Merchant Facial Expressions and Customer Trust in Virtual Shopping Environment

Nasser Nassiri
Department of Information Technology
Higher Colleges of Technology (HCT)
Dubai, UAE
nasser.nassiri@hct.ac.ae

David Moore
Department of Computer Science
Leeds Metropolitan University (ex professor)
Leeds, UK
moore-exleedsmet@hotmail.co.uk

***Abstract* - Trust is an essential contributor to the traditional customer experience. Online, it is harder for individuals to assess a partner's trustworthiness, as many of the cues present in face-to-face interaction are difficult to transmit via technology. The recent advance of computer graphics and internet technology, however, potentially enables individuals to transmit these cues through their avatars in 3D e-commerce environments. The paper investigates the impact of the vendor avatar's dynamic facial expression on consumer trust in 3D e-commerce environments. An experiment was conducted to empirically test the effects of the basic seven universal emotions of facial expression displayed by online vendor avatars on consumer trust in a 3D e-commerce environment. Respondents were able to recognize the intended emotions on the salesman avatars. They preferred to purchase from the salesman with a neutral expression.**

Keywords-Virtual Shopping Environments; Trust; Avatars; Online Retailing; Virtual Salespersons

I. INTRODUCTION

The Internet has brought customers and retailers together by enabling consumers to shop with anyone, at any time and from anywhere. However, it is also keeping them apart, and consumers are no longer in face-to-face contact with salespeople. Trust is an essential contributor to the traditional customer experience [11]. It makes collaboration between vendors and consumers more pleasant and allows for cooperation that would otherwise not take place. In online transactions, trust becomes even more important. Commercial interactions that are carried out over the internet carry more risk than face-to-face interactions [18]. One reason for this is that it is harder for individuals to assess a partner's trustworthiness, as many of the cues present in face-to-face interaction (e.g., emotions, posture, eye gaze, and gesture) were not transmitted via the early technologies used [11]. Yet, up to 93% of the meaning of all conversations comes from non-verbal communication [28]. However, the recent advance of computer graphics and internet technology enables individuals to transmit these cues through their avatars in Collaborative Virtual Environments (CVE) and therefore in 3D e-commerce environments such as that featured in Fig. 1 [5][9]. Avatars are virtual objects representing a human being in a virtual environment. These virtual objects are three-dimensional animated models. They are used by, for example, SecondLife [37], which offers retailers and shoppers a virtual 3D environment where both shoppers and retailers interact via their avatars.

Fabri et al. [16] conducted an experiment to establish how facial expressions of emotions might be effectively and efficiently captured and represented in CVE. Their findings provide strong evidence that creating virtual face representations with a limited number of facial features allows emotions to be effectively portrayed visually and gives rise to recognition rates that are comparable with those of corresponding raises a research question about whether the effectiveness of these avatars in conveying emotions will enable such avatars to transmit signals of trustworthiness in CVE e-commerce interactions" [23].

This paper, therefore, focuses on the role which the dynamic facial expressions of virtual vendors might play in 3D e-commerce environments. Specifically, it investigates the impact of the vendor avatar's dynamic facial expression on consumer trust in 3D e-commerce environments. The study reports an experiment in which participants were presented with seven avatars, each animated with one of the seven universal emotions, and saying the same message but with a varied tone of voice, to reflect the emotion shown by each avatar.

Figure 1. A simulation of a 3D e-commerce environment

II. THEORETICAL FRAMEWORK

Trust plays an important role in many social and commercial interactions. It is seen as a concept with many dimensions [1][8] and has been studied in many diverse disciplines. For instance, economists have focused on

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merchants' reputations and their effect on transactions [4]; researchers of marketing have focused on strategies for building consumers' trust [11][25][30]; human computer interaction scholars have focused on the relation between design and usability of a system and users' reactions [8]; and psychologists have studied trust as an interpersonal and group phenomenon [36].

Although trust is an essential component of all successful face-to-face commercial transactions, there is a renewed focus on trust when commercial transactions are conducted through electronic media and customer trust in internet-mediated marketing environments has been identified as a major research area [35]. Buyers look for signs from sellers that increase their trust, and sellers look at ways they can help build buyers' trust. Since uncertainties exist in transactions over the Internet, many researchers have stated that trust is a critical factor influencing the successful proliferation of e-commerce [19][20][21]. This has brought about new challenges for building trust in e-commerce business environments. Recent research on trust includes development of a trust typology [26], the measurement of trust [3], and critical factors influencing initial trust formation [26], including the impact of familiarity and seller size and reputation [20]. Mukherjee and Nath [31] have extended and validated Morgan and Hunt's [30] commitment-trust theory to online retailing contexts. Empirically, trust building has been identified as one of the main web experience components having a positive and significant effect on the selection of an e-vendor [24].

The initial impressions of an e-commerce website are particularly important. Although attitudes about a company or website evolve over time and even during the course of one shopping visit, initial impressions persist and can affect whether or not a visitor returns. Judgments about trustworthiness occur as soon as a visitor begins interacting with a site [6]. A number of researchers have investigated the importance of the website interface in promoting trust in the website from initial usage. Nielsen et al. [32] recommended that company information about pricing, including taxes and shipping costs, and balanced information about products would increase customers' perceptions of trustworthiness. However, besides cognitive elements, trust also includes an affective dimension, based on underlying feelings [25] and in service contexts, emotional bonds with customers have been found to provide a more enduring source of loyalty than economic incentives and switching costs [14]. Further, as Arnott [2] argues, decisions to trust an organization are based on assessments of several elements such as, in the case of online shopping experiences, trusting the brand, trusting the internet merchant and trusting the information system. Relationship marketing is more effective when the relationships are developed with individual people rather than with the firm itself [33]. In spite of this evidence that the human element is an important contributor to trust, many websites neglect this element and focus instead on securing trust though the use Socket Software Layer (SSL) and only a small number of these websites focus on the visual representation of the vendor's face to secure trust – a key reason for conducting this research.

The face is a very important source of socio-emotional cues. Centuries ago, Hippocrates advised doctors to use their facial expressions to establish a good rapport with their patients. Surakka and Hietanen [39] see facial expressions of emotion clearly dominating over vocal expressions of emotion, and Knapp [22] generally considers facial expressions as the primary site for communication of emotional states. Ekman et al. [12] found that, in addition to the neutral expression, there are six universal facial expressions, corresponding to the following emotions: Surprise, Anger, Fear, Happiness, Disgust, and Sadness (see Figure 2a). Fig. 2b shows the 7 universal emotions and neutral expression as represented in a virtual face corresponding to the real photos in Fig. 2a [16].

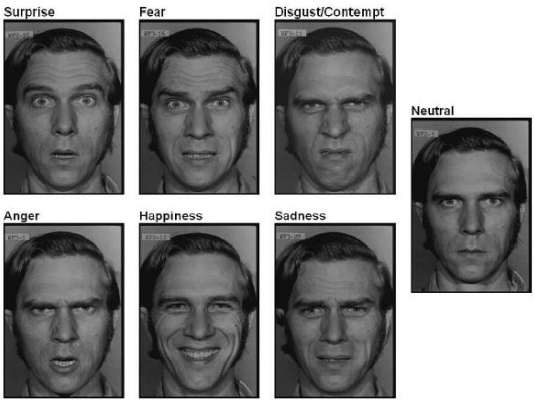

Figure 2a. Facial expressions of the b7 universal emotions [16]

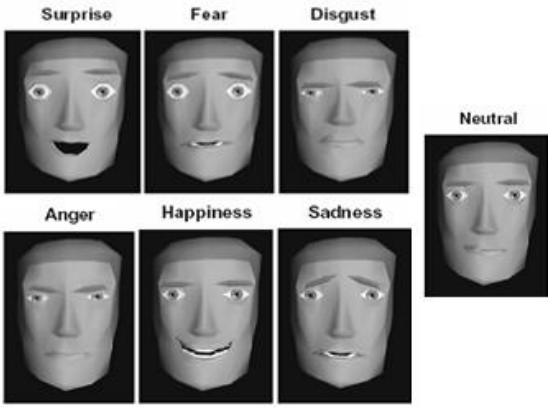

Figure 2b. The 7 universal emotions as represented in a virtual face [16]

Researchers have studied the impact of facial expression emotions on trust in face-to-face interactions. For example, in commercial transactions, trust building mechanisms include several factors such as physical presence, facial expression of emotions, and past action [18]. While this illustrates clearly the influence of facial expressions on trust in face-to-face interactions, little is known about its influence on trust in 3D e-commerce environments.

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III. RESEARCH METHODOLOGY

Forty two Lebanese participants of different gender and ages were involved in the experiment. Lebanon is a particularly apt country in which to conduct the experiment since salesman-to-consumer interactions, bargaining, trust based on personally relationship have been extremely important in the traditional shopping environments of the Arab world [34]. Each participant was presented with a local website constructed for the purpose of this study (Fig. 3) with some pictures of CDs signifying that this site sells audio CDs online. The website includes seven buttons for each virtual vendor representing the seven facial expressions of emotions. Once the virtual face was created, a sound track was digitized, reflecting the tone of voice corresponding to the emotion represented by each facial expression. The sound was then attached to each facial expression. The facial expressions were then added to the animated talking virtual head manually using the same application (Fig. 4). Each participant was required to go through each animation by pressing its corresponding button. Upon pressing any button, the chosen virtual avatar face is animated for 10 seconds, showing the emotion chosen and saying, in a tone matching the emotion, a sentence encouraging the participant to place the order through him.

Figure 3. The virtual website used for the experiment.

Each participant listened to the seven avatars and at the end of the session was asked to answer two questions. The first question required them to match each sales representative with the emotion he was perceived as conveying. The second question asked about the extent to which (using a Likert 6-point scale) the participant would be prepared to place an order with each of the sales representatives. The participants were free to visit the avatars in any order and were allowed to revisit them in the process of answering the questions. The gender and age-group of each participant were recorded, as well as their responses to the questions.

Figure 4.1. Happy

Figure 4.2. Sad

Figure 4.3. Afraid

Figure 4.7. Neutral

Figure 4.4 Surprised

Figure 4.5. Disgusted

Figure 4.6. Angry

IV. RESULTS

The gender and age group of the participants are shown in Table 1, which shows a reasonable representation across gender and age.

TABLE I. SUMMARY OF GENDER AND AGE GROUP OF PARTICIPANTS

Gender	Age Group (years)				Total
	20 to 25	26 to 30	31 to 40	Over 40	
Male	11	9	5	4	29
Female	9	2	0	2	13
Total	34	11	5	6	42

The first question was intended to investigate whether these particular instances of the universal emotion were correctly identified by the participants. The results of the participants' identifications are presented in Table 2.

All the participants successfully identified the happy, sad, angry and neutral expressions of the Sales Rep. There are a few misidentifications of the surprised, afraid and disgusted – 4, 7 and 9 misidentifications, respectively, with surprised being confused with afraid and disgusted, afraid being confused with disgusted and sad, and disgusted being confused with afraid, surprised and sad.

TABLE II : RECOGNITION OF THE SALES REPRESENTATIVE EMOTIONS

Intended Emotion	Perceived Emotion						
	Neutral	Happy	Sad	Afraid	Surprised	Disgusted	Angry
Neutral	42						
Happy		42					
Sad			42				
Afraid			2	35		5	
Surprised				2	38	2	
Disgusted			2	4	3	33	
Angry							42

To provide a measure of the strength of agreement between the intended emotion and the one perceived by the participants, Cohen's Kappa coefficient [7] of $\kappa = 0.921$, has

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been calculated. The coefficient represents the proportion of agreement after chance agreement is excluded and it takes negative values for agreement less than that expected by chance, a value of 0 for agreement levels expected by chance, and a value of 1 for perfect agreement. The value of the coefficient confirms the high rate of agreement between the emotion that the avatar is intended to convey and the emotion perceived by the participants.

It is interesting to note that only one of the female participants made any error in classification of the emotions, whereas 8 male participants made 19 errors between themselves. This may suggest that women are better at identifying the avatar's emotion, however, this was not found to be statistically significant ($\chi 2$ (df =1) = 2.110, p (exact) = 0.232, based on a two-by-two contingency table of the number of male and female participants identifying all the emotions correctly or making one or more mistakes).

The second question asked respondents whether they would place an order with each of the sales representatives. The results are described in Table 3.

The results in Table 3 show strong preference for the Neutral sales representative, followed by a slight inclination towards ordering with the happy sales representative. There is a slight disinclination to use the Surprised and Sad sales representatives, a disinclination to use the Afraid sales representative and strong disinclination to use the Disgusted and Angry sales representatives. In order to analyze these results a Repeat Measures General Linear Model [38] was constructed, with the emotion expressed by the sales representative as the within-subject variable and the gender and age of the participants as between-subject variables. Post-hoc comparisons were conducted on variables that proved to be significant within the model to identify differences. Mauchy's test for sphericity was not passed ($p < 0.001$), so the Greenhouse-Geisler correction [38] to the degrees of freedom of the univariate tests was applied, using $\varepsilon = 0.661$. The within-subject tests show that the emotion of the sales representatives with regard to placing an order is significant ($p < 0.001$), however the interactions of emotion with gender, age, or gender and age are not significant ($p = 0.564$, 0.600, and 0.151, respectively). Therefore, there are significant differences between the participants' responses to the emotions, but these responses are not significantly affected by the gender or age of the participants. Table 4 shows the estimated means and their 95% confidence intervals, ordered in decreasing preference. The responses were coded 'strongly disagree' = 1 to 'strongly agree' = 6.

TABLE III: LIKELIHOOD OF PARTICIPANTS PLACING AN ORDER WITH EACH SALES REPRESENTATIVE

		1 Strongly Disagree	2	3	4	5	6 Strongly Agree
Sales Rep2	Neutral				5	13	
Sales Rep5	Happy	2	7	5	21	4	3
Sales Rep7	Surprised	5	13	18	6		
Sales Rep6	Sad	8	12	18	4		
Sales Rep4	Disgusted	24	10	8			
Sales Rep1	Afraid	13	14	10		5	
Sales Rep3	Angry	38	4				

TABLE IV: MEAN, STANDARD ERROR AND 95% CONFIDENCE INTERVAL FOR REACTIONS TO SALES REPRESENTATIVE EMOTION, IN DESCENDING ORDER

	Emotion	Mean	Standard Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Sales Rep2	Neutral	5.39	.14	5.11	5.67
Sales Rep5	Happy	3.66	.22	3.20	4.11
Sales Rep7	Surprised	2.37	.17	2.31	3.00
Sales Rep6	Sad	2.12	.17	2.02	2.73
Sales Rep4	Disgusted	2.11	.30	1.50	2.73
Sales Rep1	Afraid	1.14	.23	1.65	2.57
Sales Rep3	Angry	11	.06	1.02	1.25

Table 5 shows the results of the post-hoc comparisons between the participants' responses to the sales representatives' emotions. The Bonferroni correction [15] for multiple comparisons has been applied. Taking the results from Tables 4 and 5 together, the Neutral sales representative is very highly significantly preferred above the other emotions. Participants were neutral about the Happy sales representative, who is nevertheless significantly preferred to the Surprised sales representative. The participants were disinclined to place orders with the Surprised, Sad, Disgusted and Afraid sales representative and there were no significant differences between their reactions to these sales representatives. Participants were least likely to place an order with the Angry sales representative, whom they reacted to significantly less favorably than all the other sales representatives, with the exception of the Disgusted sales represented that was not significantly different.

TABLE V.POST-HOC COMPARISONS BETWEEN EMOTIONS (SIGNIFICANCE, P)

Emotion	Happy	Surprised	Sad	Disgusted	Afraid	Angry
Neutral	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Happy		0.035	0.001	0.003	0.001	<0.001
Surprised			1.000	1.000	1.000	<0.001
Sad				1.000	1.000	<0.001
Disgusted					1.000	0.088
Afraid						0.003

V. DISCUSSION

This study considered whether the emotions conveyed through the animated facial expressions of avatars and their tone of voice could induce trust in 3D e-commerce environments. The results show that people successfully recognized the intended emotions conveyed by the animated salespeople, or avatars. In this respect, this study is in line with Fabri et al. [16] results, suggesting that human emotions are legible in 3D virtual environments. Further, it was interesting to find that while the results did not reach statistical significance, women made fewer mistakes in

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recognizing intended emotions than men. While further research is needed to validate this result, it might suggest that online as offline, women are better readers of emotions [29].

There appears to be a very high success rate for the recognition of the sales representative's emotion, albeit not 100% recognition. Where misidentification has occurred, it has been between related emotions (sad, afraid, surprised and disgusted) and not between more contrasting emotions: happy, neutral and sad.

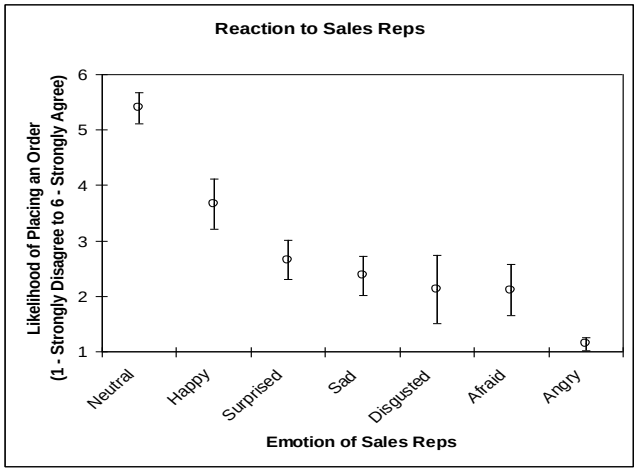

Figure 5. Mean and 95% Confidence Interval of the Participants' Inclination to use Sales Representative (1-Strongly Disagree to 6 - Strongly Agree)

The other set of results shows that respondents preferred to purchase from the salesman with a neutral expression, rather than from any other salesmen, including the happy salesman. This suggests that the perceived positive emotions of sales avatars do not induce trust as much as neutral expressions. This is perhaps surprising, since offline, the positive emotions of salespeople influence trust [18], and lead people to return to a store and spread word of mouth [40]. A possible explanation is that while consumers are able to read the emotions of sales avatars, they remain conscious of the fact they are not real people with real feelings.

It may be that rather than convincing them, positive emotions conveyed by an avatar make customers more 'suspicious' than a neutral expression. An alternative explanation of these results would be that the neutral expression in fact conveys seriousness, professionalism and competence. This would be consistent with Fogg et al. [17] study which mentions expertise as one of the elements inducing trust online.

Thus, consumers may develop trust as a result of perceptions of professionalism and competence, rather than emotionally-pleasant, virtual interactions. A similar finding emerged from a study of responsiveness during service interactions taking place over the telephone. Doucet [10] established that informational responsiveness were more beneficial for both the organization and the customer than emotional responsiveness. In a context precluding real face-to-face interactions, therefore, information and demonstration of competence may be the main drivers of trust.

There are several possible managerial implications of this study. First, it suggests that consumers are able to recognize intended emotions as conveyed by sales representative avatars. Therefore, the current technology makes it possible for online retailers to infuse their virtual sales people with certain emotions. Second, the participants' inclination to purchase from a neutral rather than a happy sales representative suggests that it may not be possible to increase purchase intentions purely by animating the virtual salesperson with a happy mood. It has been suggested that consumers may equate the neutral expression with competence, in which case retailers may be able to use further cues to convey competence, such as for example the sales representative's dress and language and of course domain knowledge. Further, it might be useful to include the effect of presenting "no avatar" in order to compare the overall feedback of the participants,

A limitation of the study is the relatively small sample size (n=42), in spite of the respectable number of observations (294). Future research should aim to investigate statistically whether women are better readers of emotions online than men.

VI. CONCLUSION AND AVENUES FOR FURTHER RESEARCH

This study suggests that contrary to traditional shopping environments where trust can be conveyed through the sales representative's facial expression, or the vocal expression of emotions, virtual environments do not seem able to increase customer trust through the positive emotions of sales representatives' avatars. Further research is needed to validate these initial results. It would be useful in particular to design an experiment which simulates two different interactions with a sales avatar, one based on social exchange, while the other is based on informational exchange. A qualitative approach, using think aloud [13] while people interact with different sales avatars, would also allow for a deeper understanding of consumers' reactions to virtual sales people, and of how virtual sales people can convey expertise.

Another limitation is that the same virtual salesman avatar is used to show all the facial expressions, and this might confuse the participants when scoring the expressions. Further research should also aim to have a different avatar for each expression. Future research should aim to verify statistically the possibility that women are better readers of emotions online than men. Further, the experiment was presented to the participants with avatars having different emotion and appropriate ton of voice. It was suspicious whether the voice contributed to the high success rate of the recognition of the sales representative's emotion or not.

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Therefore, a future research in this direction might lead to more robust results.

We must reiterate that this study's results do not necessarily imply that the positive emotions of sales avatars are detrimental to 3D e-commerce environments. In particular, further research should establish whether the emotions of sales avatars make the shopping experience more 'fun', keep people in the virtual environment longer, and make them explore more. This in turn may commit consumers to return to the store, and become life-long customers.

By suggesting a preference of consumers for neutral rather than positive emotions on sales avatars' facial expressions, this study has contributed towards a better understanding of how consumers react to virtual interactions, and possible explanations as to why they prefer neutral expressions on sales representatives' avatars. As such, the study supports the argument that retailers face a number of new challenges in managing online customer experiences. The virtually of human interaction and its consequences is an important area for future research.

REFERENCES

[1] Araujo, A. (2003), "Developing trust in internet commerce", in Proceedings of the Conference of bthe Centre for Advanced Studies on Collaborative Research.

[2] Arnott, D.C. (2007), "Trust - Current Thinking and Future Research", European Journal of Marketing, vol. 2007 no. 41, pp. 981-87.

[3] Bhattacherjee, A. (2002), "Individual Trust in Online Firms: Scale Development and Initial Test", Journal of Management Information Systems, vol. 19, no. 1 (Summer), pp. 211-241.

[4] Cabral, B. (2006), "The Economics of Trust and Reputation: A Primer", Technical Report, New York University and CEPR.

[5] Capin, T., Pandzic, I., Thalmann, N., Thalmann, D. (1999), "Realistic Avatars and Autonomous Virtual Humans in VLNET Networked Virtual Environments", in Earnshaw, R.A. and Vince, J. (Ed.), Virtual Worlds on the Internet, IEEE Computer Science Press, pp. 157-174.

[6] Cherny, L. (1999), Conversation and Community: Chat in a Virtual World, CSLI, Stanford.

[7] Cohen, J. (1960), "A Coefficient of Agreement for Nominal Scales," Educational and Psychological Measurement, vol. 20 no. 1, pp. 37-46.

[8] Corritore, L. Kracher, B., and Wiedenbeck S. (2003), "On-line trust: concepts, evolving themes, a model", International Journal of Human-Computer Studies, vol. 58 no. 6, pp. 737–758.

[9] Coulson, M., (2002), "Expressing emotion through body movement: A component process approach", in Proceedings of AISB Symposium on Animated Expressive Characters for Social Interaction, London, UK, pp. 11-16.

[10] Doucet, L. (2007), Responsiveness: Emotion and Information Dynamics in Dyadic Service Interactions, PhD dissertation, University of Pennsylvania.

[11] Dwyer, F.R., Schurr, P.H., and Oh, S. (1987), "Developing Buyer-Seller Relationships", Journal of Marketing, Vvl. 51 no. 2, pp. 11-27.

[12] Ekman, P., Friesen, W., and Ellsworth, P. (1972), Emotion in the Human Face: Guidelines for Research and an Integration of Findings, Pergamon Press Inc, New York, NY.

[13] Ericsson, A and Herbert, S. (1993), Protocol Analysis - Verbal Reports as Data, The MIT Press, Cambridge, MA.

[14] Evanschitzky, H., Iyer, G.R., Passman, H., Niessing, J., and Meffert, H. (2006), "The Relative Strength of Affective Commitment in Securing Loyalty in Service Relationships," Journal of Business Research, vol. 59 no. 12, pp. 1207-13.

[15] Everitt, B. (1995), The Cambridge Dictionary of Statistics in the Medical Sciences, Cambridge University Press, Melbourne.

[16] Fabri, M., Moore, D., and Hobbs, D. (2002), "Expressive Agents: Non-verbal Communication in Collaborative Virtual Environments", in Proceedings of Autonomous Agents and Multi-Agent Systems 2002 (Embodied Conversational Agents Workshop), July 2002, Bologna, Italy.

[17] Fogg, B.J., Marshall, J., Laraki, O., Osipovich, A., Varma, C., Fang, N., Paul, J., Rangnekar, A., Shon, J., Swani, P., and Treinen, M. (2001), "What makes Web sites credible? A report on a large quantitative study", CHI 2001 Conference Proceedings, vol. 3 no. 1, pp. 61-6.

[18] Giddens, A., (1990), The Consequences of Modernity, Stanford University Press, Stanford.

[19] Hoffman, L., Novak, P., and Peralta, M. (1999), "Building Consumer Trust Online", Communications of the ACM, vol. 42, no. 4, pp. 80-85.

[20] Jarvenpaa, L., Tractinsky, J., and Vitale, M. (2000), "Consumer trust in an internet store", Information Technology and Management, Vol. 1 No. 1 and 2, pp. 45-71.

[21] Keen, W. (2000), "Ensuring e-trust", Computer World, vol. 34 no. 11, pp. 46.

[22] Knapp, M. (1978), Nonverbal Communication in Human Interaction (2nd Edition), Holt, Rinehart and Winston Inc., New York, NY.

[23] Lisetti, C., Nasoz, F, Lerouge, C., Ozyer, O., and Alvarez, K. (2003), "Developing Multimodal Intelligent Affective Interfaces for Tele-Home Health Care", International Journal of Human Computer Studies Special Issue on Applications of Affective Computing in Human-Computer Interaction, vol. 59 no. 1-2, pp. 245-255.

[24] Lorenzo, C., Constantinides, E., Geurts, P., and Gomez, M.A. (2007), "Impact of Web Experience on E-Consumer Responses", in 8th International Conference on E-Commerce and Web Technologies, ed. G. Psaila and R. Wagner, Regensburg, Germany.

[25] McAllister, D.J. (1995), "Affect- and Cognition-Based Trust as Foundations for Interpersonal Cooperation in Organizations", Academy of Management Journal, vol. 38 no. 1, pp. 24-59.

[26] McKnight, D. and Chervany, N. (2001), "What Trust Means in E-Commerce Customer Relationships: An Interdisciplinary Conceptual Typology", International Journal of Electronic Commerce, vol. 6 no. 2, pp. 35-59.

[27] McKnight, D., Cummings, L., and Chervany, N. (1998), "Initial Trust Formation in New Organizational Relationships", Academy of Management Review, vol. 23 no. 3, pp. 473-490.

[28] Mehrabian, A. (1971), Silent Messages, Wadsworth, Belmont, CA.

[29] Merten, J. (2005), "Culture, Gender and the Recognition of the Basic Emotions", Psychologia, vol. 48 no. 4, pp. 306-316.

[30] Morgan, R. M. and Hunt, S. D. (1994), "The Commitment-Trust Theory of Relationship Marketing", Journal of Marketing, vol. 58, pp. 20-38.

[31] Mukherjee, A. and Nath, P. (2007), "Role of Electronic Trust in Online Retailing - a Re-Examination of the Commitment-Trust Theory", European Journal of Marketing, vol. 41, pp. 1173-202.

[32] Nielsen, J., Molich, R., Snyder, C., and Farrell, S. (2000), "E-commerce User Experience", Technical Report, Nielsen Norman Group, Cheskin Research & Studio Archetype/Sapient: 1999, eCommerce Trust Study, Sapient, http://www.sapient.com/cheskin/.

[33] Palmatier, R.W., Dant, R.R., Grewal, D., and Evans, K.R. (2006), "Factors Influencing the Effectiveness of Relationship Marketing: A Meta-Analysis", Journal of Marketing, vol. 70 No. 4, pp. 136-53.

[34] Raven, P. and Welsh, D. H.B. (2004), "An Exploratory Study of Influences on Retail Service Quality: A Focus on Kuwait and Lebanon", Journal of Services Marketing, vol. 18 No. 3, pp. 198-214.

 ISBN: 978-1-61208-339-1

[35] Schibrowsky, J.A., Peltier, J.W., and Nill, A. (2007), "The State of Internet Marketing Research - a Review of the Literature and Future Research Directions", European Journal of Marketing, vol. 41 no. 7-8, pp. 722-33.

[36] Scott, L. (1980), "Interpersonal trust: A comparison of attitudinal and situational factors", Human Relations, vol. 33 No. 11, pp. 805-812.

[37] www.secondlife.com

[38] SPSS (1999), SPSS Advanced Models 9.0, SPSS Inc, Chicago, IL.

[39] Surakka, V. and Hietanen, J. (1998), "Facial and emotional reactions to Duchénne and non-Duchénne smiles", International Journal of Psychophysiology, vol. 29, pp. 23-33.

[40] Tsai, W. (2001), "Determinants and consequences of employee displayed positive emotions", Journal of Management, vol. 27 no. 4, pp. 497-510.

 ISBN: 978-1-61208-339-1