CHAPTER 6

STUDY 2: INTEGRATING ADVERTISING AND ONLINE CONSUMER REVIEWS: UNDERSTANDING UNDERLYING MECHANISMS AND PERSUASIVE EFFECTS

The objective of the second study was to examine whether information presented through Online Review and Print Advertisement was more persuasive than information presented through repeated exposure to either Print Advertisement or Online Consumer Review alone. Further, the study examined if differences in the extent to which individuals involved in two psychological mechanisms, persuasion knowledge bias and priming, were responsible for effectiveness of one media condition over the other.

6.1 METHOD

6.1.1 Experimental Design

The data was collected using an experimental design. A 2 (message source: single versus multiple) x 2 (message sequence: Advertisement then Review versus Review then Advertisement) x 2 (message content: same message versus varied message) between subject design was used. There were eight different exposure combinations. Subjects were exposed to two Advertisements, two Reviews or an Advertisement and a Review. 340 MBA students were recruited from the city of Hyderabad, India, for the main study and were randomly allocated across eight different exposure conditions. Out of the total number of responses, 23 questionnaires had missing responses, leaving total number of usable responses to 317. The study used post-test only design. Data was collected after subjects viewed both the stimulus materials. The purpose of the study was to measure
differences arising from multiple exposures (either to same or different information sources), rather than differences arising due to single or multiple exposure conditions. Therefore, a post-test only design was applied. This design assured that subjects were not biased due to the previous exposures or any learning arising from the pre-tests (Loda and Coleman, 2005). Prior to the main study, a suitable product category (Laser Printer) and attributes considered important for this product category were identified with the help of pre-tests.

6.1.2 Product and Attribute Selection

The product category was chosen on the basis of the following criteria. First, it was assured that product category to be selected was relatively of high involvement. This was likely to motivate subjects to process information present in Advertisements and/or Reviews more thoroughly (Andrews and Shimp, 1990). Second, it was necessary that for the selected product category, subjects were likely to consider information from both Advertisements and Online Consumer Reviews in their purchase decision making process. Finally, as Advertisements and Reviews with two different (product attribute) messages were to be created; it was assured that the selected product category had at least two vital attributes of equal importance.

To identify such a product category, several pre-tests were conducted. In the first pre-test, 27 MBA students were asked to list at least three product categories which they were likely to buy in the near future, and for which they would refer to both advertising and online reviews before making the purchase decision. Subjects were also asked to report the level of involvement for of the each product category they mentioned on a seven-point four item
PDI scale. Total 87 responses were received which consisted of 18 different product categories. Out of these, 12 products had multiple mentions and 4 products were mentioned by more than 7 subjects. These four products included Tablet Computer, Laser Printer, Hard Disk Drive, and Mobile Phone. Additionally, these four products had above average product involvement scores based on the median split of all 18 product categories. These four products were retained for the second pre-test.

The second and third pre-test was conducted to finalize one product category. The pre-test ascertained that the product category chosen had two equally important attributes. Additionally, a product relatively high on utility than hedonic benefits was preferred as decision making behavior for such products is often more straightforward (Hirschman and Holbrook, 1982). Though all these products appeared to be utilitarian in the first place, a pre-test was conducted to identify any possible differences in these products on their utilitarian or hedonic aspects. 35 subjects were asked to rate Mobile Phone, Tablet Computer, Laser Printer, and Hard Disk Drive on the seven-point ten item hedonic/utilitarian (HED/UT) scale (Voss, Spangenberg and Grohmann, 2003). Please refer to Appendix B-3 for scale items. The differences in results of the pre-test revealed that Printer (M=5.01, SD=0.664) and Hard Disk Drive (M=5.09, SD=0.724) were both perceived to be equally utilitarian, and more utilitarian than Mobile Phone (M=4.26, SD=0.702) and computer tablet (M=4.56, SD=0.683). Both the Hard Disk Drive and Printer were retained for the next pre-test.

The purpose of the third pre-test was to identify two equally important product attributes for the Printer and Hard Disk Drive. For this, different set of 49 MBA students (25 for
Printer, 24 for Hard Disk Drive) who had recently bought the products were asked to list four product attributes which they considered important and rank these attributes on a seven-point scale, anchored from least important to extremely important. Two attributes, printing speed and printing resolution (clarity) were mentioned the most (20 and 19 times respectively, with 16 subjects mentioning the both). To examine if both the product attributes (printing speed and printing resolution) were equally important, paired sample t-test were performed for the 16 subjects which had mentioned both of these product attributes. The results revealed that both the attributes (Printing resolution: M=5.43; Printing speed: M=5.56) were equally important (t [15] =-0.415, p=0.684) and thus were suitable to create Advertisements and Reviews with equally convincing message with varied product attributes.

5.1.3 Stimuli Development

*Print Advertisement:* Based on the pre-tests conducted, two color Print Advertisements were created by a professional advertising agency. To nullify any pre-conceived notions which may affect the responses the stimuli was made for a fictitious brand of Laser Printer, named LaserPro. The Advertisement used an image of the product, a headline focusing on the specific attribute of the product (either speed or resolution) and copy, which further explained the particular product attribute. The tone of the Advertisement was objective in nature and length of the copy was kept minimal, to ensure subjects read the entire copy. Further, it was made sure that both the Advertisements and the Online Reviews (conveying either of the product attributes, speed or resolution) the number of arguments was same, and the argument strength equally convincing. Refer to Appendix E1 and E2 for copy of Advertisements.
**Online Review:** Online Consumer Reviews were created and embedded in a Web-page which resembled an online review website. The website was named fictitiously as TrueReviews.com. The procedures followed were similar to study 1. Though the tone of conveying the message in consumer review was less formal, the number of arguments and argument strength was same to as that of the Advertisement. Refer to Appendix E3 and E4 for snapshot of Online Review Web-pages created.

6.1.4 Sample Demographics

340 MBA students were recruited from a business school in Hyderabad, India, for the main study. 23 subjects gave incomplete responses, resulting in 317 usable responses. The mean age of respondents was 21 years and 10 months. Out of total respondents 178 (56.15%) were male and rest 139 female (43.85%). Different subjects were recruited for the pre-tests and main study however it was assured that the overall sample representation was similar. The detailed sample demographics for the main study are given in Appendix C-2.

6.1.5 Procedure

The experiment consisted of four different exposure combinations: Advertisement-Advertisement, Review-Review, Advertisement-Review and Review-Advertisement. These exposures were segregated in two levels of message content (same message/varied message), resulting in eight exposure treatments in total. 340 MBA students were recruited for the purpose of this study and were randomly allocated to one of the treatment conditions. The experiment was conducted in a computer lab. Subjects were provided with a booklet containing instructions and dependent measures. The booklet also contained copy of print Advertisement(s) for treatments containing exposure to advertising. Subjects were instructed to read the instructions carefully before the start of the experiment. Additionally, respondents
were motivated to ask any questions before the experiment started. Subjects were informed that they spend necessary time (self pacing) to evaluate the Advertisement or Review before responding to the questions. They were also requested to ensure that all the questions are answered.

For all the treatment conditions, a 7 minute documentary film was shown after the first exposure. This was done to ensure that subjects had cognitive spatiality between the two exposures. This was specifically important in the case of repeated media condition where subjects were shown same stimulus two times (Advertisement-Advertisement and Review-Review conditions). The purpose of this study was to compare effectiveness of multi-source exposure with repeated exposures to single source, rather than single exposure versus multiple exposures. Therefore, subjects filled the responses after they had been exposed to both the stimuli. The experiment lasted for about 35 minutes.

### 6.1.5 Dependent Measures

**Message Credibility:** Message credibility was measured using similar seven-point five item semantic differential scale as used in study 1. The scale used for both Advertisement and Review was found to be reliable and all items loaded on one single factor. (Message Credibility - Review: EV=3.23; \( R^2 = 0.64 \); Cronbach’s alpha=0.84; M=5.76; SD=0.63; Message Credibility - Advertisement: EV=3.92; \( R^2 = 0.78 \); Cronbach’s alpha=0.93 ; M=4.46; SD=0.90).

**Attitude towards the Online Review and the Advertisement:** Attitude towards the Online Review and Advertisement was also measured using the scales used in study 1. All the items loaded on a single factor that proved to be reliable (Attitude towards Review:
Attitude towards advertisement: Attitude towards brand was measured using seven-point semantic differential scale containing four items. The bipolar ends included following items: ‘unpleasant/pleasant’, ‘of low quality/of high quality’, ‘unfavourable/favourable’ and ‘bad/good’. Factor analysis confirmed all items load under single factor, and the scale was reliable (EV=2.97; R²=0.74; Cronbach’s alpha=0.89; M=4.83; SD=0.78).

Purchase Intention: Purchase intention was measured using seven-point Likert scale containing two items. The subjects were asked their likelihood of ‘buying’ and ‘recommending’ the product on scale ranging from 1 (zero likelihood) to 7 (certain). Both the items loaded on a single factor which was found to be reliable (EV=1.78; R²=0.89; Cronbach’s alpha=0.88; M=4.34; SD=0.89).

Skepticism towards Advertisement: Skepticism towards Advertisement was measured using seven-point Likert scale containing nine items anchored from strongly disagree to strongly agree. The scale was taken from previously published study by Darke and Ritchie (2007). Principal component analysis revealed that all the items loaded on single factor and had factor loadings above 0.50. The scale was found to be reliable (EV=6.59; R²=0.73; Cronbach’s alpha=0.93; M=2.67; SD=0.89).

Priming: Priming was measured using seven-point three item Likert scale used in Voorveld, Neijens and Smit (2011). The items were anchored from strongly disagree to strongly agree. Single factor structure was conformed using factor analysis and scale had
adequate reliability (EV=2.507; $R^2=0.84$; Cronbach’s alpha=0.90; $M=5.08$; SD=1). Refer to Appendix F-3, Table 1 for scale wise mean values and standard deviation for all treatment conditions. Refer to Appendix B-4 for sample questionnaire given to subjects in one of the treatment conditions.

6.2 RESULTS

6.2.1 Manipulation Check

Manipulation check was performed to confirm information presented in Online Review and Advertisement containing messages with two different product attributes were all equally convincing. 77 subjects rated the print Advertisement and reviews with two different messages. The seven point bi-polar had following items: strong/weak, persuasive/unpersuasive, convincing/not convincing, and good arguments/bad arguments (Cronbach’s alpha raged between 0.75 and .86). Full ANOVA revealed that there that all the four stimuli (two Advertisements and two Reviews) were all equally convincing ($F(3, 130)= .710$, $p=.746$).

6.2.2 Main Results
**Role of Skepticism towards Advertisement:** Hypothesis 1a predicted that subjects exposed to the Advertisement and Review will have less skepticism towards the Advertisement as compared to subjects exposed to repeated Advertisement. Appendix F-3, Table 2 shows that these differences were significant ($\beta=-0.80, p < .001$). Subjects exposed to advertising and review had lower skepticism towards advertising (Mean=2.34, SD=.70) than subjects exposed to repeated advertising condition (Mean=3.39, SD=.87). Therefore, hypothesis H1a was supported.

Further, hypothesis 1b stated that lower level of skepticism towards Advertisement in multi-source condition would positively influence attitude towards advertisement, attitude towards brand and purchase intention in multi-source condition than repeated Advertisement condition. Results indicate that (See Appendix F3, Table 3) subjects in the multi-source condition had a higher attitude towards advertisement ($\beta=.7505, p < .001$, Mean=4.68, SD=.69), attitude towards brand ($\beta=1.07, p < .001$, Mean=5.22, SD=.47) and purchase intention ($\beta=1.09, p < .001$, Mean=4.79, SD=.58) than people who saw Advertisement twice (attitude towards advertisement: Mean=3.93, SD=.93; attitude towards brand: Mean=4.15, SD=.91; purchase intention: Mean=3.86, SD=1.09). To examine if exposure conditions influenced media effectiveness (attitude towards the advertisement, attitude towards the brand, and purchase intention) through skepticism towards advertisement, mediation analysis was performed. To determine indirect effects bias-controlled bootstrapping analysis using 5000 bootstrap samples with 95% confidence intervals was conducted (Preacher and Hayes, 2004; 2008). The analysis revealed that skepticism towards Advertisement exerted a significant indirect effect on all the three media effectiveness measures, i.e. attitude towards advertisement (95% confidence
interval: 0.4124 – 0.7984, p < 0.001), attitude towards brand (95% confidence interval: 0.2479 – 0.5394, p < 0.001) and purchase intention (95% confidence interval: 0.2479 - 0.5395, p < 0.001). The complete results are given in Appendix F-3, Table3. Therefore, hypothesis 1b was supported.

The next set of hypotheses specifically examined multi-source exposure conditions. The hypotheses 2a and 3a tested if the message content (similar vs. varied) or the sequence in which subjects are exposed to two different sources (Advertisement first vs. Review first) influenced the level of skepticism towards advertising. Contrary to h2a, the results reveal that (table) subjects exposed to varied messages in the multi-source condition did not differ in skepticism towards Advertisement (β=-0.224, p > .05, Mean=2.291, SD=0.63) from subjects who saw similar messages (Mean=2.522, SD=0.812). Refer to Appendix F-3, Table 1. Hypothesis 2a was therefore rejected.

As level of skepticism towards Advertisement did not differ for the two exposure conditions, skepticism towards Advertisement was excluded as a possible mechanism to influence effectiveness of varied messages over similar messages. Consequently, no analysis for hypothesis 2b was conducted.

Hypothesis 3a predicted that subjects who saw review first would have lesser skepticism towards advertisement as compared to subjects who saw the Advertisement first. This hypothesis was supported. Subjects who saw review first reported significantly lower level of skepticism towards advertisement (β=-0.25, p < .05, Mean=2.28, SD=0.73) than subjects exposed to Advertisement first (Mean=2.53, SD=0.72). Before examining hypothesis 3b, we first examined if there was a direct effect of exposure sequence
(Advertisement first vs. Review first) on media effectiveness measures. The regression results in Appendix F-3, Table 1 and Table 2 reveal that subjects who saw Review first had higher attitude towards advertisement ($\beta=0.31$, $p < .01$, Mean=4.83, SD=0.70), and higher purchase intention ($\beta=0.24$, $p < .05$, Mean=4.82, SD=0.61) than subjects who were exposed first to the Advertisement (attitude towards advertisement: Mean =4.52, SD=0.65 and purchase intention: Mean=4.57, SD=0.62). However, though attitude towards brand was higher for subjects exposed to the review first (Mean=5.28, SD=.46) than advertisement (Mean=5.15, SD=0.47), these differences were not significant ($\beta=0.317$, $p > .05$).

To examine hypothesis 3b we tested if skepticism towards advertising mediates the relationship between exposure conditions and media effectiveness measures. If skepticism towards advertising mediates this relationship (either partially or fully), we can conclude that skepticism towards advertising was a possible psychological mechanism which contributes to additional media effectiveness when Review is presented first. To examine hypothesis 3b, mediation analysis procedures similar to hypothesis 1b were conducted. The results in Appendix F-3, Table 3 showed that skepticism towards advertisement fully mediated relationship between exposure sequence and all three media effectiveness measures i.e., attitude towards advertisement (95% confidence interval: 0.0156 – 0.3171, $p < 0.05$), attitude towards review (95% confidence interval: 0.0122 – 0.2639, $p < 0.05$) and purchase intention (95% confidence interval: .0094 – 0.1836, $p < 0.05$). Therefore, hypothesis 3b was supported.

**Role of Priming:** The second set of hypotheses examined if more priming lead to higher persuasiveness of multi-source communication. Hypothesis 4a predicted that subjects
exposed to multiple sources will involve in more priming than subjects exposed to repeated source. The results supported this hypothesis (Refer Appendix F-3, Table 1 and Table 2). Subjects in multisource condition involved in more priming (M=5.54, SD=0.72) as compared to subjects exposed to repeated sources (M=4.61, SD=1.02), and this difference was significant (β=0.93, p < .001).

Hypothesis 4b predicted that extensive level of priming in multiple sources would lead to more persuasiveness in this condition as compared to repeated exposure condition. In previous analysis we found that scores for dependent measures were higher in multi-source condition as compared to repeated source condition (Refer to Appendix F-3, Table 4), this hypothesis tested if these differences were due to the amount of priming an individual involves in while integrating information. In other words, we examined if priming mediated exposure conditions and persuasiveness. The indirect effects using 5000 bootstrap samples with 95% confidence interval showed that priming exerted a significant indirect effect on all the three dependent measures. Priming partially mediated attitude towards advertisement (95% confidence interval: 0.3072 – 0.6655, p < 0.001), attitude towards brand (95% confidence interval: 0.2412 – 0.4707, p < 0.001) and purchase intention (95% confidence interval: 0.2711 – 0.5208, p < 0.001). Hypothesis 4b was hence supported.

Hypothesis 5a compared varied message conditions with similar message conditions. It was expected that level of priming would be more in varied message condition than in condition where similar message were presented. Appendix F-3 Table 1 and Table 2 reveals that subjects involved in significantly more priming when exposed to varied
messages (M=5.691, SD=0.574; \( \beta = 0.2836, p < .05 \)) as compared to similar messages (M=5.408, SD=0.835). Hypothesis 5a was supported.

Further, hypothesis 5b predicted that enhanced level of priming in multi-source condition would lead to more persuasion. Appendix F-3, Table 4 reveals that subjects had significantly higher attitude towards the Advertisement (M=4.81, SD=0.67; \( \beta = 0.257, p < .05 \)) and purchase intention (M=4.81, SD=0.56; \( \beta = 0.229, p < .05 \)) when messages were varied as compared to when they were similar (attitude towards the Advertisement: M=4.55, SD=0.69; purchase intention: M=4.59, SD=0.67). However, though attitude towards the brand was higher in case of varied message condition (M=5.29, SD=0.45) than same message condition (M=5.15, SD=0.47), this difference was not significant (\( \beta = 0.138, p < .05 \)). Mediation analysis revealed that skepticism was positively related with attitude towards advertisement (\( \beta = 0.104; 95\% \) confidence interval: 0.02 – 0.21, \( p < 0.05 \)), attitude towards advertisement (\( \beta = 0.07; 95\% \) confidence interval: 0.02 – 0.14, \( p < 0.05 \)) and purchase intention (\( \beta = 0.11; 95\% \) confidence interval: 0.02 – 0.23, \( p < 0.05 \)). In addition, results indicated that the direct effect of difference in exposure condition on attitude towards advertisement and purchase intention became non-significant (attitude towards advertisement: \( \beta = 0.15, p > 0.05 \); purchase intention) when controlling for difference in priming, thus suggesting full mediation. The hypothesis was partially supported.

Hypothesis 6 predicted that subjects exposed to Online Review first or Advertisement first would not differ in the level of priming which they involve in. It was expected that as both the sources are novel and interesting, and subsequent source is different, subjects’ level of priming would not differ significantly. The hypothesis was supported. Results in Appendix
F-3, Table 1 and Table 2 show that subjects’ level of priming was not significantly different when they were exposed to either the advertisement first (M=5.466, SD=0.791; β=0.2836, p < .05) or the review first (M=5.632, SD=0.655). Thus, hypothesis 6 was supported.