359.
- Mitchell, P., Reast, J. & Lynch, J. (1998). Exploring the foundation of trust. *Journal of Marketing Management* 14, 159-172.
- Moore, R. M. (2004). The rising tide: branding and the academic marketplace. Available: http://www.findarticles.com/p/articles/mi_m1254/is_3_36/ai_n6153021# [Accessed: 31 Oct 2008].
- Morgan, R. M. & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing* 58 (July), 20-38.
- Murry Jr., J. P., Lastovicka, J. L., & Bhalla, G. (1989). Demographic and lifestyle selection error in mall intercept data. *Journal of Advertising Research* 29, 46-52.
- Naidu, S. (1994). *Applying learning and institutional strategies in open learning*. Distance Education 15 (1), 23-41.
- Narayandas V. D. & Rangan, K. (2004). Building and sustaining buyer-seller relationships in mature industrial markets. *Journal of Marketing* 68 (July), 63-77.
- Orbell, J. Dawes, R. & Schwartz-Shea, P. (1994). Trust, social categories, and individuals: The case of gender. *Journal of Motivation and Emotion* 18 (2), 109-128.
- Pallant, J. (2001). *SPSS survival guide: A step by step guide to data analysis using SPSS for windows (version 10)*, NSW: Allen & Unwin.
- Peltier, J. W., Dargo, W. & Schibrowsky, J. (2003). *Virtual communities and the assessment of online marketing education*. *Journal of Marketing Education* 25 (3), 260-276.
- Phillips, V. (2007). *Consumer Alert: Top 10 signs online diploma mills and degree mills*. Available: <http://www.geteducated.com/articles/degremills.asp> [Accessed: 30 December 2008].
- Ragan, T. J. & White, P. R. (2001). *What we have here is a failure to communicate: The criticality of writing in online instruction*. *Computers and Composition* 18, 399-409.
- Rempel, J. Holmes, J. & Zanna, M. (1985). *Trust in close relationship*. *Journal of Personality and Social Psychology* 49 (1), 95-112.

- Rocco, E., Finholt, T., Hofer, E., & Herbsleb, J. (2001). *Out of sight, short of trust. Paper presented at the Annual Conference of the European Academy of Management, Barcelona, 19-22 April 2001.*
- Ross, B. (2004). *Driving higher education institutions to an enterprise approach.* Available: <http://www.learningcircuits.org/2004/sep2004/ross.htm> [Accessed: 30 December 2008].
- Rotter, J. B. (1967). A new scale for the measurement of interpersonal trust. *Journal of Personality* 35 (Dec.), 651-665.
- Ruberg, L. F., Moore, D. M. & Taylor, C. D. (1996). *Student participation, interaction and regulation in a computer-mediated communication environment: A quality study.* *Journal of Educational Computing Research* 14 (3), 243-268.
- Shapiro, S. P. (1987). The social control of interpersonal trust. *American Journal of Sociology* 93, 623-658.
- Sharma, N. (2007). *Linking site quality, online shopping resistance and trust in Web-based marketing.* Available: <http://ausweb.scu.edu.au/aw04/papers/refereed/sharma/paper.html>. [Accessed: 24 May 2008].
- Siau, K. & Shen Z. (2003). *Customer trust in m-commerce in communications of the ACM.* *Building* 46 (4), 91-94.
- Souleles, N. (2004). *A prescriptive study of early trends in implementing e-learning in the UK higher education sector.* Available: <http://it.coe.uga.edu/itforum/paper78/paper78.htm> [Accessed: 30 Oct 2008].
- Spector, P. E. (1992). *Summated rating scale construction*, Newbury Park, CA: Sage.
- Stensaker, B. (2005). *Strategy, identity and branding: Re-inventing higher education institutions*, City Higher Education Seminar Series, London: City University Press.
- Suhaimi, A. A. K. & Lim, B. D. (2007), *Uniting e-libraries and e-learning: Challenges and opportunities for Villis Brunei* [online], Available: <http://www.lib.usm.my/elmuequip/conference/Documents/ICOL%202005%20Paper%205%20Awang%20Suhaimi%20&%20Lim%20Bann%20Dih.pdf> [Accessed: 10 Sept 2009].
- Tabachnick, B. G. & Fidell, L. S. (1996). *Using multivariate statistics (3rd Ed)*, NY: HarperCollins.
- Tan, E. & Lambe, P. (2002). *E-learning effectiveness from the learner's point of view in Singapore*, Straits Knowledge, Singapore.
- US Commerce Department (2006). *E-learning market in Korea.* Available: http://www.buyusainfo.net/docs/x_4820708.pdf#search='elearning%20market%20korea' [Accessed: 30 July 2008].

- Uslaner, E. M. (2002). *The Moral Foundations of Trust*, Cambridge, UK: Cambridge University Press.
- Williamson, O. E. (1993). Calculativeness, trust and economic organization. *Journal of Law and Economics* 26 (April), 453-86.
- Willig, C. (1997). The limitations of trust in intimate relationships: Constructions of trust and sexual risk-taking. *British Journal of Social Psychology* 36, 211-221.
- Wulf, K. (1996). *Training via the Internet: What are we?* *Training and Development* 50 (5), 50-55.
- Yosano, A. & Hayashi, N. (2005). Social stratification, intermediary groups, and creation of trustfulness. *Sociological Theory and Methods* 20, 27-44.
- Zaheer, A., McEvily, B., Perrone, V. (1998). Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. *Organization Science* 9 (2), 141-59.
- Zand, D. E. (1972). Trust and managerial problem solving. *Administrative Science Quarterly* 17, 229-239.
- Zikmund, W. G. (2000). *Business research methods* (6th Ed), Fort Worth: The Dryden Press, Harcourt College Publishers.
- Zucker, Lynne G. (1986). Production of trust: Institutional sources of economic structure, *Research in Organizational Behavior* 8, 53-111.