CHAPTER 4

RESEARCH METHODOLOGY

Based on the objectives of the study, Chapter 4 is separated into different sections. First, the details of the pretests are given which were conducted to select the stimuli for the main study followed by the creation of the e-magazine. Next, we provide details about the measurement tools and the research design used for the study. Lastly, we provide the details about the sample used for the data in the studies as well as the actual procedure used in the studies.

4. Research Methodology

The main objective of the research is to examine the effect of ad-context congruity (congruent versus incongruent) and motives of the user (goal-oriented versus experiential) on ad persuasiveness. Furthermore, the roles of felt involvement and argument strength (strong versus weak) are also considered on the relationship. The appropriate research design to answer the formulated research questions is experimental design. The details of the experimental design and research methodology are described in the following sections.

4.1. Pretest and Stimuli Selection

Before creating the e-magazines for the study, pre-tests were first conducted to create the motives and based on that the congruent and incongruent conditions were selected and finally argument strength was created for the third study.

The target population was the Internet savvy educated youth across India, who browse the internet frequently. The sampling frame consisted of first Year MBA students at a University
in South India as the student samples are internet savvy (use college Wifi more frequently for reading e-newspaper and e-magazines) and represent mini India as their nativity is from different states of India.

4.1.1. Pretest 1

The first pretest was conducted to develop scenarios for the first manipulated condition of consumer motives (goal-oriented and experiential motive). First, through student focus groups, different industries were identified. The focus group comprised of First Year MBA students at a University in South India (2016-18 batch) in five groups with six members in each group. First, the participants were welcomed by the moderators and introduced. The participants were informed about the topic for the focus groups. They were asked about their internet usage, about the different industries they normally read about and the magazines and e-magazines that they have read and are aware of for those industries. After this, they were also asked to identify the congruent and incongruent product categories for those magazines. The focus group lasted for about 45 minutes. The industries identified were automobile, sports, fashion, entertainment, business, health, politics and technology. Famous online magazines for those respective industries were also identified by the students. On an average, from each industry 4 to 11 magazines were identified. The details of industry and magazines details are given in Appendix 1.

For each industry they also suggested congruent and incongruent products with respect to the magazine. Depending on those products and online magazines, five scenarios each were developed for the two conditions (goal-oriented and experiential motive) i.e. a total of 10 scenarios taking the help of an expert in Brand Management and Experimental Design. Refer to Appendix 2 for all the scenarios developed for the motives (goal-oriented and experiential motive).
The developed scenarios were then examined by randomly selected twenty participants each to check for realism of the scenario. Refer to Table 1 for the mean realism scores. Based on the highest mean ratings for realism, one scenario each was selected for goal-oriented (Scenario number 2, M= 5, SD= 1.83) and experiential motives (Scenario number 3, M= 5.94, SD=1.26).

Table 4.1. Realism scores for all the scenarios

<table>
<thead>
<tr>
<th>Goal Oriented scenario</th>
<th>Mean realism</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.26</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>4.95</td>
</tr>
<tr>
<td>4</td>
<td>4.69</td>
</tr>
<tr>
<td>5</td>
<td>4.73</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Experiential scenario</th>
<th>Mean realism</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5.47</td>
</tr>
<tr>
<td>2</td>
<td>4.89</td>
</tr>
<tr>
<td>3</td>
<td>5.94</td>
</tr>
<tr>
<td>4</td>
<td>5.36</td>
</tr>
<tr>
<td>5</td>
<td>5.84</td>
</tr>
</tbody>
</table>

The most realistic scenarios in each motive were then further presented to thirty students to verify its (scenarios) ability to motivate them as goal oriented or experiential motive. For the two highest rated scenarios i.e. mobile phones in the goal oriented motive and travelling scenario in
the experiential motive, the corresponding scenarios were also developed for the other motive. It resulted in four different scenarios i.e. for mobile phones- goal oriented and experiential motives as well as for travelling – goal oriented and experiential motives. Refer to Appendix 3 for the final scenarios used.

The situation mentioned in the scenarios as well as the wordings were further modified with the help of experts to improve the scenarios. Then they were presented to thirty students to verify its (scenarios) ability to motivate them as goal oriented or experiential using a 7 point scale (1 = “strongly disagree” to 7 = “strongly agree”) adapted from Franco and Roldan (2005). For the Goal oriented scenario involving mobile, the scores were different for goal-oriented motive (M=4.9, SD=1.37) and for experiential motive (M= 3.63, SD=1.54) conditions; t(58)=3.36, p=0.001. For the Goal oriented scenario involving travel, the scores were different for goal-oriented motive (M=4.86, SD=1.61) and for experiential motive (M= 3.7, SD=1.34) conditions; t(58)=3.04, p=0.004.

For the Experiential scenario involving travel, the scores were different for experiential motive (M=5.3, SD=1.39) and for goal oriented motive (M= 3.9, SD=1.78) conditions; t(58)=3.38, p=0.001. For the Experiential scenario involving mobile, the scores were different for experiential motive (M=5, SD=1.55) and for goal oriented motive (M= 3.76, SD=1.69) conditions; t(58)=2.93, p=0.005.

4.1.2. Pretest 2

The second pre-test was done to select stimuli for the second manipulated condition (ad-context congruity). Based on the results of the first pretest, we finalized two magazines- Mobile Review magazine and Travel magazine.
Experts were consulted and briefed about the objective of the study and requested to suggest ads of products/services from those magazines that would be similar/dissimilar to the content of each of the magazines in those selected magazine categories. Based on past research and expert advice, mobile ads were selected as congruent to the mobile review magazine and incongruent to the travel magazine similar to the study of Zanjani et al (2011). After the selection of these similar and dissimilar ads (with the context), thirty students were approached and presented the ads and the context and told to rate the extent to which they felt that the selected ads and magazines’ content matched each other on a 7 point Likert scale (1 = “highly dissimilar”, 7 = “highly similar”).

From the manipulation checks, it was found that the scores were different for congruent (M= 4.9, SD=1.48) and for incongruent (M= 3.8, SD=1.42) conditions; t(58)=3.018, p=0.004. Hence the ads were finalized to be used in the main study.

4.1.3. Pretest 3

The third pre-test was done to select stimuli for the third manipulated condition (argument strength). Following Petty et al. (1983) instructions, argument strength in the ad was developed by creating product/service claims that differed in importance. First, a focus group interview was carried out to understand the attributes that were considered by the participants while buying the selected product in the ad i.e. mobile phone. After that, the participants were told to rank the attributes in decreasing order of importance. The most common top five attributes were selected to be used for the creation of a strong argument and the bottom five attributes were selected to be used for the creation of a weak argument. With the help of experts, claims were developed based on the product attributes for strong argument and weak argument. The strong claims were developed based on:
1. Display Resolution
2. Camera
3. Processor
4. Memory
5. Operating System

The weak claims were developed based on:
1. Display Size
2. Battery life
3. Weight of the phone
4. Keypads
5. Battery specification

Refer to Appendix 4 for the details about claims used.

Thirty respondents (students) were then asked to rate the reasons in the advertisement as persuasive/unpersuasive, strong reasons/weak reasons on a 7 point scale. From the manipulation checks, it was found that the scores were different for strong (M= 5.03, SD=0.81) and for weak (M= 3.04, SD=0.84) conditions; t(62)=9.57, p=0.000

4.2. Development of e-magazines

A Mobile review magazine was developed using an online website called Joomag (https://www.joomag.com/en) which is a service to create professional looking digital interactive content like e-magazines and e-books. It provides a good experience for the online viewer with a realistic flipping effect as well as magnifying and panning options. The Magazine had the first
cover page with a picture of a mobile phone and title as Mobiles In review- Best mobiles you can buy. Including the first cover page, an Editor’s note, one main ad and two filler ads, it consisted of 13 pages. Similarly, a Travel magazine was also created with 13 pages. This was done to make sure that the respondents would be able to go through it in around 10 minutes of time as per previous studies. Refer to Appendix 5 for the actual ads as well as the magazine pages used.

4.3. Measurement Tools

4.3.1. Independent variables

Ad context congruity is the independent variable which was manipulated as similar or dissimilar to the context. In the case of similar condition, the ad information matched with the content of the article. On the other hand, in the case of dissimilar condition, the ad presented was dissimilar with the content of the articles. These manipulations were measured by asking respondents to rate the degree to which they feel that the selected ads and magazine’s content matches each other on a 7 point Likert scale (1 = “highly dissimilar”, 7 = “highly similar”) [adapted from Moorman et al. (2002)].

Consumer motives were manipulated as goal oriented or experiential. In goal oriented condition, the reader of the article read a scenario which stimulated a particular goal or objective. In experiential condition, the reader read a scenario that stimulated the reader to just browse or surf the magazine articles. These manipulated conditions were measured using a 7 point scale (1 = “strongly disagree” to 7 = “strongly agree”) while responding to the statements: “I have a distinct or identifiable purpose for my browsing” and “I have no preconceived purpose for my web experience” [adapted from Franco & Roldan (2005)]. The second statement was reverse coded and a mean was taken to form a common motive score.
Strength of the argument presented in the ad was manipulated as strong or weak. Respondents were told to rate the reasons given for using the advertised product on a seven-point scale, where one indicated "unpersuasive" and seven indicates "persuasive." Further, respondents were asked to rate the reasons given for using the advertised product on a seven-point scale, where one indicated "weak reasons" and seven indicates "strong reasons." These ratings were averaged to get a single argument strength index [adapted from Sanbonmatsu & Kardes, (1988)].

4.3.2. Dependent variable

Persuasiveness of the ad was measured through taking the composite score of attitudes and intentions. After going through these e-magazine articles and ads, the respondents were told to point out how much they think they would like buying the advertised product on a 7 point scale (1 = “not at all” to 7 = very much”). After this, respondents indicated how interested they would be in buying the advertised product on a 7 point scale (1 = “not at all” to 7 = “very much”). These responses were averaged to form a index of attitudes and intentions [adapted from Karmarkar & Tormala, (2010)].

4.3.3. Mediator

To determine the participant’s level of involvement with the ad two questions were used and adapted from Karmarkar and Tormala (2010). The items were: “How involved did you feel with the ad?” and “How interested were you in the ad?” Responses were measured on a 7 point scale (1 = “not involved at all/ not interested at all” to 7 = “very involved/ very interested”).

4.4. Research Design

As mentioned previously, the main objective of the research is to study the effect of ad-context congruity on persuasion. In our case, we divided the research into three separate studies. In the
first study we only looked at the moderating role of motives in the relationship between ad-context congruity on persuasion. In the second study, we added the mediating role of felt involvement to the model and in the final study we further added the role of argument strength in the model between felt involvement and persuasion.

For the first study, the research design had four treatment conditions. In the first condition, respondents were motivated to be goal oriented via scenario and they were shown the mobile magazine containing the congruent ad while in the second condition they were again motivated to be goal oriented but they were shown the travel magazine containing the incongruent ad. In the third condition, subjects were motivated to be experiential via scenario and they were shown the mobile magazine containing the congruent ad while in the fourth condition they were again motivated to be experiential but they were shown the travel magazine containing the incongruent ad.

For the second study, there were again four similar treatment conditions. The only difference was that subjects participating in the second study also answered questions about their felt involvement with the ad.

For the third study, the research design had eight treatment conditions. In the first condition, respondents were motivated to be goal oriented via scenario and they were shown the mobile magazine containing the congruent ad with strong arguments while in the second condition they were again motivated to be goal oriented but they were shown the travel magazine containing the incongruent ad with strong arguments. In the third condition, subjects were motivated to be experiential via scenario and they were shown the mobile magazine containing the congruent ad with strong arguments while in the fourth condition they were again motivated to be experiential but they were shown the travel magazine containing the incongruent ad with strong arguments.
In the fifth condition, subjects were motivated to be goal oriented via scenario and they were shown the mobile magazine containing the congruent ad with weak arguments while in the sixth condition they were again motivated to be goal oriented but they were shown the travel magazine containing the incongruent ad with weak arguments. In the seventh condition, subjects were motivated to be experiential via scenario and they were shown the mobile magazine containing the congruent ad with weak arguments while in the eighth condition they were again motivated to be experiential but they were shown the travel magazine containing the incongruent ad with weak arguments.

4.5. Sample and Data Collection

For the pre tests, we had selected first Year MBA students at a University in South India (2016-18 batch) who were from the second semester. For the first study, to avoid bias we selected the second-semester students from sections different than the ones we had used for the pretests. For the second and third study, we selected students from the first-semester batch so that there was no chance of bias or students being aware of the study. We used simple random sampling with the use of an online random number generator to assign the different sections to the various conditions of the study.

A total of 769 MBA students took part from the First year (2016-18) batch of a university in south India, as subjects in the research for the main experiment which consisted of three independent studies. Volunteer students were recruited in the experiment by offering them incentives of a chance to win a 32 GB pen drive in a lucky draw. They were told that the study was about e-magazines and that they would be shown a part of the e-magazine. The students at a university in south India as the sample respondents are internet savvy and represent a mini-India
as their nativity is from different states of India as given in Appendix 8 later. Hyderabad is a metro city and an IT city which makes it an ideal choice for the study. As per IMRB 2013 study, Hyderabad had 4.7 million active internet users, the third highest in the country in 2013 and the highest penetration of 37% among the metros. The students here have smart phones and laptops and they have a continuous access to the internet as well as the local intranet. The minimum daily usage is at least an hour up to 24 hours as mentioned by students.

For the first study, subjects were assigned to the four conditions of congruity and motives randomly. A total of 162 respondents were recruited for that. After reading the e-magazines and ads which had average arguments, the subjects in each condition responded in the form of a survey for all the variables.

A similar procedure was followed in the second study. Subjects were again assigned to the four conditions of congruity and motives randomly and for this study a total of 185 respondents were recruited. As per Cohen’s 1988 power table for effect size of .50, with a two-tailed $\alpha = .01$ at 80% power, we need a sample size of 41 and both Study1 and Study2 sample size is fulfilling that condition. For the third study, subjects were assigned to the eight conditions of congruity, motives and argument strength randomly. A total of 422 respondents were recruited for the third study.

The reasons why we selected a large number of respondents for the third study are as follows- First, as we planned to do an experimental design so it was difficult to collect data once again from the same student (class) in the case of non-response or response error, which would lead to a biased answer. It prompted us to select a larger sample size, which gives us the scope to remove the non-responses and land with a correct sample size following from Dr. Samuel Johnson chapter “Sampling and Experimental Design”. Second, there is a need of large sample
size or minimum (200-400) if there are more constructs or more measured variables in the model (Hair et al. 2006; Malhotra & Dash, 2011). This drove us to take a bigger sample size. Third, during pretest, we realized the difficulty of securing permission and time from respective faculties for their section’s data collection. Hence we decided to have the study with a large sample size (422 students). Fourth, the data collection was done in the classrooms where the students brought their laptops for the class purpose, and it was difficult to take few students from the class during class timing which was beyond the academics rules.

The mean age of the sample for Study 1 was 22 years with the youngest respondent being 20 years old while the oldest respondent was 28 years old. There were a total of 75 female respondents and 87 male respondents. Similarly for Study 2, the average age was 23 with the lowest being 20 and the highest was 28 with 83 female respondents and 102 male respondents in total. Finally, for Study 3, the average age was 22, the lowest was 20 and highest was 29. Regarding the gender, there were 179 female respondents and 243 male respondents in total.

The studies were conducted in the classrooms of the University. The students had brought their own laptops. For all three studies, once reading the e-magazine was over, a survey questionnaire was filled up by the subjects. Data was collected in the presence of the researcher and the faculty of that class. All the three studies were conducted in a time span of 6 weeks spread out over a period of six months considering the academic schedule and student availability with the co-operation of the faculties of the respective classes.

4.6. Procedure

The studies were conducted in the classrooms of the University after taking permissions from the faculties and the Area Coordinators. The classes were those in which students are required to
bring laptops to the class. As per the convenience of the faculty, the studies were conducted either in the beginning of the class or at the end of the class. Through a random number generator, the different sections were allotted to the different conditions. The researcher briefed the students about the study saying it was a study on e-magazines. They were then given a link which first contained the scenarios. They were asked to read the scenario and to assume that they were in that particular scenario. The researcher also verbally gave instructions and read out the scenario to make sure that everyone understood it. Keeping that in mind, they opened the e-magazine allotted to them. They were given a time of 10 minutes to go through the e-magazine. Once it was done, the respondents were then asked to go to the Questionnaire and to answer all the questions about the variables of the study. They were also asked about the demographic and other variables like name, age, email address, mobile number, gender, annual family income, average internet usage in a day, educational background and native place. The details of the questionnaire are given in Appendix 7. Following this, the subjects were thanked for their participation and debriefed.

Since not all the students were present in the class on the day of the data collection, we missed out on some of the respondents. We could not go back to the same classroom to collect data from the students who had been absent because it might lead to biased results. Even for the students present in the class, since it was a voluntary exercise, we did not force all of them to participate and hence not all students took part in the study. There were also a few issues like their laptops not connecting to the internet, or slow internet connection or the e-magazine not loading. Thus, a few more students were unable to take part in the study. Since the main questions in the study were made compulsory, it eliminated non-response in the questionnaire. Regarding the contact details of the students, their email id was asked along with their mobile
number. The question for email id was again made compulsory in the form; hence we received at least the email id of all the students.

After the study, to ensure that the respondents in each of the conditions genuinely represented those conditions, a median split was used to categorize the respondents and only those respondents were kept who answered correctly for the condition i.e. we filtered the participants in the manipulation checks. This left us with a total of 62 respondents for Study 1, 68 respondents for Study 2 and 171 respondents for Study 3 who responded in the form of a survey.

4.7. Chapter Summary

In this Chapter, we provided the details of the Methodology used for the studies that we proposed in the previous chapters. Step by step we highlighted the steps of pretests conducted, based on which we developed the stimuli to be used in the main study. We finalized the scenarios to manipulate the motives (Goal oriented and Experiential) in the main studies. Based on those scenarios, we also finalized the magazine articles and the product category of the ads to be used for the manipulated condition of Congruity (Congruent and Incongruent). Finally, we also developed the claims for the product category of the ads for the third manipulated condition of Argument Strength (Strong and Weak ads). Using these articles and ads, the actual e-magazines were also developed. Once the stimuli were developed, we moved on to the actual data collection. The research design of the studies, the sample used as well as the procedure of data collection has also been highlighted in this chapter.