Exploring source effects for online sales outcomes: the role of avatar-buyer similarity

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Abstract This exploratory study investigates the role of a virtual salesperson's similarity to an online buyer in enhancing web site sales outcomes. Our findings show that under low involvement purchase conditions, the avatar's physical (gender and race) dissimilarity to the buyer positively affects buying intentions, possibly through positive emotions due to the opposite gender attractiveness. Under high involvement conditions, the avatar's characteristics do not affect buyer cognitive effort, and sales arguments alone determine purchase intentions. For moderate involvement situations, two separate routes of message processing may operate simultaneously: avatar-buyer internal trait similarity (i.e. similar need for cognition) works to facilitate the peripheral route, while argument strength works independently by facilitating the central route to persuasion. We discuss the applicability of the Social Response theory and the Elaboration Likelihood Model to online buying, and propose directions for future research.

Keywords Avatar-buyer similarity, Source effects in the online context, Elaboration Likelihood Model

INTRODUCTION

As the current global economic slowdown is leading to reduced consumer spending and overall decline in retail sales, the importance of electronic commerce as a sales channel is underscored, with annual sales increases of 6-10% (comScore 2008; U.S. Census 2008). To retain their business standing and enhance profitability performance,

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online retailers continually implement innovative technologies aimed at improving customer conversion, retention, and loyalty. Incorporating social aspects into online transactions has been found to enhance consumer perceptions of entertainment and information values, leading to higher satisfaction with the online retailer and greater purchase intentions (Holzwarth, Janiszewski and Neumann 2006). Presence on the site of such social cues as "avatars" (virtual sales representatives) has also been linked to increased web site "socialness" perceptions, customer pleasure and arousal, as well as patronage intentions (Wang et al. 2007). The above findings appear to support the social response theory (Moon 2000; 2003; Reeves and Nass 1996) by showing that people apply social rules in communicating with humanlike virtual entities. However, a logical follow-up question is whether the effectiveness of virtual sales representatives can be improved by characteristics that have been proven effective in human-to-human sales situations.

Existing personal selling literature generally concurs on the positive role of buyer-seller similarity in sales outcomes (Lichtenthal and Tellefsen 2001). Such characteristics as shared attitudes, morality, personality traits, music preferences, background, and perceptions about life have been found to positively affect a sales situation outcome (Byrne 1962; Byrne, Griffitt and Stefaniak 1966; Dion, Easterling and Miller 1995; Stotland, Zander and Natsoulas 1961; Taylor and Woodside 1982). However, mixed findings exist regarding the effects of observable (physical) similarity, most frequently operationalised as age, gender, and race (Churchill, Collins and Strang 1975; Crosby, Evans and Coweles 1990; Dwyer, Richard and Shepherd 1998). Some studies report positive effect of observable similarity between buyer and seller on purchase intentions (Gadel 1964; Smith 1998), altruism (Harris and Baudin 1973), and confederate assessment (Hendrick, Stikes and Murry 1972). Others find no significant relationships between physical similarity and sales outcomes (Jones, Moore, Stanaland and Wyatt 1998). Still others propose the reverse effects (e.g. gender dissimilarity) of observable characteristics to be instrumental in increasing sales performance (Dwyer, Richard and Shepherd 1990).

With ongoing advances in technology for customer relationship management (CRM) and Web site personalisation, the characteristics of virtual company representatives can be adapted to match those of every individual customer, and for every sales situation. Therefore, it is important to find out whether buyer-seller similarity matters for increasing sales performance in online contexts. It is also essential to know whether product category or a particular sales situation affects the relationship between buyer-seller similarity and sales outcomes by introducing variation into the degree of consumer involvement with the purchase. This paper examines how a virtual salesperson's observable and internal similarity may impact buying intentions in an online sales context and explores whether Elaboration Likelihood Model (Petty and Cacioppo 1981) can explain these relationships under varied purchase involvement conditions.

BUYER-SELLER SIMILARITY

Individualised approaches to marketing products and services have been increasingly replacing mass-marketing techniques as advances in technology make possible the utilisation of one-to-one marketing and customer relationship management (CRM). Historically, personalised sales approaches have been considered superior to mass marketing and communications due to possibilities of customising the offer,

evaluating buyer needs, and responding to customer objections in real time, as well as understanding and proposing solutions to customer problems based on arguments expressed at the time of negotiations. Consequently, considerable attention has been dedicated to identifying the drivers of salesperson effectiveness in the sales literature. Such characteristics as appearance (Lamont and Lundstrom 1977), adaptive selling capabilities (Weitz, Sujan and Sujan 1986), flexibility (Castleberry and Shepherd 1993), and relationship development skills (Marshall, Goebel and Moncrief 2003) have been identified as key factors in increasing salesperson's effectiveness.

A salesperson's similarity to the buyer has also been hypothesised to affect the outcome of the sales situation, based on the process of social identification, whereas the buyer will be more influenced by a seller with whom he/she shares certain attributes (Festinger 1954; Tajfel and Turner 1986). According to this view, similarity may be inferred from either observable physical attributes or internal traits. Physical characteristics include such observable traits as age, gender, race, type of clothing, etc., and have been shown to invoke cultural stereotypes and lead to categorising salespeople into social groups. Similarity in internal traits – including tastes, opinions, and views on topics – may indicate membership in one's social group, and thus may increase persuasion in a sales situation (Lichtenthal and Tellefsen 2001).

A number of empirical studies supported the importance of perceived internal similarity in improving sales effectiveness. For example, Byrne (1961) and Busch and Wilson (1976) found positive effect of similarity in general attitudes between buyer and seller on perceived salesperson trustworthiness, knowledge, morality, and buyer purchase intentions. Brock (1965) showed that salespeople similar to retail customers in their product usage habits were more successful in selling. Woodside and Davenport (1974) confirmed positive relationship between shopper and salesperson product preferences and sales. Finally, Taylor and Woodside (1982) reported that similarities in buyer and seller background and hobbies positively affected insurance sales.

Studies focused on physical similarity, or on composite measures of similarity that included both physical and internal characteristics, showed mixed results. Evans (1963) explored the role of similarity based on age, height, education, income, religious and political views, and smoking habits. He compared the degree of buyer-seller dyad similarity with sales outcomes and concluded that more sales occurred between similar buyers and sellers. However, a replication of his study by Churchill, Collins and Strang (1975) using the composite score of similarity did not confirm the findings. Gadel (1964) compared age similarity and insurance sales data for twenty-two thousand buyer-seller dyads. His results supported the positive association between age similarity and sales. However, a later research on age similarity by Kang and Hilery (1998) contradicted Gadel's (1964) conclusion and showed that both younger and older respondents in a retail setting, when asked, gave higher ratings to older salespeople. Jones et al. (1998) conducted an experiment manipulating salesperson gender and race similarity to respondents. Neither gender nor race similarity were significant in buyer assessments of salespeople. Smith (1998) investigated the role of perceived similarity to a supplier's representative in affecting the business-to-business relationship quality. He found that gender similarity was positively associated with trust, openness of communications, and relationship investment. He also reported that similarity in life stage, personality, and work attitudes was positively related to relationship quality (Smith 1998). Dwyer, Richard and Shepherd (1990) considered gender and age similarity as factors affecting life insurance sales performance. They did not find any significant effect for age, but found a reverse effect for gender

similarity. In their study, salespeople of opposite gender showed better sales results with their clients. It appears that although the effects of different types of similarity on sales outcomes are mixed, buyer-seller similarity deserves rigorous research attention as an important factor at the time when mass communications overload, advertising clutter, and intense competition make individualised marketing a necessity.

The online retail environment provides unprecedented opportunities for individualised marketing. As a technology-mediated sales environment characterised by lack of face-to-face contact and communications, it necessitates new approaches to enhancing social experiences on retail sites. Virtual sales representatives, also called avatars, are increasingly used in product presentations, live chats, and virtual communities. Such characteristics of avatars as perceived expertise, attractiveness, and sociability have been found to positively affect online purchase intentions and customer satisfaction (Holzwarth et al. 2006; Wang et al. 2007). It is possible that avatar physical appearance and inferred personal characteristics may serve as cues for social stereotyping in the fast-paced online encounters, and thus strengthen or weaken avatar persuasiveness. Avatar characteristics can be easily modified, creating an opportunity to tailor sales representatives to each customer for each product, store, and purchase situation. Therefore, it is important to know whether avatar similarity to online buyer will affect an online sales outcome.

ELABORATION LIKELIHOOD MODEL

It has been argued that differential effects of salesperson characteristics can be explained by the level of customer involvement with the purchase situation, whereas physical similarity serves as a peripheral cue and affects buying intentions only under low involvement conditions (Lichtenthal and Tellefsen 2001). Internal trait similarity, on the other hand, may affect buying intentions when a customer is more strongly involved with the purchase due to its higher price, perceived risk, or personal relevance, by sensitising the buyer to stronger elaboration of the sales message (Petty, Cacioppo and Schumann 1984; Wheeler, Petty and Bizer 2005). These arguments are based on the Elaboration Likelihood Model (ELM) that advocates existence of two distinct routes to attitude change (Petty and Cacioppo 1981). Under the central persuasion route, customers carefully process (elaborate on) the product information, cognitively evaluate the salesperson's arguments, and integrate the resulting beliefs into an enduring overall evaluation of the product. Under the peripheral route to attitude change, rather than diligently considering the arguments, customers favour a product due to positive or negative cues in the persuasion context (e.g. salesperson attractiveness or pleasant atmosphere). The choice of the information processing route in each situation is determined by the customer's motivation and ability to think about the arguments that a salesperson might present. Thus, if the purchase situation is of low interest or relevance to the buyer, or distracting stimuli decrease the buyer's ability to think about the message, such peripheral cues as salesperson's likeability, perceived expertise, or attractiveness will determine the attitude towards the product (Petty, Cacioppo and Goldman 1981). On the contrary, under very high-relevance conditions, the strength of arguments would determine the attitude change due to the increased cognitive effort of the buyer (central route).

From the point of view of the ELM theory, it may be hypothesised that buyer-seller physical similarity (or dissimilarity), being a peripheral cue, will affect consumer change of attitude stronger under low-relevance conditions (e. g., low interest towards

the product) than under higher-relevance conditions. Conversely, following the ELM logic, we propose that under high involvement conditions, argument strength will be the most important factor affecting online buyer purchase intentions, with physical or internal similarity or dissimilarity of virtual salesperson not playing a significant role.

> **H1:** *Under low involvement conditions, there will be a relationship between an avatar's observed physical similarity to the online consumer and purchase intentions.*

> **H2:** *Under high involvement conditions, there will be a significant main effect of virtual salesperson's arguments' strength on purchase intentions of the online buyer.*

A number of studies on source effects in personal selling situations have shown that when the level of personal relevance is either moderate, or less clear, interaction effect of central and peripheral processing routes can occur (Lien 2001). Such peripheral cues as source expertise or message framing may affect the amount of thinking devoted to the message, thus activating central processing (Petty and Cacioppo 1981; Puckett et al. 1983). For example, an argument from a non-expert source may decrease message processing effort, since the information would be perceived as not credible and therefore not worth thinking about (Heesasker, Petty and Cassioppo 1983). Similarly, the wording of sales messages (a peripheral cue) that matches customer self-schemas of extroversion and need for cognition have been found to increase message elaboration (central route), strengthening the effect of strong arguments and decreasing the strength of weak arguments (Wheeler et al. 2005). However, other findings suggest that independent, non-interactive effects of peripheral and central processing can be present in a moderate involvement persuasion situation (Chaiken and Maheswaran 1994). In the online context, only the main effect of avatar-related peripheral cues has been reported. For example, Holzwarth et al. (2006) showed that "*moderately involved shoppers*" were strongly persuaded by attractive avatars to purchase orthopedic shoes online, and Wang et al. (2007) reported that "*social*" avatar increases positive attitude towards the purchase of online travel. No interaction or simultaneous independent effects of peripheral and central routes have been tested in the online sales context. Based on the earlier findings, we propose that under moderate involvement conditions in the online sales context, an avatar's internal trait similarity to the buyer may affect purchase intentions. Specifically, we hypothesise that similarities in personality, attitudes or motivation will increase purchase attention. This effect may be attributed to either an increase in cognition, so that stronger arguments will lead to higher purchase intentions (interaction effects), or to the avatar playing the role of a separate peripheral cue and exerting a direct positive effect on purchase intentions:

> **H3a:** *Under moderate involvement conditions, internal trait similarity between the avatar and online consumer will lead to higher purchase intentions if the arguments are strong, and to lower purchase intentions if the arguments are weak.*

> **H3b***: Under moderate involvement conditions, internal trait similarity between the avatar and online consumer will be positively related to purchase intentions.*

Two experiments were conducted that compared separate effects of observable and internal similarity under various involvement conditions. Study one manipulated physical similarity in terms of gender and race to test the direct effect of this peripheral

cue on purchase intentions under high and low involvement conditions in the online sales situation. Study two focused on the need for cognition (NC) as a measure of internal similarity (Wheeler et al. 2005) to test whether buyer-seller internal similarity influences online sales outcomes as a peripheral cue, or by sensitising the buyer to processing the sales arguments under moderate involvement conditions. The main effect of argument strength was also analysed in study two to test for simultaneous independent peripheral and central effects under moderate involvement (Chaiken and Maheswaran 1994).

STUDY ONE

Sample and procedure

A two (avatar: similar vs. dissimilar) by three (involvement: low vs. medium vs. high) between-subjects experiment was conducted with 116 undergraduate marketing students from two US public universities who fulfilled an extra credit assignment of evaluating products on a website. The average age of the participants was 23.97 (SD 12.16, range 19-36). Men represented 59% of the sample. In terms of race/ethnicity, 78% were Caucasian, 14% - African American, 3% - Hispanic, 3% Asian, and 2% - other ethnicities. The majority of the respondents were single (80%). A web site was created using Adobe DreamWeaver software, integrating avatars created using SitePal, a commercial provider of avatars whose clients include retail websites in a variety of industries. These avatars were somewhat cartoon-style, but were humanlike and animated, incorporating moving facial expressions and eyes that followed the mouse on the screen as the user navigated through the page. The style and form of the avatars used in the study were consistent with those used by actual retail websites – as well as non-retail avatars used on sites such as Yahoo! – in order to closely simulate real-world situations.

The website URL was posted on participants' respective class web pages. Initial questions about student demographics and physical appearance determined how specific avatars will be assigned: half of the students received avatars that were similar to them in gender and race, and the other half was exposed to dissimilar avatars. For example, in the similar condition, a white male was assigned a Caucasian-appearing male avatar, while in the dissimilar condition the same white male would have been assigned a darker-skinned female avatar. In order to avoid confounding effects of age, clothing and appearance factors, the avatars were identical in appearance except for gender and skin tone. The age of the avatars was consistent with the age range of participants. In addition to avatar (dis)similarity manipulation, students were randomly assigned to three conditions of purchase situation involvement: websites selling a children's game (low involvement), a foldable bed (moderate involvement), and a website advertising a student apartment complex (high involvement). These products were selected out of 20 products rated by another cohort of marketing students in a pre-test, based on their interest, relevance, and degree of usefulness (Zaichkowsky 1985).

After answering demographic and physical appearance questions, students were directed to an online store where they were greeted by a picture of an avatar and an introductory text. The following page contained the picture of the avatar, description and pictures of the product, as well as arguments for buying/choosing the product. After the sales encounter, students returned to the survey window and answered

questions about their purchase intentions (Wheeler et al. 2005), thoughts about the product and website (Wheeler et al. 2005), as well as manipulation-check questions. The survey and online sales presentation lasted approximately 15 minutes.

RESULTS AND DISCUSSION

Manipulation checks

Manipulation of avatar physical similarity to the buyer was successful. An ANOVA found significant differences among the matched vs. non-matched groups in answering the question "Please indicate how similar the avatar sales associate was to you in appearance" on a scale of 1 (very dissimilar) to 7 (very similar) (F=17.9; p<.000). Manipulation of involvement did not achieve desired results (F=2.3, p=.1) based on Zaichkowsky's (1985) scale of involvement. Means for student self-reported involvement with the foldable bed were slightly higher than those with the apartment complex, or children's game purchase situations. This could potentially be explained by the relative novelty of the foldable bed concept compared to the other two products. Based on the measured involvement results that clearly distinguished variation in the levels of involvement, we used median split to represent the actual levels of involvement in the hypotheses testing. The median split technique has been extensively used in similar situations (e.g. Holzwarth et al. 2006; Wheeler et al. 2005) where hypotheses were based on levels of involvement, rather than different product categories. An ANOVA confirmed significant differences (F=172.7, p<.001) between the measurements of involvement for the low-involvement group (M=4.52, SD= .95) and the high-involvement group (M=6.33, SD=.42).

Effect of avatar-buyer physical (dis)similarity on purchase intentions

In support of Hypothesis 1, avatar similarity was negatively related to purchase intentions under the conditions of low purchase involvement (F=3.13; p=.082), while there was no relationship under the conditions of high purchase involvement (F=.175; ns). This confirms our supposition that the Elaboration Likelihood Model theory (Petty and Cacioppo 1981) is applicable to online sales situations, and that the appearance of a virtual sales representative can be instrumental in facilitating desirable consumer behaviour for certain types of online purchases. In particular, under low involvement conditions (e.g. routine re-purchase, low price, or lack of interest), avatar characteristics may directly affect purchase intentions (e.g. by

TABLE 1 Means, standard deviations and correlations of measured variables

VARIABLE	MEAN	SD	RANGE	1	2
1. Self-reported involvement (Zaichkowsky 1985)	5.29	1.12	1-7	1.0	
2. Behavioural intentions (Wheeler at al. 2005)	4.15	1.51	1-7	.267**	1.0
3. Observable similarity assessment (Wheeler et al. 2005)	3.23	1.86	1-7	.055	.179

** Correlation is significant at the 0.05 level (2-tailed)

creating physical attraction). This finding supports the earlier view that certain observable source characteristics are antecedent to positive sales results (Gadel 1964; Hendrick et al. 1972; Raymond and Unger 1972). It also emphasises the potential of virtual sales representatives to add social benefits of the shopping process to online storefronts, and suggests that manipulation of avatar appearance to match the desired stereotype may enhance sales on the website. Our result is consistent with the finding by Dwyer et al. (1998) that gender similarity is negatively correlated with sales. Positive emotions may have resulted from buyers' perception of gender dissimilarity with the seller that positively influenced attractiveness, and consequently led to avatar's increased persuasiveness. It is possible that by utilising a representative of the opposite gender, an online retailer can increase sales in situations characterised by low customer involvement. Due to the marginal significance of this finding, based on a small student sample, we propose to replicate this experiment with a different audience. We also suggest that future experiments separate the (dis)similarity effects of gender and race to avoid potential confounding, since race similarity had been shown to positively influence sales in earlier studies (Hendrick et al. 1972). In addition, these experiments would be well-served by investigating other physical attributes in addition to race and gender.

STUDY TWO

Sample and procedure

A two (avatar: similar vs. dissimilar) by three (involvement: low vs. medium vs. high) by two (argument strength: weak vs. strong) between-subjects experiment was conducted among 221 undergraduate marketing students from two US public universities who fulfilled an extra credit assignment of evaluating products on a website. The average age of the participants was 21.77 (SD 3.1, range 18-48). Men represented 57% of the sample. In terms of race/ethnicity, 81% were Caucasian, 8% – African American, 3% – Hispanic, and 8% – Asian. The majority of the respondents were single (94%). The website URL was posted on their respective class web pages. As an internal similarity variable, we used need for cognition (NC) that is defined as "*individual's propensity to engage in and enjoy cognitive activities*" (Wheeler et al. 2005, p. 792). It has previously been shown to be a salient self-categorisation characteristic for many individuals, thus presenting an acceptable social identification cue (Feinstein 1996). Student answers to the 18-item NC scale (Cacioppo et al. 1984) determined how specific avatars will be assigned: half of the students received avatars that described themselves as similar in NC (high or low), and the other half was exposed to dissimilar avatars. For example, in the introductory paragraph, the following phrases were used to describe high vs. low NC avatars "*I like my job because it lets me think and find new facts about [the product]*", and "*I never really enjoy solving complex problems and try to avoid situations that require a lot of thinking*".

In addition to avatar internal similarity manipulation, students were randomly assigned to three conditions of purchase situation involvement: websites selling a children's game (low involvement), a foldable bed (moderate involvement), and a website advertising a student apartment complex (high involvement). Compared to Study One, the manipulation of involvement was strengthened by adding temporal and geographic qualifiers to product introductions: the apartment was introduced as the one that would open in one month in the students' city, and the game – as

the one that will be introduced in the coming year in Europe. Strength of arguments was manipulated following Wheeler, Petty and Bizer (2005) by using statements about level of product quality, rankings by experts, and number of desirable product attributes. Students were directed to an online store where they were greeted by a picture of an avatar and an introductory text. The following pages contained the picture of the avatar, description and pictures of the product, and listed arguments for buying/choosing the product. After the sales encounter, students returned to the survey window and answered questions about their purchase intentions (Wheeler et al. 2005), thoughts about the product and website (Wheeler et al. 2005), as well as manipulation-check questions. The survey and online sales presentation lasted approximately 15 minutes.

RESULTS AND DISCUSSION

Manipulation checks

Manipulation of avatar internal similarity to the buyer was successful. An ANOVA found significant differences among the matched vs. non-matched groups in answering the question "Please indicate how similar the avatar sales associate was to you in personality" on a scale of 1 (very dissimilar) to 7 (very similar) (F=9.473; p=.002). Argument strength manipulation was successful (F=4.085; p=.044): means of students answers to the question "Please rate the strength of the arguments for buying the (product)" were significantly higher for groups who were exposed to strong vs. weak arguments. Finally, manipulation of involvement did not achieve desired results (F=1.06, p=.35). Due to highly skewed distribution of self-reported involvement, we used tertiary split of the measured values of this variable for further analysis (Holzwarth et al. 2006), similar to the procedure discussed for Study One. As with Study One, significant differences between the three groups were confirmed with an ANOVA (F=331.79, p<.001), and a Dunnett's T3 post hoc test, which found differences at the p<.001 level of significance between all groups.

Effect of avatar-buyer internal similarity and argument strength on purchase intentions

The results of ANOVA with Behavioural Intentions (Wheeler et al. 2005) as the dependent variable produced main effect of the argument strength (F=5.28, p=.026)

TABLE 2 Means, standard deviations and correlations of measured variables

Variable	MEAN	SD	RANGE	1	2	3
1. Self-reported involvement (Zaichkowsky 1985)	5.12	1.22	1-7	1.0		
2. Behavioural Intentions (Wheeler at al. 2005)	3.97	1.55	1-7	.243	1.0	
3. Strength of Arguments (Wheeler et al. 2005)	0.33	1.58	-3.5 – 3.5	.207	.677	1.0
4. Internal Similarity Assessment (Wheeler et al. 2005)	3.47	1.5	1-7	.167	.320	.266

All correlations are significant at the 0.05 level (2-tailed)

as the only significant variable under high involvement condition, supporting Hypothesis 2. Avatar internal similarity to the buyers did not affect their intentions to make a high-involvement purchase either independently (F=.121, p=.73), or by interacting with the argument strength (F=.047, p=.829). Under low involvement conditions, none of the variables of interest was significant: F-value for argument strength was .062 (p=.804), and for internal similarity match .902 (p=.345). Finally, under moderate involvement condition, avatar internal similarity produced a significant main effect (F=4.321, p=.039) as did strength of arguments (F=3.477, p=.064) (Hypothesis 3b supported). Respondents tended to indicate higher purchase intentions from avatars similar to them in need for cognition, and for product descriptions with stronger arguments. No hypothesised interaction effect was found (F=.67, p=.415), failing to support Hypothesis 3a. That is, matching avatars and respondents in such internal characteristic as need for cognition, apparently, did not activate their elaboration of message resulting in differential purchase intentions based on argument strength. Instead, under moderate involvement conditions, two separate message elaboration routes appear to be activated: peripheral route whereas avatar internal similarity alone brings about positive response to persuasion, and central route whereas argument strength alone affects online buyers' choices. This finding echoes the Combined Influence Hypothesis (Lord, Lee and Sauer 1995) that posits simultaneous consumer response to both message arguments and peripheral cues, and has been widely supported in the advertising context (Mick 1992; Miniard et al. 1991).

Additional tests for the potential impact of the participants' self-reported cognition showed no interaction between NC-match and self-reported NC (F=1.2, p=.275), nor an independent effect of self-reported NC on buying intentions (β=.052, p=.444). However, there was a significant interaction effect between the self-reported need for cognition and argument strength (F=4.561, p=.037) in determining buying intentions. Thus, a tentative explanation may be that under moderate involvement conditions, personal characteristics determine the choice of message processing route, such that consumers high in need for cognition would pay more attention to argument strength (central route) while making purchase decisions. For individuals with less salient need for cognition trait (Markus 1977) similarity to virtual representatives may be sufficient to elicit a positive purchase intent without evaluating the sales pitch arguments (peripheral route). This explanation is consistent with earlier finding that the quality of arguments is a more important determinant for people high (vs. low) in their need for cognition (Cacioppo, Petty, and Morris 1983). In the future, it may be interesting to consider internal similarity characteristics other than need for cognition in explaining persuasion mechanism in the online sales context. Additionally, measuring the importance (salience) of these internal characteristics for the buyer may help explain their similarity effect in creating social stereotypes for avatars.

CONCLUSION AND FUTURE RESEARCH DIRECTIONS

The objective of our exploratory study was to test the role of such contradictory source effect as buyer-seller similarity on sales outcomes in the online context. Our results revealed that even in the virtual world, source effects may be instrumental in enhancing sales outcomes. Our findings supported the earlier reports of source physical dissimilarity positively affecting results in a selling situation (Dwyer et

al.1998). It appears that gender dissimilarity triggered opposite gender attraction that created positive emotions leading to desirable sales outcomes (Byrne 1961; 1962). We also found support for the Elaboration Likelihood Model by showing that sales message information processing by online consumers follows two routes based on their level of involvement with the purchase situation. In particular, under low involvement conditions, avatar – buyer physical dissimilarity positively and directly impacts purchase intentions, perhaps by creating peripheral cues that emphasize gender attraction and create positive emotions. Under high involvement conditions online, avatar personal characteristics do not appear to affect buyer purchase intentions, confirming the presence of central message elaboration route in the online sales context. Finally, we observed that under moderate involvement conditions, two message processing routes may be instrumental simultaneously: the avatar's internal similarity to the buyer may positively affect purchase intentions as per peripheral route (possibly through the mechanism of social stereotyping), while argument strength exerts an independent influence on purchase intentions in following central route of persuasion. The choice of information processing route under moderate involvement appears to be affected by the need for cognition personality trait, so that individuals with more salient need for cognition in their self-assessment tend to be more influenced by argument strength while making online purchase decisions, while individuals with less prominent need for cognition would rely more on such peripheral cues as internal similarity to virtual sales representatives.

This study has important implications for both theory and practice. In the case of the former, prior investigations into the effects of avatars in online retail environments have produced results that appear to be inconsistent with ELM. While ELM suggests that peripheral cues such as avatar similarity should affect only low-involvement customers, Holzwarth et al. (2006) find that moderately and highly involved customers are influenced by attractive-looking avatars and expert avatars, respectively. Similarly, Wang et al. (2007) find that social avatars increase purchase intention only for involved consumers. This study contributes to the understanding of these apparent contradictions by outlining the mechanisms of differential source similarity effects in different involvement conditions and by providing potential theoretical explanations of these findings. For practitioners, understanding the effect of avatars on consumer cognition and decision-making holds great value. In the age of social media, retailers are finding it increasingly difficult to hold the attention of their customers, and many of them are turning to avatars to provide a social dimension. This study provides support for the value of such avatars, while also adding insight regarding how and when avatars can increase persuasion. It suggests that consumers react to the appearance and personality of avatars, as well as their presence. Managers might conclude that, where possible, online retailers should attempt to match avatars to customers. This might be accomplished through targeting or using data collected through customer relationship management initiatives. For example, consumers who arrive at a site via a link on such content-specific sites as vogue.com (mainly female-oriented) or espn.com (mainly male-oriented) might be assigned avatars of opposite gender. Additionally, companies have access to a great deal of information about customers who use a site log-in, including age and gender, as well as psychographics and decision-making preferences. These could be easily used to determine which avatar a consumer views in terms of observable and internal similarity.

Limitations of our study, such as the student-based sample and the use of median- and tertiary-split involvement measures, caution against broad generalisations of our results. In addition, observable physical similarity was manipulated by using

a combination of two traits, gender and ethnicity, which may have introduced an interaction effect. Furthermore, internal trait similarity was manipulated using only one trait, need for cognition, so further research is needed to determine the effects of other observable and internal traits. However, this exploratory study contributes to our knowledge of online sales context, supports the social response theory (Moon 2000; 2003; Reeves and Nass 1996) by showing that people apply social stereotypes in communicating with virtual entities, and emphasises the possibility of adapting the existing marketing theories to online environments.

Future research should consider the role of other avatar characteristics in online sales outcomes under varying purchase involvement conditions. It would be interesting to explore whether matching avatars to online buyers in terms of other internal characteristics (e.g. extroversion, or interest in the product category) would affect sales outcomes, online retailer loyalty, or satisfaction. Another area of future research may be the potential differences between levels of involvement online and off-line, and whether the mode of shopping itself makes consumers more or less involved with the purchase. It is possible that higher interactivity of online shopping makes consumers more involved with the purchase, apart from the characteristics of the product category. An interesting research problem may be to investigate additional dimensions of the involvement construct online. Finally, testing the possibilities of allowing online shoppers to select their own personal sales assistant based on internal and external characteristics to affect sales and loyalty, may be an exciting research opportunity.

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APPENDIX

Examples of high, medium and low-involvement web sites with sample avatars

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