CHAPTER 3

RESEARCH METHODOLOGY
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This chapter is a detailed description of the research methodology adopted to address the research questions. It covers the stages of research, research questions and hypothesis development, development of instruments of data collection, the statistical tools that are used and the sampling technique, sample size and frame. The techniques applied for scale development and modelling will also be discussed.

3.1 Research Methodology

The primary purpose of the research methodology is to guide the researcher at every stage to attain the main objectives of study. It explains the approach used to answer the research questions. The steps of research methodology are shown in figure 2 later in the chapter. Broadly the steps included in the research are review of existing literature, design of research gaps and research questions, design of instruments and method of data collection, deployment of techniques for scale development, data analysis and modelling.

Extensive literature review has been carried out based on research papers both empirical and conceptual. The areas which literature review has covered are Word of Mouth in general, and e-Word of Mouth and Social Media. Drivers, measures and effects of Word of Mouth were identified to select variables for the study.

Research questions and objectives were developed based on the insights and research gaps emanating from the literature review. The key research question this study aims to address is as follows-

*What is the impact of key drivers of WoM on effectiveness of WoM on Social Media.*
The research objectives are

- To analyse the impact of each of the key drivers of WoM on WoM effectiveness on social media
- To develop a comprehensive measure for Word of Mouth Effectiveness in terms of expected outcomes of WoM
- To demonstrate the linkages between drivers and outcomes of WoM and give recommendations for designing effective WoM strategies on social media

Geographical Scope

This research focuses on the youth segment in India. Internet usage amongst youth in India is relatively high as compared to other age groups. As per IMRB and I-Cube (2013), 57% of active internet users are college going or young men. Moreover, 48% of mobile internet users in India are also between 18 to 24 years of age, according to a Nielsen report (February, 2014).

Bulk of the internet usage in India is still centered in the urban areas. The top four cities in terms of internet usage in India, are the major metropolitans of Mumbai, Kolkata, Chennai and Delhi, which together account for 23% of total internet users in India. (IMRB-I Cube, 2013). Therefore, the geographical scope of this research focuses on these 4 cities.

3.2 Research Flow

Following are the phases of research, (Figure 2)

Phase 1:
- Literature Review to identify research gaps. Defining research objectives
- Exploratory Research through in-depth interviews
- Development of Hypothesis and finalising variables to be used in the study
- Designing and validating the questionnaire.

Phase 2:
- Pilot testing: Primary data collection through survey to test questionnaire and plug gaps
- Survey- round 1- Scale Development for variables not covered in literature
Phase 3:  
Survey (round 2): Final data Collection  

FLOW OF RESEARCH  

Figure 2
3.3 Research Design

Research design is a blueprint for conducting Market Research assignments, (Malhotra and Dash, 2010) and the logical sequence connecting the data collected to the research questions defined as well as the conclusion of research. Research design can be classified into exploratory, descriptive and causal, (Malhotra and Dash, 2010). All three types have been incorporated in this research.

The chosen methodology for the exploratory research was in-depth interviews with the target group, industry and academia experts. Focus Group discussions were also conducted to gain insights from the target group of youth respondents. The primary aim of this stage was to understand how receivers react to WoM on social media and what are the different outcomes in response to WoM. This helped to validate the variables selected for study from the literature review and also to identify additional variables which could be covered in the study of drivers and outcomes of WoM. The insights gained from literature review and exploratory research formed the basis for the formulation of the hypotheses.

3.4 Hypothesis Development and Descriptive Research

Based on the literature and exploratory study; and the identified drivers and outcomes of WoM on social media the following hypotheses were proposed in the context of youth in India. (Details are given in the chapter on exploratory research).

H1: Strength of ties of the receiver with the source, Message valence, Perceived source credibility, Message content, Message delivery, Previous experience have a significant impact on Message Receptiveness, for WoM messages on Social Media on the youth segment.

H2: Product category involvement, Social orientation, Community membership have a significant impact on Receiver’s Attitude to WoM messages on Social Media on the youth segment.
H3: Message Receptiveness has a significant impact on WoM Output on Social Media on the youth segment.

H4: Receiver’s Attitude has a significant impact on WoM Output on Social Media on the youth segment.

The objective of descriptive research is to test specific hypotheses and examine relationships between selected variables. In such research, information needed is clearly defined and the research process is formal and structured.

A structured questionnaire was developed to test the items related to WoM output which could be used for developing a scale for measuring WoM effectiveness on Social Media. A pilot study was initially conducted to further refine the questionnaire and fill gaps if any. Primary survey was conducted through administration of the questionnaire in person. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted on the data collected, to identify the relevant dimensions and items, leading to selection of 30 items loading onto 7 constructs.

Using the variables generated for drivers of WoM and the multi item scale for measuring WoM Output developed in the previous stage, the final questionnaire was developed and tested. This was again administered in person and data collected was analyzed using Structural Equation Modelling to test the proposed hypothesis and identify relationships between the selected variables.

3.5 Sampling Procedure

This section describes the various aspects of sampling. An important step before administering the questionnaire is to select the suitable sample, (Churchill, 1979). By distinguishing the sample population group, we make our work more focused and actionable.

Sampling Method

Primary Data was collected for the descriptive research, through direct one to one communication, in person. Online channels were not used to ensure immediate response and quelling of doubts that the respondent might have had.
The sampling technique was Deliberate Sampling or Convenience Sampling ensuring equitable representation from youth in each of the 4 metros selected for the study. There was a purposive selection of candidates from the universe under study based on ease of access and judgment.

The data was collected from 100 respondents for pilot test and 600 for the main analysis.

**Target Sample**

Our target sample is youth between the age group of 18-24 years. In India internet usage amongst youth is relatively high as compared to other age groups. As per IMRB and I-Cube, 2013 survey, 57% of active internet users are college going or young men. Moreover, 48 percent of mobile internet users in India are also between 18 to 24 years of age (Nielsen report, February 2014.)

The definition of youth as the age group 18 to 24, is supported by previous studies (Narang, 2012, Khare, 2011, Anand 2012) and corresponds with the internet usage figures. Further, school going children normally have restrictions on Social Media usage because of school rules and regulations and/or parental disapproval. Therefore, this study focuses on youth between 18-24 years old.

Research also suggests that youth, often referred to as ‘millennial’, or ‘digital natives’, are more active on the social media owing to their technical ability to embrace new media better (Kilian, et al, 2012).

**Therefore, our target sample was defined as youth between age group of 18-24 years, in the top four metros, namely, Mumbai, Delhi, Kolkata and Chennai**
Sample Size

For factor analysis, and other multivariate techniques a sample size of 10 per variable is considered adequate to run statistical tools confidently (Hair, et al, 2006).

Above 10, any number per variable is considered good.

As per expert opinion regarding sample size taking a minimum of 20 observations per variable for statistical validity, the sample size works out to 320.

<table>
<thead>
<tr>
<th>Total no. of variables</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum observations per variable</td>
<td>20</td>
</tr>
<tr>
<td>Minimum acceptable no. of valid responses</td>
<td>320</td>
</tr>
</tbody>
</table>

Literature has established that for SEM, sample size should exceed 500, when the number of factors is larger than six (Hair et al, 2006). Our sample size of 581 ensures that this criterion is met and also allows for more than 20 respondents per factor, since total no. of factors in our proposed model is 16: 7 observed dependent and 9 observed independent factors.

When the number of factors is larger than six, sample size requirements should exceed 500, (Hair et al, 2006).

As a thumb rule sample size should be 20 X the number of factors. Our factors are 16 in number, 7 observed dependent and 9 observed independent. The sample size should therefore exceed 320 respondents, (Hair et al, 2006).

Sample size for SEM is therefore 600 respondents out of which 581 were valid responses

Sample Size, Stage wise

- Exploratory:
  - In-depth interviews- 51 respondents
  - Focus Group- 40 respondents
• Pilot Study: 100 respondents

• Scale Development:
  1. EFA: 336 responses out of which 304 were valid responses
  2. CFA: 450 responses out of which 408 were valid responses

• Structural Equation Modelling:
  • 600 responses out of which 581 were valid responses