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The Role of Presence and Para Social Presence on Trust in Online Virtual Electronic Commerce

Kung-Keat Teoh and Eze Uchenna Cyril
Multimedia University, Jalan Ayer Keroh Lama, Bukit Beruang, 75450 Melaka, Malaysia

Abstract: This study analyzes users' acceptance of such online immersive virtual malls and gauges the impact of these malls on users' acceptance, trust and intended use in an empirical manner using quantitative approaches by comparing rival models. Two main external factors, presence and para social presence, were measured against the factors proposed in a technology acceptance model which has been infused with the trust factor based on existing literature. After standard psychometric measures for reliability and validity determinations, rival plausible models were then compared against the proposed research model using structural equation modeling in order to obtain the one with best fit. The results indicate that presence and para social presence are variables which affect users' perceived ease of use and perceived usefulness of the virtual store which in turn leads to trust and intended use. The implications of the research and possible future directions are also discussed.

Key words: Immersive environment, online trust, web mall, 3D internet, 3D e-commerce

INTRODUCTION

While electronic commerce has developed tremendously over the recent years with better navigation, faster download time and more powerful searches, in general, consumers have largely been hesitant to use it. The reluctance to use electronic commerce had been attributed to many factors. One such factor is the lack of trust in electronic commerce (Gefen *et al.*, 2003a, b; Pavlou, 2001). Another suggested factor is the lack of interactivity (Song, 2007; Sukpanich and Chen, 2000). Finally, there is the criticism that the design of current electronic commerce sites is rather constrained and not aesthetically appealing (Chin and Swatman, 2005; Jiang and Benbasat, 2002).

Recent studies have also confirmed that in addition to improved security, psychological and sociological approaches, especially when applied in human computer interaction are significant factors to take into consideration as well (Castelfranchi and Pedone, 1999; Kim and Moon, 2004; Kim and Prabhakar, 1997).

The primary objective of this study is hence to determine if presence and para social presence factors play a role in the development of user trust via mediating factors such as perceived ease of use, perceived usefulness, trust and intended use within a virtual 3D electronic commerce environment. Competing models

were built and compared to confirm the best fit relationships between the factors in the model.

Turban *et al.* (2000) defines trust in electronic commerce as the psychological status of involved parties who are willing to pursue further interactions to achieve a planned goal. The use of the term, psychological status suggests that the development of trust should to be analyzed from a behavioral perspective while the term interaction emphasizes the importance of interactivity for the development of consumer trust. In summary, previous literature has shown that the two aspects which influence user trust most in electronic commerce use are user behaviour and website design.

This study proposes to use a modified version of the Technology Acceptance Model (TAM). TAM, a model proposed by Davis (1989), has been widely tested and accepted in the field of information systems studies in general and electronic commerce behavioral research specifically (Dahlberg *et al.*, 2003; Gefen, 2000; Pavlou, 2003; Ruth, 2000; Teoh and Mohan, 2004).

The expected emergence of 3D Internet in the near future means that there is a great likelihood that the future electronic commerce websites would most likely be built in an immersive 3D environment (Maamar, 2003). The ability of the Internet to be explored in a virtual platform using languages and builders such as Virtual Reality Markup Language (VRML) and Adobe Atmosphere as

well as 3D applications such as Quicktime and Java 3D allows researchers to probe the electronic consumer's psychological makeup and behaviour online in depth. Electronic commerce experts such as Chung (2005) (CEO and founder of Allurent) opined that the next generation of web applications will eliminate the notion of a web site as static chunks of text and images served up a page at a time and instead will be a fluid, open and animated virtual space vibrantly filled with artful and enticing displays of merchandise and presence of online shoppers themselves.

While the next stage of growth of electronic commerce into 3D promises much excitement, its effectiveness as a commercial tool, specifically as a catalyst of consumer trust has yet to be explored. This study attempts to analyze users' trust of immersive 3D electronic commerce websites through the exploration of the presence and para social presence factors.

Minsky (1980) used the term telepresence to describe the remote presence experience felt by television and movie audience. In 1991, telepresence was shortened to presence when the journal, presence (MIT Press) was established. Biocca *et al.* (2003) explained that the study of presence consist of 2 components; the first being telepresence and the second being social presence. Telepresence deals with the sense of being in the virtual environment and includes responses to spatial cues while social presence explains the sense of being together with another and includes responses to social cues. The terms used to define the physical and social aspects of presence however differ from researcher to researcher. For example, other terms used to refer to the physical aspects of presence include physical presence (Biocca *et al.*, 2003). In this study, the term presence would generally refer to the physical aspects of presence or telepresence.

Kumar and Benbasat (2002) defined para-social presence as the extent to which a medium facilitates a sense of understanding, connection, involvement and interaction among participating social entities. Researchers such as Papadopoulou (2007) and Maamar (2003) often lamented that while research interest in the technology of virtual reality and electronic commerce grew, research into the social and behavioural aspects has largely been neglected. The need to emphasize the social and behavioral aspects is rather simple: shopping is largely a social activity done in a physical environment (Maamar, 2003). Virtual reality, not only allows us to mimic the physical reality of the real environment, but also the social and psychological aspects of the shopping activity. The improved social aspects of such virtual environments should hypothetically result in better trust. For example, Olsen and Olsen (2000) reported that in lab experiments, trust is best generated with face-to-face interaction,

followed by telephone conversations, text-chat and finally e-mail. In short, the typical electronic commerce web site today generally suffers from a lack of personality and character, both important relationship building components which a user use to forge trust in the real world (Castelfranchi and Pedone, 1999).

MATERIALS AND METHODS

The research model in this study attempts to merge the different studies on presence (Schubert *et al.*, 2001) and para social presence (Kumar and Benbasat, 2002) and evaluate their impact on previous research models built on the TAM model for trust in electronic commerce (Gefen *et al.*, 2003; Pavlou, 2001, 2003; Teoh and Mohan, 2004) (refer Model 1).

After considering a few prominent studies on presence (Schubert *et al.*, 2001; Lombard and Ditton, 1997; Lessiter *et al.*, 2001; Witmer and Singer, 1998), Schubert *et al.* (2001) presence factors i.e., Spatial Presence (SP), Physical Involvement (PI) and Experienced Reality (ER) were selected. This is primarily due to the suitability of the variables for the study and the clear line it distinguishes itself from para social presence factors.

Schubert *et al.* (2001) explained that spatial presence (SP) is a clear manifestation of the accepted definition of presence as the sense of being there. Since the stimulus in this study was a 3D virtual electronic shopping environment which allows users to feel transported to another environment, spatial presence was considered a very probable factor as a pre determinant of perceived ease of use and perceived usefulness of the web site, leading to trust and intended use in Model 1. In a later research, (Regenbrecht and Schubert, 2002), general presence, another presence factor was absorbed into spatial presence as one of the predictors. They justified this as their previous research (Schubert *et al.*, 2001) showed that both factors correlated highly ($r = 0.83$, $p < 0.01$). This study also took note of Nunnally's (1967) advice not to have single item measurement which is prone to error and hence adopted the similar approach in absorbing the single item for general presence into spatial presence.

Witmer and Singer (1998) defined involvement as (PI) a psychological state experienced as a consequence of focusing one's energy and attention on a coherent set of stimuli or meaningfully related activities and events. To avoid confusion with involvement, a term used for one of the factors in para-social presence and in order to include an element of feeling physically involved in the web site via virtual physical movements and other such activities, this study has opted to differentiate both by applying the term physical involvement for presence.

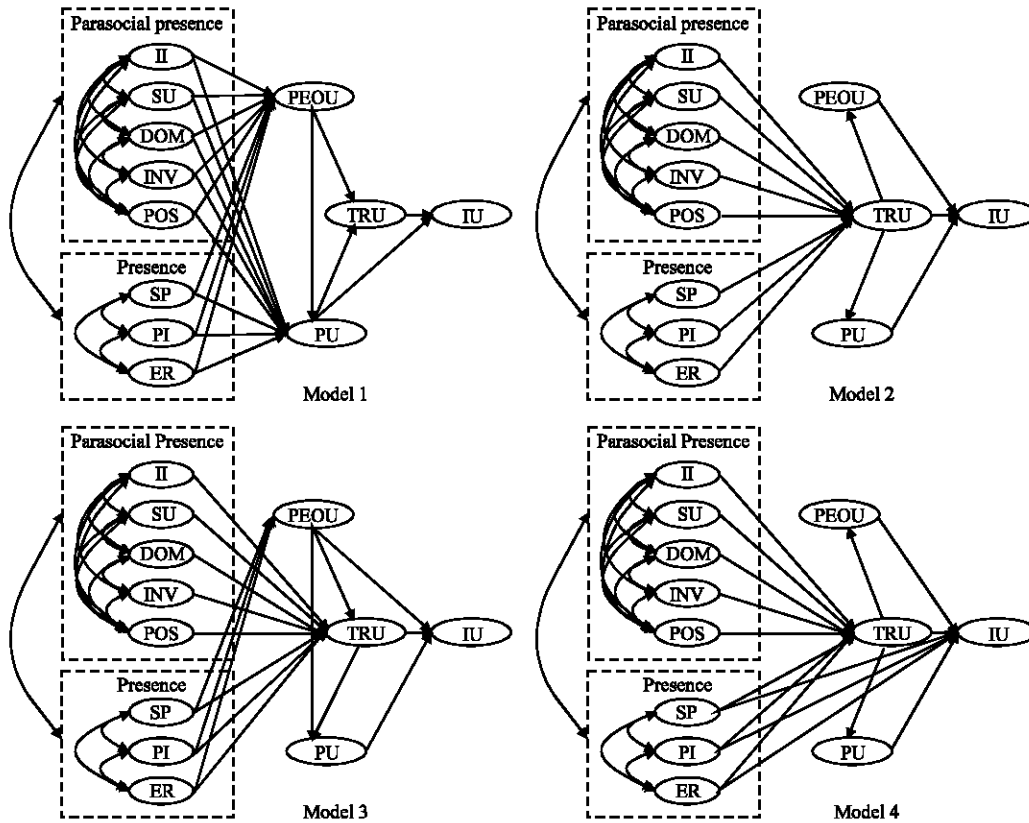


Fig. 1: Research models

Model 1 (Fig. 1) posits that when a shopper becomes engrossed in the website physically via his or her activities there, that the virtual website would be seen as useful. In the same manner, if the virtual web mall is able to hold the users' attention for a period of time, they should perceive it as being easy to use after some practice.

In this study, Experienced Realism (ER) is the degree of familiarity of the web virtual web mall and is relative to an authentic web mall experience. Model 1 postulates that when a user feels that a virtual web store is real or closely mimics the real brick-and-mortar stores, perceived ease of use of the user tends to improve. Experienced reality also enables shoppers to perform shopping activities as they normally would in real life i.e., browsing, gathering information and making sales

Kumar and Benbasat (2002) adopted the term parasocial presence to highlight the underlying structure of relationships facilitated by the medium. The notion that the virtual web site develops a relationship with the user is consistent with opinions and findings of many other social presence researchers (Bricken, 1990; Riva and Mantovani, 2005). Researchers such as Bickmore and Picard (2005) argued that relationships play a major role in

persuasion which leads to the development in trust. Kumar and Benbasat's (2002) factors to measure parasocial presence which include intimacy/immediacy (II), sense of understanding (SU), dominance (DOM), involvement (INV) and positivity (POS) is used in this study.

Intimacy/immediacy (II) in this study is defined as the feeling of psychological closeness which is developed with the virtual environment. Model 1 hypothesizes that when a user develops a sense of intimacy/immediacy in his or her relationship with the website, he or she would find the virtual website useful and easy to use.

The sense of understanding (SU) is the feeling of approachability and familiarity which allows users to identify with the virtual environment. The ability to understand user needs and wants should result in users finding the web site easy to use and useful.

Dominance (DOM) is the ability of the web site to persuade or influence a user and affect decisions made. Initial research has shown that in general, computers establish relationships with the users where they act as authority figures to generate credibility (Fogg and Tseng, 1999; Gatignon and Robertson, 1991; Zimbardo and Leippe, 1991).

Involvement (INV) (Fig. 1) in para-social presence refers to the psychological engagement of a user with the virtual website. Involvement should be a motivating factor for the users to find the web site useful and easy to use.

Positivity (POS) is the affirmative feelings of fun and enjoyment one develops when using the virtual web environment. Model 1 hence perceives that the sense of 'positivity' generated by the web site would lead users to find the virtual mall easy to use and useful.

Based on the studies by Pavlou (2003), it is predicted that trust will have a direct impact on intended use.

In general, studies (Gefen, 2000; Moon and Kim, 2001; Pavlou, 2003; Venkatesh and Davis, 2000) have shown that there is a positive correlation between perceived usefulness and perceived ease of use. In addition, previous literature (Davis, 1986; Gefen, 2000; Pavlou, 2003) has shown that generally, perceived usefulness often correlates directly with intended use while perceived ease of use often correlates indirectly (via perceived usefulness) to intended use.

The correlation between perceived ease of use and trust leading to intended use was also explored and supported by Gefen *et al.* (2003) who argued that perceived ease of use should also increase trust through the perception that the e-vendor is investing in the relationship and in so doing signals a commitment to the relationship.

In the structural equation model, the factors for both presence and para social presence are related due to the fact that both serve the same purpose i.e., to heighten the users' sense of immersion in the virtual website. The existence of the relationship between presence and para social presence factors is also supported by prior presence researchers such as Lombard *et al.* (2000) and Lessiter *et al.* (2000) who often used these factors to measure telepresence. For example, Lombard and Ditton (1997) proposed the factors realism, transportation, immersion (presence factors), social richness, social actor within medium and medium as social actor (para social presence factors) their study. However, for the purposes of this study, the significance of the relationship between both factors are not explored as it is not deemed important towards the objectives.

In line with the recommendation by Anderson and Gerbing (1988) to take into account and test rival hypotheses in the same study, competing models were built and tested for fit.

Model 2 (Fig. 1) represented an adaptation of Gefen (2002b) model of electronic commerce trust. In this model the causal paths of the external factors are related directly to the trust factor instead perceived ease of use or perceived usefulness. In addition, trust is deemed to have a direct causal effect on perceived ease of use and perceived usefulness.

Model 3 (Fig. 1) is adapted from studies by Gefen *et al.* (2003) and Dahlberg *et al.* (2003). In both their studies, the external factors (intrinsic and extrinsic motivation in the case of Dahlberg *et al.* (2003) and calculative-based, institution-based structural assurances, institution based situational normality and knowledge-based familiarity in the case of Gefen *et al.* (2003)) do not influence perceived usefulness as all. Hence the study has adapted the original model to have the external variables affect only trust and perceived ease of use but not perceived usefulness.

Model 4 (Fig. 1) is based on Pavlou's study (2003). Model 4 is almost similar to Model 2 in that the external variables do not form direct causal relations to perceived ease of use or perceived usefulness. In addition to the direct influence of the external variables on trust, they also influence intended use.

The study is based on an experiment with a stimulus within a lab environment following examples from other researchers (Bhattacharjee, 2002; Jahng, 2000; Kaluscha, 2004). The experiment consisted of a presentation of the features and navigation of the 3D web mall by the facilitator, followed by the participants actual use of the system for about 30 min. Thereafter, the participants were asked to fill in the questionnaire and submit them to the researcher. Participants were also supplied with a simple user manual.

The target respondents were all undergraduates of information technology degrees. The use of such student sample was considered appropriate for the experiment as they are perceived to have high internet literacy and represented early adopters of e-commerce in 3D format (Li *et al.*, 2001). Generally, with the exception of items on demographic factors, all the items were of 7 point Likert type scale (ranging from 1 = strongly disagree to 7 = strongly agree). A panel of four judges assessed the questionnaire and based on their comments that dominance has too many items, it was reviewed. There were 8 items originally for the respective factor, of which some were found to share the same ideas (items DOM2 (assertive), DOM5 (pushy) and DOM8 (over-selling)). Hence, after careful consideration, items DOM5 and DOM8 were removed from the final questionnaire.

The results of the pilot study who were a group of 81 respondents comprising students from a lecture class met Nunnally's (1967) recommended minimum reliability threshold of 0.70. The overall KMO reading for all items were 0.654 which was moderate. Initial rotated factor matrix for the pilot study data revealed 14 factor loadings and not the expected 12 factors resulting in the removal of the items with factor loadings of less than 0.50 (consistent with Hair *et al.*, 2006).

The final sample size (N) for the study was 273, well over the recommended minimum N of 200 by Guildford (1954). It also met Kline's (1994) recommendation of a ratio of respondents to variables of 2:1 at 273:50 (5.46 and fulfilled Arrindell and Endes' (1995) subjects to factors ratio of 20:1 at 273:12 (22.75).

Active World (<http://www.activeworlds.com>), a virtual immersive environment which was one of the earliest to launch its 3D mall in 1999 (Jana, 2006) was selected for the study. The website has been used by other researchers (Shen *et al.*, 2001) with rather positive results. As this study would be allowing our respondents to experience the web site on their own during the survey for approximately the same amount of time, Active Worlds was a rather suitable stimulus for our purposes.

Schubert *et al.* (2001) scales were used to measure presence while Kumar and Benbasats' instruments were adopted to measure para-social presence. As for trust scales, this study has decided to use Pavlou's measurement scales. Finally, Davis' (1989) original instruments were adopted with slight modifications to suit the context of the study.

RESULTS AND DISCUSSION

The age of the respondents vary between 17 to 32 years of age with about 79.3% in the bracket of the ages of 20 to 29 years. A high percentage of our respondents (94.1%) also reported that they have above average web usage majority of the respondents are males (64.1%) compared to females at 35.9%. The make up of the sample reflects AC Nielsen Consult (Sharif, 2004) and Sofres (2001) report on the demographics of the Malaysian Internet users.

As with the pilot study, all the results of all scales are above the recommended threshold of above 0.70 as suggested by Nunnally (1967). The overall KMO for all factors were 0.947 (very good). Factor analysis using maximum likelihood method with Kaiser criterion (Eigenvalues over 1.0) was applied with Varimax rotation in order to extract the data into the respective factors. With the removal of some of the items in the questionnaire after the pilot study, the items now converge into the respective factors resulting in exactly 12 groups of factors (The Table 1 is too large to be included and is available upon request).

Confirmatory factor analysis was conducted to improve the model, taking into consideration that large sample sizes tend to produce higher χ^2 values and hence is usually not adhered to strictly in SEM analyses (Table 2) which, tends to use larger sample sizes (Bagozzi and Yi, 1988; Hox and Bechger, 1998).

Table 1: Results of reliability analysis of scales with Cronbach's alpha

Scale	No. of items	Mean	Variance	α
Immediacy/intimacy (II)	4	5.174	0.023	0.9236
Sense of understanding (SU)	4	5.436	0.000	0.9260
Positivity (POS)	4	5.202	0.010	0.8932
Involvement (INV)	4	5.453	0.001	0.9616
Dominance (DOM)	4	5.499	0.027	0.9434
Spatial presence (SP)	4	5.150	0.002	0.9491
Physical immersion (PI)	4	5.138	0.000	0.9431
Experienced realism (ER)	4	5.100	0.001	0.9253
Perceived ease of use (PEOU)	6	5.448	0.001	0.9528
Perceived usefulness (PU)	6	5.278	0.002	0.9578
Trust (TRU)	3	4.983	0.000	0.9405
Intended use (IU)	3	5.027	0.010	0.9196

N = 273

Table 2: Comparison of initial and final model for goodness of fit

Fit measures	Recommended	Source	Initial model	Final model
χ^2 -test	χ^2 -value at $p \geq 0.05$	(Jöreskog and Sörbom, 1996)	0.000	0.276
χ^2/df	≤ 3	(Homburg and Giering, 1996; Klein, 1998)	1.342	1.036
GFI	≥ 0.90 (≥ 0.80)	(Homburg and Giering, 1996; Suh and Han, 2002)	0.830	0.903
AGFI	≥ 0.90 (≥ 0.80)	(Homburg and Giering, 1996; Suh and Han, 2002)	0.805	0.877
NFI	≥ 0.90	(Bentler, 1990; Suh and Han, 2002)	0.902	0.941
CFI	≥ 0.90	(Bentler, 1990)	0.973	0.998
TLI	≥ 0.90	(Einwiller, 2003)	0.970	0.997
RMSEA	≤ 0.05	(Hancock and Freeman, 2001; Jöreskog and Sörbom, 1996)	0.035	0.011

A total of fourteen items were removed from the final model at the end of the exercise, based on modification indices and common sense. They were: pu1, pu2, peou4, pi3, peou5, su4, dom3, pu6, spl, peou2, inv3, pos1, ii3 and er4.

Convergent validity factor loadings in the scales exceed the minimal threshold of ≥ 0.70 (Bhattacharjee, 2002; Hair *et al.*, 2006) with the range of 0.733(POS5) to 0.963(INV6). amount of variance in an item values of the scales range from 0.537 (POS5) to 0.927 (INV6) surpassing the minimum threshold of ≥ 0.50 recommended by Fornell and Larcker's (1981). The readings of the scales for composite factor reliability range from 0.864 (Positivity) to 0.955 (Involvement), far exceeding the recommended threshold of ≥ 0.70 .

The range of results between the factors is from 0.28 (II ↔ SU) to 0.677 (DOM ↔ INV) well below the maximum threshold of 0.85 suggested by Klein (1998) A comparison of the square roots of the average variances extracted from each latent construct with the correlations between factors shows that in general, the square roots of the average variances are greater than the correlations between the factors.

The results of both the construct validity and discriminant validity confirm that the scales measure the intended concepts and that they are distinct from each other (Hair *et al.*, 2006).

Table 3: Comparison result of goodness of fit measures of competing models

Fit measures		Model 1	Model 2	Model 3	Model 4
χ^2 -test	χ^2 -value at $p \geq 0.05$	0.068	0.000	0.001	0.000
χ^2/df	≤ 3	1.092	1.445	1.190	1.453
GFI	≥ 0.90 (≥ 0.80)	0.894	0.861	0.887	0.862
AGFI	≥ 0.90 (≥ 0.80)	0.871	0.833	0.863	0.832
NFI	≥ 0.90	0.936	0.914	0.930	0.915
CFI	≥ 0.90	0.994	0.972	0.988	0.971
TLI	≥ 0.90	0.993	0.968	0.986	0.967
RMSEA	≤ 0.05	0.018	0.040	0.026	0.041

The different models were then analyzed for goodness of fit with the above results.

Table 3 shows the results of goodness of fit for all 4 models. The χ^2 test p-value meets the required threshold of ≥ 0.05 compared to the other 3 competing models. Readings for GFI, AGFI, NFI, CFI, TLI and RMSEA are also generally better in Model 1. The fit of the proposed model (Model 1) has acceptable fits for χ^2 test (0.068), χ^2/df (1.092), AGFI (0.871), NFI (0.936), CFI (0.994), TLI (0.993) and RMSEA(0.018). However, the results of GFI was 0.894 slightly less than the recommended value of ≥ 0.9 (Homburg and Giering, 1996). It is obvious that Model 1 has slightly better goodness of fit compared to the others, hence confirming the belief that the factors of presence and para social presence directly affects trust which in turn has an impact on both perceived ease of use and perceived usefulness which result in intended use.

As discussed in the introduction section, the primary objective of the study is to explore the role of presence and para social presence on trust in immersive 3D electronic commerce. In order to do so, the study looked into 4 different rival models to determine the best in terms of fit for ideas on how presence and para social presence influence users' trust of 3D immersive e-commerce sites.

The presence and para-social presence factors demonstrated causal relationships not only with perceived ease of use but also with perceived usefulness. The results contradict models by Gefen (2002a), Gefen *et al.* (2003) and Pavlou (2003) where the external factors only either influenced trust or perceived ease of use. The result emulate (Dahlberg *et al.*, 2003) proposed model where the external variables (intrinsic motivation) not only influences perceived ease of use but also perceived usefulness. Hence, the study concludes that perhaps presence and para-social presence acts as a form of intrinsic motivation for the shoppers in the virtual shopping environment.

Secondly, the external factors, presence and para-social presence also do not seem to influence trust directly. This result seem to contradict previous researches (Dahlberg *et al.*, 2003; Gefen, 2002a; Gefen *et al.*, 2003; Pavlou, 2003) which were developed

and tested in the alternative models. The results strongly implied instead that presence and para-social presence's impact caused higher levels of perceived usefulness and perceived ease of use which ultimately lead to the development of trust. In summary, the result indicates that presence and para social presence factors generally influence the perceived ease of use and perceived usefulness of an immersive electronic commerce website which in turn act as mediators of trust and intended use. This line of thought is also reflected by Gefen *et al.* (2003) who argued that the design of a website which looks and behaves in a typical manner should increase PEOU (perceived ease of use) by capitalizing on the user's prior knowledge of how to use the website.

This suggests strongly that users perceive the features of a 3D immersive online e-commerce store as practical and useful and not a mere novelty. It also supports Castelfranchi and Pedones' (1999) findings on Italian customers which showed that familiarity or attraction for the Internet reduces negative bias towards electronic commerce technology and environment. Lastly, it reconfirms the relationship between TAM based variables and trust by Pavlou (2003) and Gefen (2002b) and reaffirms that the same relationships between the variables in 2D electronic commerce still applies to 3D electronic commerce.

CONTRIBUTIONS, LIMITATIONS AND CONCLUSION

The findings of the study contribute some key ideas to the existing literature on electronic commerce trust, primarily for 3D virtual shopping environment which is still scarce relative to the existing literature on the typical 2D or text based trust in electronic commerce.

The study has demonstrated that the presence and para social presence factors experienced in the immersive virtual experience are significant independent variables which strongly correlate to perceived ease of use and perceived. While earlier studies (Jahng, 2000; Jahng *et al.*, 1999; Klein, 2001; Kumar, 2003) have examined presence and para social presence factors mostly in isolation or only in relation to 3D products online, this study has focused on a complete virtual web mall experience which mimics real life experiences and interactions. The findings show that presence and para social presence are suitable antecedents or predictors of electronic commerce trust in virtual web malls. The proposed model is also able to provide some theoretical insights as to the correlations of the factors influencing the success of a virtual web mall and enhances the understanding of existing literature by looking at electronic commerce trust from new perspectives i.e., presence and para social presence.

The study bears two different types of practical implications: the first for managers and marketers and the second for web mall designers and programmers. The proposed instruments used in this study could be used as a means to gather preliminary data to predict the trust level of a 3D web mall and to gauge the level of presence and para social presence experienced in the web mall. Electronic commerce web site designers would also be able to use the findings a guide for them to design their work. By knowing what factors contribute to trust in their targeted web users, they would be able to focus on the design factors which could help ensure a higher probability of success.

While efforts have been taken to ensure that the study yields reliable results which has been validated, it is not without weaknesses.

While the survey was carried out in a computer laboratory environment meticulously, the computers were not equipped with audio equipment such as headphones or speakers. The use of such auditory equipment would presumably have increased the level of presence and para social presence. Second, the respondents in this study spent approximately 40 min each to explore the website. Due to the relatively large number of respondents and the limited resources, it is perceived that should a longer period be allowed for respondents to use the website, the results of some factors could see more improvement.

It is suggested that future researchers look into areas which are largely unexplored in this study including the experimentations with different products in the virtual environment. Studies by (Jahng, 2000) have shown that different types of products were perceived to have different levels of presence in a web site. Jahng's study however was limited to products in a traditional website and could be integrated into an immersive e-commerce environment.

CONCLUSION

The study has managed to produce a set of instruments using previous literature on presence, para social presence, perceived usefulness, perceived ease of use, trust and intended use to measure 3D virtual shopping environments effectively. The model with best fit explains how presence and para social presence fit into a framework to explain its role in the development of user trust in 3D electronic commerce. It suggests that presence and para social presence are factors which influence perceived ease of use and perceived usefulness which act as mediators of trust and intended use. The results of the findings of the causal relationships could now be used by

researchers, web designers, electronic commerce marketers in the development and decision making process for virtual 3D shopping malls to effectively generate trust and intended use.

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