



A Structural Equation Modeling Approach to Study the Determinants of Consumers' Attitude towards Viral Marketing - An Empirical Study

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ABSTRACT

The rapid advancements of communication technology have given rise to evolution of new technique of marketing known as viral marketing. Viral Marketing is relatively a new concept, an e-version of traditional word-of-mouth which provides an opportunity to the consumers to spread marketing messages to others by means of internet. The purpose of present study is to measure and model the determinants of respondents' attitude towards viral marketing. The universe of study comprised of main cities of Punjab. A sample of 327 respondents was taken for the purpose of study. The study measured the causal relationship among independent variables (perceived informativeness, perceived credibility of message sender, perceived entertainment and perceived irritation) and dependent variable (attitude towards viral marketing) by using structural equation modeling technique. The results of path analysis show that the constructs "perceived informativeness, perceived sender credibility" and "perceived entertainment" have positive relationship with "respondents' attitude towards viral marketing". On the other hand, the construct "perceived irritation" has negative relationship with dependent variable i.e. "respondents' attitude towards viral marketing". Therefore, the marketers need to design and transmit the viral marketing message by a trustworthy source in such a way that the consumers perceive it to be informative and entertaining.

Keywords: Viral Marketing, Word-of-mouth, Structural equation modeling.

1. Introduction

In the sphere of technological environment, where people are addicted to internet, marketers have found it effective to promote their products and services through the use of latest marketing technique known as viral marketing. The term viral marketing is derived from word-of-mouth marketing (Shanthi and Jeeva, 2014) and it is considered as an extension of traditional word-of-mouth communication. Word-of-mouth refers to "information communications between private parties concerning evaluations of goods and services" (Anderson, 1998, p.6). On the other hand, viral marketing is an internet based marketing technique used by the consumers to share product related information with their social network via emails, blogs, forums, review sites etc. (Zernigah and Sohail, 2012). The information shared by family members, friends or close acquaintances play immense role in consumers' decision making process as consumers perceive it as reliable source than traditional advertising. Thus, with growing importance of electronic word-of mouth communication, companies have now preferred to design creative and interesting messages which could be spread by the consumers among others (Shanthi and Jeeva, 2014). But before going to design the viral message the marketers need to understand the factors that make the viral marketing acceptable among consumers.

Zernigah and Sohail (2012) opined that message informativeness is an important element which affects the consumers' attitude towards viral marketing. According to Ducoffe (1996), the informativeness of an SMS advertisement is defined as the amount of useful and helpful

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information provided by the advertising medium” (Almossawi, 2014). Consumer will react positively, if the information delivered through advertising message is accurate, timely and useful (Muzaffar and Kamran, 2011). Moreover, the informative content of the advertising message plays an important role to enhance the effectiveness of advertising (Blanco et al., 2010). It builds consumers positive attitude towards company or the product.

Thus, it was claimed that consumers' perception of perceived informativeness of the message has positive correlation with consumers' attitude towards advertisement (Waldt, Rebello and Brown, 2009). On similar lines, Zernigah and Sohail (2012) also opined that perceived informativeness of the viral message generates consumers' positive attitude towards viral marketing.

While talking on content of the message, Zernigah and Sohail (2012) further opined that entertainment is also an essential component of advertising message and the viral campaigns that incorporated with elements of surprise, entertainment and joy have major influence on consumers' positive attitude towards viral marketing.

Entertainment is defined by Ducoffe (1996) as “the ability to fulfill an audience's needs for escapism, diversion, aesthetic, enjoyment, or emotional enjoyment” (Almossawi, 2014). Consumers' feelings of enjoyment are positively linked with their attitude towards the advertisement (Zernigah and Sohail, 2012). There are a number of studies that also claimed that entertaining content of the message is positively related to consumers' attitude towards advertising message (Blanco et al., 2010; Zernigah and Sohail, 2012; Almossawi, 2014).

Besides the content of the viral marketing message, the credibility and trustworthiness of the message sender greatly influence recipients' attitude towards the message. Zernigah and Sohail (2012) opined that credibility of an advertisement is influenced by credibility of the company or credibility of the person who is sharing the advertising message with others. Corporate credibility is defined by Choi and Rifon (2002) as “the extent to which consumers believe that a firm can design and deliver products and services that satisfy customer needs and wants” which have direct positive effect on consumers' attitude toward the advertisement, brand and product purchase intention (Saadeghvaziri and Hosseini, 2011).

But sometimes consumers delete unsolicited messages which they receive from the marketers because of recipients' lack of trust on the marketer (Zernigah and Sohail, 2012). On the other hand, consumers consider social networks as more trustworthy source and do not delete the messages which they received from their social networks (Phelps et al., 2004). Thus, advertisement and source credibility of the message (viral marketing message) play important role in shaping consumers' positive attitude towards viral marketing (Waldt, Rebello and Brown, 2009; Muzaffar and Kamran, 2011; Almossawi, 2014; Zernigah and Sohail, 2012).

It was also found by the researchers that when the quantity of advertising (promotional) messages rises, the consumers do start react negatively to the advertising messages (Saadeghvaziri and Hosseini, 2011; Zernigah and Sohail, 2012).

According to Ducoffe (1996), “Consumers feel irritated when advertising employs techniques that annoy, offend, or are overly manipulative, consumers are likely to perceive it as unwanted and irritating influence” (Saadeghvaziri and Hosseini, 2011). Due to such irritation, consumers build negative attitude towards the advertising message or viral marketing (Waldt, Rebello and Brown, 2009; Zernigah and Sohail, 2012; Almossawi, 2014). Thus to reduce this irritation level of the consumers, the marketers need to adopt permission based marketing (Zernigah and Sohail, 2012; Almossawi, 2014).

There are a number of studies which measured consumers' attitude towards traditional advertising or SMS advertising but there is lack of research that investigates consumers' attitude towards viral marketing in Indian context.

Thus, the purpose of present research is to measure consumers' attitude towards various factors such as perceived informativeness of viral marketing message, perceived entertainment, perceived source credibility and perceived irritation which in turn affect consumers' attitude towards viral marketing. Hence, an attempt has been made to measure and model the factors affecting respondents' attitude towards viral marketing.

2. Hypotheses of the Study

The following model is proposed on the bases of intense review of literature relating to viral marketing:-

By considering the proposed model, the following hypotheses were formulated.

H1: Perceived informativeness of viral marketing message has positive relationship with consumers' attitude towards viral marketing.

H2: Perceived entertainment of viral marketing message has positive relationship with consumers' attitude towards viral marketing.

H3: Perceived credibility of (viral marketing) message sender has positive relationship with consumers' attitude towards viral marketing.

H4: Perceived level of irritation caused by viral marketing message has negative relationship with consumers' attitude towards viral marketing.

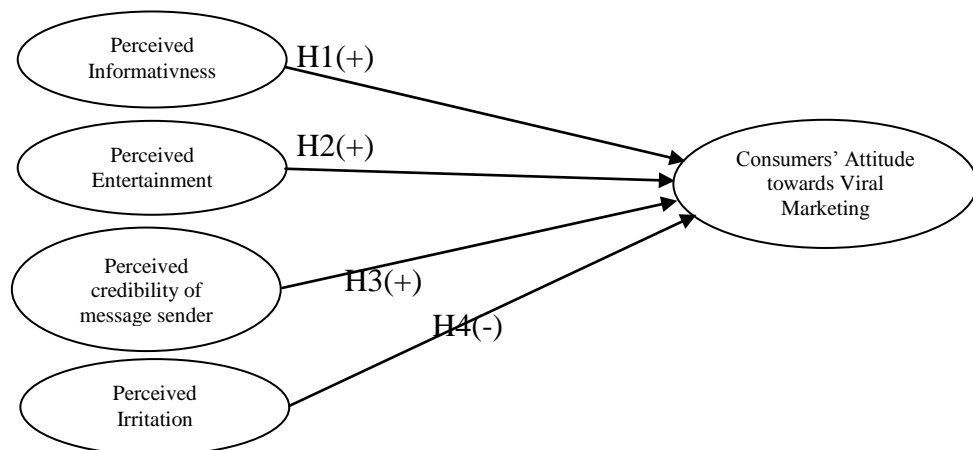


Figure1: Proposed Conceptual Model

3. Database and Research Methodology

The universe of study comprised of 3 main cities of Punjab i.e. Jalandhar, Ludhiana, and Amritsar. The questionnaires were distributed to 350 respondents who were tech savvy and were aware of viral marketing but only 327 completely filled questionnaires were received back. Thus, final sample of study is 327 respondents. Non probabilistic convenience sampling technique was adopted to collect the data.

A self-administered questionnaire was designed to collect data from the respondents. The constructs used in the questionnaire were adopted from the review of past studies. The questionnaire was divided into two parts. First part of questionnaire contained a number of 21 statements that were used to measure the independent variables such as perceived informativeness (6 statements), perceived entertainment (5 statements), perceived credibility of message sender (5 statements), perceived irritation (3 statements) and dependent variable i.e. attitude towards viral marketing (2 statements). Second part of questionnaire contained questions about demographic profile of the respondents. All the statements were measured on five point likert scale ranged from (1= strongly agree) to (5=strongly disagree).

To measure the causal relationship among independent variables i.e. perceived (informativeness, entertainment, sender credibility and irritation) and dependent variable (attitude towards viral marketing), the structural equation modeling technique was adopted.

4. Data Analysis and Results

Scale Validity

Content Validity: The scale was developed on the basis of intense review of literature relating to viral marketing or the studies related to consumers' attitude towards advertising. Due to lack of valid scale to measure consumers' attitude towards viral marketing, the initial scale was adapted from existing review of literature and then modified to achieve the objective of the study.

Table 1: Content Validity

Constructs	Adapted from
Perceived Informativeness	Zernigah and Sohail, 2012; Blanco et al., 2010
Perceived Entertainment	Zernigah and Sohail, 2012; Blanco et al., 2010
Perceived Sender Credibility	Muzaffar and Kamran, 2011; Zernigah and Sohail, 2012
Perceived Irritation	Muzaffar and Kamran, 2011; Zernigah and Sohail, 2012
Attitude towards viral marketing	Zernigah and Sohail, 2012; Blanco et al., 2010; Muzaffar and Kamran, 2011

Confirmatory analysis of measurement model

Confirmatory factor analysis was applied for assessment of the measurement model. The multiple fit indexes which indicate the fitness of the model to data are given below.

- The measures which ensure the goodness of fit of the models included chi square/degree of freedom which is 1.347, less than the cut off of 5.00 (Hoyle, 1995). The values of indices measuring goodness of fit included Comparative Fit Index (CFI), Tucker- Lewis Index (TLI) and Incremental Fit Index (IFI) were greater than the minimum acceptable value of 0.9 i.e. 0.921, 0.914, 0.921. (Fadlelmula, 2011).
- The value of Root Mean Square Residual (RMR) 0.023 which is below 0.05 (Fadlelmula, 2011). The value of Root Mean Square Error of Approximation (RMSEA) is 0.067 that is less than 0.10 as suggested by (Fadlelmula, 2011).
- The above results show goodness of fit of the model to data.
- The factor loading of one item belonging to construct “perceived informativeness ” was found to below the minimum acceptable limit of 0.7 (Malhotra and Dash, 2010) so the observed variables were subject to deletion from the scale to improve model fitness of the model.

Reliability and Validity Analysis of Measurement Scales:

To assess the reliability of scales, composite reliability of latent variables' measurement scales was calculated. In addition to this, construct validity of the scales was assessed by following two steps i.e. convergent validity and discriminant validity.

**Table2
Reliability and Validity Analysis**

Latent Variable	Composite Reliability	AVE	MSV	ASV
Perceived Informativeness	0.789	0.621	0.362	0.254
Perceived Entertainment	0.765	0.523	0.406	0.285
Perceived credibility of message sender	0.749	0.515	0.395	0.221
Perceived Irritation	0.813	0.629	0.379	0.248
Attitude towards viral marketing	0.910	0.698	0.319	0.289

NOTE: (AVE: Average variance extracted; MSV: Maximum-shared variance; ASV: Average shared variance)

It is revealed from table 2 that the value of Composite Reliability (CR) for each construct is greater than 0.7, which is a minimum acceptable value (Nunnally and Berstein, 1994;

Malhotra and Dash, 2010). In addition, to ensure the convergent validity of each construct we used AVE and CR. Moreover, composite reliability of each construct should be greater than its AVE. These results are found to be satisfactory as shown in table 2.

On the other hand, to ensure the discriminant validity, the two conditions must be fulfilled i.e. $MSV < AVE$ and $ASV < AVE$. Both of these two conditions are fulfilled as depicted in table 2.

Structural Model: Path Analysis

After testing reliability and validity of scales, the path analysis was conducted to test the proposed causal relationship among the constructs. The maximum likelihood (ML) estimation method was used for this purpose.

The multiple fit indexes which indicate the fitness of the model to data are given below.

- The measures which ensure the goodness of fit of the models included chi square/degree of freedom which is 1.567, less than the cut off of 5.00 (Hoyle, 1995). The values of indices measuring goodness of fit included Comparative Fit Index (CFI), Tucker- Lewis Index (TLI) and Incremental Fit Index (IFI) were greater than the minimum acceptable value of 0.9 i.e. 0.911, 0.917, 0.911. (Fadlelmula, 2011).
- The value of Root Mean Square Residual (RMR) 0.024 which is below 0.05 (Fadlelmula, 2011). The value of Root Mean Square Error of Approximation (RMSEA) is 0.061 that is less than 0.10 as suggested by (Fadlelmula, 2011).

Further the evidence for all the hypothesized relationships was found at 0.05 level of significance that indicates statistical significant relationships among all the constructs of the path. Table 3 depicts the path coefficients of the model.

Table 3: Path Coefficients of the Model

Hypotheses	Casual Path	β value and R ²
H1	Perceived informativeness → attitude towards viral marketing	0.423 (0.178)
H2	Perceived entertainment → attitude towards viral marketing	0.321(0.103)
H3	Perceived sender credibility → attitude towards viral marketing	0.501(0.251)
H4	Perceived Irritation → attitude towards viral marketing	-0.364(0.132)

The above analysis reveals that “perceived credibility of message sender” as an independent variable explains maximum variance (25%) in dependent variable “respondents’ attitude towards viral marketing” which is followed by “perceived informativeness” of the message which explains 17.8% variance in dependent variable. The “perceived entertainment” of viral message is positively related with dependent variable but explains only 10% variance in “consumer’s attitude towards viral marketing”. On the other side, “perceived level of irritation” caused by viral message generates negative attitude among consumers towards viral marketing.

5. Conclusion

The introduction of internet technology has changed the ways of marketing the products. Now, the companies are opting viral marketing strategies to reach the consumers in a cost effective way. But there are various factors that affects consumers’ attitude towards viral marketing. Hence, the study measured the causal relationship among independent variables (perceived informativeness, perceived entertainment, perceived credibility of message sender and perceived level of irritation) and dependent variable (attitude towards viral marketing) by using structural equation modeling technique. The results of path analysis reveal that the constructs i.e. perceived “informativeness”, “entertainment”, “credibility of message sender” and “entertainment” have positive relationship with “respondents’ attitude towards viral marketing” in contrast to the construct “irritation” which has negative relationship with

“respondents’ attitude towards viral marketing”. Moreover, the construct “perceived credibility of message sender” explains maximum variation in the dependent variable. Therefore, the marketers need to design and transmit the viral marketing message through a credible source in such a way that appeals to the consumers as informative and entertaining. In addition to it, to enhance the effectiveness of viral marketing message or to reduce irritation level, marketers must target only those individuals who show their willingness to receive the viral marketing messages.

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