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E-mail viral marketing: modeling the determinants of creation of “viral infection”

E-mail viral marketing

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Abstract

Purpose – The purpose of this paper is to identify factors influencing the opening and forwarding of commercial e-mails received directly from companies to further promote products via sharing by consumers to create viral infection.

Design/methodology/approach – The study is descriptive in nature and carried out in the country, India. A structural equation modeling technique was used to test the hypothesized relationships among the constructs pertaining to opening and forwarding of commercial e-mails.

Findings – The results indicate that mail opening intentions of the recipients are influenced by the perceived value of e-mail content and their positive relation with the sender, increasing the probability of further forwarding. However, relationships among consumers have a significant effect on intentions to forward the commercial e-mails. E-mails that arouse positive emotions in the minds of the receivers are forwarded. The study significantly contributes to literature with the findings that not only positive emotions additionally content leads to high arousal through positive emotions leading to viral infection.

Practical implications – The study has implications for marketers who are in the business of promoting their products through e-mails, need to redesign the message content to engender positivity and generate viral infection, which is the ultimate goal of viral marketing.

Originality/value – This study explains factors behind the creation of “viral infection” specifically with regard to commercial e-mails targeted to individuals with high networking potential.

Keywords Social capital, Social cognition, Viral e-mails, Viral infection

Paper type Research paper

1. Introduction

The rapid proliferation of internet and communication technology has brought a major transition not only in the behavior of individuals, but also in the behavior of organizations (Redwood *et al.*, 2017; Miquel-Romero and Adame-Sanchez, 2013). There had been a time when traditional media was used by the marketers for the publicity of products, but now the scenario has totally changed, cyberspace has facilitated the adoption of innovative digital technologies for promotion of products or services. Viral marketing, an internet-based marketing technique, encourages consumers to pass along a marketing message (e.g. company developed products and services or audio video or written information) via electronic platforms such as blog, e-mail, forum, virtual opinion platform and social networking site (Kotler *et al.*, 2009; Hennig-Thurau *et al.*, 2004). It is a new concept of electronic word-of-mouth (eWOM) marketing that emerged in the twenty-first century with the introduction of internet (Shanthi and Jeeva, 2014). Montgomery (2001) argued that the concept of viral marketing is not new as it has been described in the marketing literature for more than 30 years with terms such as “word-of-mouth” or “diffusion of innovation.” Ferguson (2008) opined that “the difference between viral marketing and word-of-mouth (WOM) is one of the cause and effect. Viral marketing – which might take the form of influencer marketing programs, community-building portals, viral videos and street-level guerilla campaigns – builds awareness and buzz; it’s the cause [whereas] positive WOM, which



theoretically leads to trial and acquisition, is the effect” (p.180). Viral marketing starts with the creation of some online content such as a video or website, the web address of which is made available by the marketers to the internet users, who after viewing the online content may forward it to their friends (Ho and Dempsey, 2010). With growing importance of electronic peer-to-peer referrals, the goal of the marketers is to identify the individuals with high social networks and then exploit their potential by designing viral marketing campaigns that appeal to individuals, which further leads to “brand building” of an advertised product/service (De Bruyn and Lilien, 2008; Ho and Dempsey, 2010).

2. E-mail viral marketing: research objective

“Viral marketing is a communication and distribution concept, relies on customers to transmit digital products via e-mail to other potential customers in their social sphere and to animate these contacts in order to transmit the products” (Helm, 2010, p. 159). E-mailing is the number one internet activity (Phelps *et al.*, 2004) through which eWOM marketing takes place (Jose-Cabezudo and Camarero-Izquierdo, 2012). According to the report of Radicati Group (2016) on e-mail market, there are about 2.6bn worldwide e-mail users who are expected to increase over 3.0bn by the year-end 2020 and total worldwide e-mail traffic is expected to grow over 257bn from 215bn e-mails per day by the end of year 2020.

Miquel-Romero and Adame-Sanchez (2013) opined that companies nowadays send a number of commercial e-mails to a group of potential or actual customers with the motive to create “viral infection” or “buzz.” Viral infection refers to “contagion” between individuals. The company favors the first contagion by sending the message to its consumers and then these consumers will continue the “infection chain” by resending the message to other consumers in their mailing list and so on (Miquel-Romero and Adame-Sanchez, 2013; Phelps *et al.*, 2004). Thus, it is clear that “viral infection” cannot proliferate until first recipient of the message forwards it.

Phelps *et al.* (2004) analyzed the various stages in a typical pass-along process from the moment the recipient receives and forwards the pass-along e-mails (received from some known persons having commercial or non-commercial content). Based on this, Miquel-Romero and Adame-Sanchez (2013) developed a research model that focused exclusively on “first link” within the chain when company promotes an active viral marketing campaign by sending messages to its first consumers. They examined the whole process, i.e., the receipt of the marketing message directly from the company, decision to open and then decision to further forward the message by the consumers to others in their contacts.

The main goal of the adoption of an e-mail viral marketing technique by the companies is to spread awareness about product or service offerings by using eWOM behavior of their existing consumers who will spread the message further among their social networks and then so on. Unlike “spam” or “unsolicited e-mails,” the subsequent receivers receive the viral e-mails from their close acquaintances that ensure the “credibility” of the message to them and indicate senders’ positive association with the company that, in turn, improves the image of the company.

Although a number of studies could be cited out which explained dissemination behavior of individuals with regard to pass-along e-mails of non-commercial nature, in the context of commercial e-mails, there also exist some other reasons that may dilute the effectiveness of e-mail viral marketing. In actual practice, the receivers’ potential to forward the commercial e-mails tends to disappear because they consider these e-mails “spam” and delete them without reading (Miquel-Romero and Adame-Sanchez, 2013; Phelps *et al.*, 2004). Phelps *et al.* (2004) defined spam as “unsolicited, unwanted, annoying junk e-mails” (p. 337) which companies sent by purchasing e-mail lists in order to tout their products/services.

Hence, the factors behind the creation of “viral infection” specifically with regard to “commercial e-mails” sent by the companies require more insight. Henceforth, the purpose of the study is to identify those factors that may influence the opening and forwarding of commercial e-mails received directly from companies.

3. Hypotheses formulation

As very limited research on e-mail viral marketing is available, for furtherance of the present study, we considered the study by Miquel-Romero and Adame-Sanchez (2013) relevant and based our research model on their premise by supplementing some additional factors related to social capital and social cognition theory. It also incorporates the receiver's emotional response state as found, respectively, in research by Huang *et al.* (2009) and Lin *et al.* (2006) on pass-along e-mail intentions (Figure 1).

Source familiarity

In the social world, where people are often strangers, the credibility of the message sender is critical in the success of eWOM marketing (Mahapatra and Mishra, 2017). Past studies have shown that the consumers' intention to open and forward viral content is strongly influenced by perceived trust and risks (Palka *et al.*, 2009). The receiver would like to open a viral content (with send-to-a-friend option) received from a "trusted friend," "trusted third party" or from well-established brands (Palka *et al.*, 2009). Ketelaar *et al.* (2016) and Fouad (2017) also opined that people are more likely to forward those messages/advertisements that they receive from close friends or members of the family rather than from a company or distant friend. In the case of viral messages, the message sender influences the decision whether a given e-mail is worth opening (De Bruyn and Lilien; 2008; Jose-Cabezudo and Camarero-Izquierdo, 2012). Therefore, the following hypothesis is proposed:

H1. "Source familiarity" has a positive effect on recipients' intentions to open commercial e-mails received from companies.

Positive relationship with source

Corporate associations have direct effect on behavioral intentions of consumers toward a company (Spears and Brown, 2006). Mann and Ghuman (2014) measured corporate brand

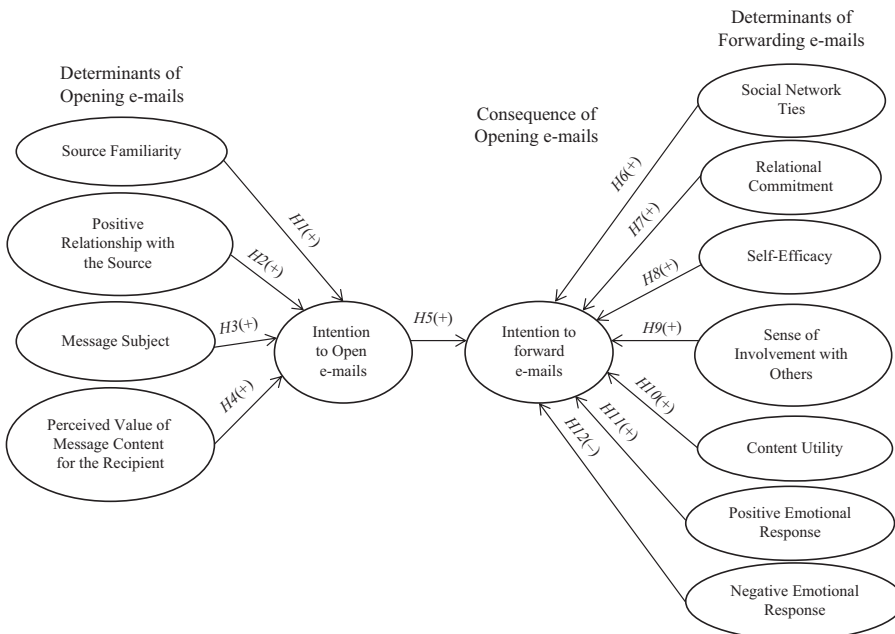


Figure 1. Conceptual model of e-mail viral marketing process

associations on seven dimensions that represent both “functional” and “emotional” aspects. These dimensions include “corporate ability and growth,” “symbolic benefits,” “perceived external prestige,” “corporate ethics,” “corporate social responsibility,” “visual identity” and “corporate communications.”

Most studies relate corporate association with corporate image that affect the consumers’ response for a company or its manufactured products (Brown and Dacin, 1997; Wansink, 1989; Keller and Aaker, 1997). However, Miquel-Romero and Adame-Sanchez (2013) linked corporate association with individual intentions to open e-mails sent by the companies. Along similar lines, the following hypothesis is proposed:

- H2.* “Positive relationship with the source” has a positive effect on recipients’ intentions to open commercial e-mails received from companies.

Message subject

Jose-Cabezudo and Camarero-Izquierdo (2012) opined that message subject determines whether the message is interesting. Based on MOA (motivation, opportunity, ability) theory, a message subject is considered an executional cue that encourages the individuals to pay attention to the message (MacInnis *et al.*, 1991). Tyufekchieva and Reichhart (2018) stated that before an evaluation of the message content has been done by the receiver, it must spark instant interest in the message so that he/she feels motivated enough to open or read it. Consequently, the following hypothesis is proposed:

- H3.* “Message subject” has a positive effect on recipients’ intentions to open commercial e-mails received from companies.

Perceived value of message content for the recipient

Miquel-Romero and Adame-Sanchez (2013) opined that the opening of a commercial e-mail depends upon the perceived value of content for the receiver. According to Celsi and Olson (1988, cited in Campbell and Wright, 2008), “personal relevance in an attitude object is the extent that consumers perceive [the object] to be self-related or in some way instrumental in achieving their personal goals and values”. Sanz-Blas *et al.* (2015) explained the importance of message informativeness and considered it one of the best message-driven factors that directly and indirectly influence receiver intentions to open and forward mobile advertising messages.

Therefore, the following hypothesis is proposed:

- H4.* “Perceived value of message content” has a positive effect on recipients’ intentions to open commercial e-mails received from companies.

After opening the e-mail message, the recipient may either delete it or use the information after reading it (Palka *et al.*, 2009; Miquel-Romero and Adame-Sanchez, 2013). The intention to use the information may further affect his/her intention to forward the message. Therefore, the following hypothesis is proposed:

- H5.* Opening of commercial e-mails by the recipients has increased the probability of forwarding them to others.

The opening of e-mail messages is a pre-requisite of forwarding them to others. However, some researchers explored determinants of opening and forwarding of e-mails on the basis of social capital theory and social cognitive theory. Nahapiet and Ghoshal (1998) defined social capital as “the sum of the actual and potential resources embedded within and available from the network of relationships possessed by an individual or social unit” (p. 243). Thus, receivers’ strength of relationship with others influences their forwarding behavior.

In addition, social cognitive theory argued that “a person’s behaviour is partially shaped and controlled by the influences of social networks (i.e. social systems) and the person’s cognition (i.e. expectations, beliefs)” (Chiu *et al.*, 2006, p. 1,874). Therefore, social network analysis has experienced enormous academic growth due to the development of online sharing technologies that enable the consumers to exchange information (Jang *et al.*, 2018; Chu and Kim, 2018). The flow of information on social media is structured by several factors, including users’ interpersonal networks and users’ psychological motivations, etc. (Jang *et al.*, 2018; Bakshy *et al.*, 2015).

Social network ties

Sanz-Blas *et al.* (2015) emphasized the importance of social capital theory, in terms of influence of social network ties on message forwarding intentions. Chiu *et al.* (2006) opined that social interaction tie is the relational strength, the amount of time spent and frequency of communication among the members of virtual communities. Huang *et al.* (2009) argued that position of an individual in the network influences his/her willingness to pass along the information to others. Social interaction ties are the fundamental preposition of social capital theory which provides cost-effective access to knowledge sources (Nahapiet and Ghoshal, 1998; Chiu *et al.*, 2006). The strength of ties or the extent to which members maintain social (friendly) relations influence their eWOM communication (De Bruyn and Lilien, 2008; Jose-Cabezudo and Camarero-Izquierdo, 2012). In the context of eWOM communication, Huang *et al.* (2009) also found the significant effect of social interaction ties on receivers’ pass-along intentions. In the social network era, social ties play an important role in the effective marketing communication (Shen *et al.*, 2016; Luarn *et al.*, 2015). In light of this, the following hypothesis is made:

H6. “Social Network Ties” has a positive effect on recipients’ intentions to further forward the commercial e-mails received from companies.

Relational commitment

Social/relational commitment is one of the key elements of relational social capital, indicating that the frequency of opening and forwarding e-mails depends upon the level of trust among network members (Jose-Cabezudo and Camarero-Izquierdo, 2012). Relational commitment is different from social interaction ties. An individuals’ sense of obligation and the level of commitment motivate them to share their experiences with others (Huang *et al.*, 2009).

Conversely, Huang *et al.* (2009) and Jose-Cabezudo and Camarero-Izquierdo (2012) found that an individual’s relational commitment is not positively related to pass-along e-mail intentions or has no effect on the viral transmission of e-mail messages. Moreover, they claimed that individual’s trustworthy and friendly relationships among e-mail networks do not influence the frequency of opening and forwarding e-mail messages. However, the following hypothesis is proposed on the basis of theory, in general:

H7. “Relational commitment” has a positive effect on recipients’ intentions to further forward the commercial e-mails received from companies.

Self-efficacy

Maintaining interpersonal connectivity and social enhancement are two social benefits of participation in network-and small-group-based virtual communities (Dholakia *et al.*, 2004). Social cognitive theory states that behavior is partially shaped or influenced by expectations, belief and social system (Huang *et al.*, 2009). Individuals tend to share their experiences with others to gratify their emotional needs (Dichter, 1966; Blackwell *et al.*, 2011) or to enhance their social status within the community on account of their contributions

(Tyufekchieva and Reichhart, 2018; Vaish *et al.*, 2018; Blackwell *et al.*, 2011; Sundaram *et al.*, 1998). Thus, the following hypothesis is proposed:

H8. “Self-efficacy” has a positive effect on recipients’ intentions to further forward the commercial e-mails received from companies.

Sense of belongingness with others

The fundamental proposition of social cognitive theory is that a person’s intention to spread word-of-mouth is influenced by his or her concern for others (Dichter, 1966; Blackwell *et al.*, 2011). They do this in order to guide them to make a satisfying purchase decision or to prevent them from the consequences of making a wrong purchase decision (Sundaram *et al.*, 1998; Hennig-Thurau *et al.*, 2004; Blackwell *et al.*, 2011). Huang *et al.* (2009) and Phelps *et al.* (2004) opined that by passing e-mails, people tend to show their affection, care and gratitude for others. Thus, the following hypothesis is proposed:

H9. “Sense of belongingness with others” has a positive effect on recipients’ intentions to further forward the commercial e-mails received from companies.

In addition to recipients’ need for interpersonal communication, their perceptions about the relevancy of content for others and their emotional reactions to the message content seem to influence their dissemination behavior (Lin *et al.*, 2006; Huang *et al.*, 2009; Miquel-Romero and Adame-Sanchez, 2013).

Content utility

Message content having utilitarian and hedonic values is positively related to receivers’ forwarding of online marketing messages (Chiu *et al.*, 2007, 2014). With regard to the message content, a utilitarian value is primarily functional and instrumental. It demonstrates quality and provides useful information about the product reduces receiver’s purchasing risks also (Chiu *et al.*, 2007, 2014; Kobia and Liu, 2017), whereas a hedonic value initiates immediate response that is personal and subjective such as entertainment, joy, etc. (Babin *et al.*, 1994; Walsh *et al.*, 2004). Chiu *et al.* (2007) opined that content with a utilitarian value is more likely to be forwarded. A utilitarian value is “instrumental,” “functional” or “cognitive” (Chandon *et al.*, 2000). The effectiveness of the message content is determined by the utilitarian nature of benefits it delivers (Chandon *et al.*, 2000; Chiu *et al.*, 2007, 2014), and this has a great impact on receivers’ information sharing intentions (Chiu *et al.*, 2014). Message involvement is antecedent of word-of-mouth communication and is stimulated by how the product is presented in the advertising commercials or public relations (Dichter, 1966). Sometimes consumers also feel entertained while talking about advertisements or appeals used therein to sell the products (Blackwell *et al.*, 2011). Consumer referral behavior in the context of viral marketing campaign created by the firm depends heavily on a purposive value and entertainment value of the message (Pescher *et al.*, 2014). Hence, the following hypothesis is proposed:

H10. “Content utility” has a positive effect on recipients’ intentions to further forward the commercial e-mails received from companies.

Emotional responses

Emotional broadcaster theory states that social sharing behavior occurs when people want to share their aroused emotional experience with other community members (Zhao and Renard, 2018). Lin *et al.* (2006) opined that e-mail forwarding intentions depend upon one’s emotional state, i.e., positive or negative emotional response to content of the message. Elsbach and Barr (1999) claimed that a psychological approach, which refers to the temporary feelings, states (i.e. positive or negative), affects the individual’s decisions.

Lin *et al.* (2006) found that positive emotional responses and forwarding intentions are positively related, whereas feelings of negative emotional responses to e-mail content do not influence the intentions to forward e-mails. The e-mails that spark strong emotions such as humor, fear, sadness or inspirations are likely to be forwarded (Phelps *et al.*, 2004, p. 345), and in order to be effective, the element of surprise needs to be incorporated in the viral marketing messages along with other emotions (Dobele *et al.*, 2007). However, in comparison to low arousal emotions (e.g. sadness), people are more likely to share those advertising messages that appeal to their high arousal emotions (admiration, awe, humor) (Berger and Milkman, 2012; Pressgrove *et al.*, 2018). Two hypotheses are, thus, proposed:

- H11.* “Positive emotional response” to the message content has a positive effect on recipients’ intentions to further forward the commercial e-mails received from companies.
- H12.* “Negative emotional response” to the message content has a negative effect on recipients’ intentions to further forward the commercial e-mails received from companies.

4. Data collection

A web-based survey was conducted to collect data from a sample of 870 respondents selected through a snowball sampling technique. An initial set of 179 respondents (belonging to researchers’ family and close acquaintances) was selected, who were exposed to viral commercial e-mails sent by companies and also engaged in seeking and sharing of product-related information via e-mails. They were asked to introduce some of their friends who would also actively participate to make the survey more successful. A subsequent 691 respondents were selected by obtaining referrals from the initial set of respondents. The study was carried out in National Capital New Delhi and two cities, Gurgaon and Noida, included in National Capital Region, Union Territory of Chandigarh and Punjab, one of the prosperous states of India. Proceeding further in this direction, the questionnaire was designed in two parts. First part contained a set of latent constructs that were borrowed and measured by using scales adapted from past studies (Table AI).

The questionnaire was tested and suitably revised after conducting pilot survey. A five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used for the measurement of responses. The second part of questionnaire included demographic and geographic profiles of respondents (Table I).

Variable	Categories	Percentage of respondents
Gender	Male	39
	Female	61
Age	18–20	30
	21–25	38
	26–30	17
	31–35	9
	36–40	3
	41–45	2
	> 45	1
Educational qualification	Above postgraduates	6
	Postgraduates	35
	Graduates	36
State	High school	23
	Punjab	47
	Chandigarh Delhi and NCR	22 31

Table I.
Demographic and geographic profile of respondents

5. Data analysis and results

Normality assumption

Before applying a structural equation modeling technique, the normality of the data was checked through descriptive statistics. Skewness and kurtosis for all the variables were calculated, and the values of these statistics were found to be within the limits stated by West *et al.* (1995, cited in Kim, 2013). The limits stated for skewness and kurtosis are < 2 and < 7 , respectively. Henceforth, the values of test statistics ensured the normality of data, which was sufficient to pursue further for applying SEM.

Measurement validation

Before applying confirmatory factor analysis, the content validity of the measurement scale was ensured.

Content validity. The scale was developed after synthesizing the literature related to the factors that motivate the receivers to open and forward the e-mails. An initial set of items was adapted from the past studies (Table II).

Assessing fitness of measurement model

Confirmatory factor analysis was employed to assess the measurement model. For its assessment, various indices were calculated. The value of $\chi^2/\text{degree of freedom}$ is 3.649, which is below the acceptable value of 5.00 (Hoyle, 1995). The values of comparative fit index (CFI) = 0.917, Tucker–Lewis index (TLI) = 0.908, incremental fit index (IFI) = 0.917 are found to be greater than the minimum acceptable value of 0.9 (Fadlelmula, 2011), which indicates the good fit of the model to data.

However, the values of indices measuring badness of fit are below the limits suggested by Hoyle (1995) and Fadlelmula (2011). The value of root mean square residual (RMSR) is 0.041, which is below the limit of 0.05 fixed for it. The value of root mean square error of approximation (RMSEA) is 0.055, which is less than 0.1 and shows very good fit of the model to data.

The results of confirmatory factor analysis indicate model fitness as well as various parameters estimated in measurement model such as item loadings, item measurement errors and factor correlations. In the measurement model, two variables *a1* and *h9* belonged to the constructs “source familiarity” and “negative emotional response,” respectively, exhibited low factor loadings of below 0.60. Hence, these variables were deleted from the scale to improve model fitness. The fitness indices given above were calculated after deleting these variables and even after making some modifications in the model by correlating the error terms.

Constructs	Adapted from
Source familiarity	Palka <i>et al.</i> (2009), Miquel-Romero and Adame-Sanchez (2013), Jose-Cabezudo and Camarero-Izquierdo (2012)
Positive relationship with source	Mann and Ghuman (2014)
Message subject	Jose-Cabezudo and Camarero-Izquierdo (2012)
Perceived value of message content for the recipient	Miquel-Romero and Adame-Sanchez (2013), Yang <i>et al.</i> (2012)
Intention to open viral e-mails	Miquel-Romero and Adame-Sanchez (2013), Jose-Cabezudo and Camarero-Izquierdo (2012)
Intention to forward viral e-mails; social network ties; relational commitment	Huang <i>et al.</i> (2009)
Self-efficacy	Huang <i>et al.</i> (2009), Hennig-Thurau <i>et al.</i> (2004)
Sense of involvement with others	Huang <i>et al.</i> (2009)
Content utility	Chiu <i>et al.</i> (2007, 2014)
Positive and negative emotional response	Lin <i>et al.</i> (2006)

Table II.
Content validity

Reliability and validity analysis of measurement scale

Before confirming the proposed relationships among the constructs, the reliability of the measurement instrument was ensured by calculating composite reliability for all the constructs of the scale. In addition, the validity of the scale was analyzed by calculating convergent and discriminant validity of its constructs.

Table III depicts the values of composite reliability, average variance extracted, maximum variance shared and average variance shared. The values of composite reliability for each construct were found to be greater than the recommended cut-off point 0.7 suggested by Malhotra and Dash (2010). Therefore, it ensures the reliability of the scale. Further to assess the convergent validity of the scale that measures the extent to which the observed variables (which compose a determined scale) converge on the same construct (Casalo *et al.*, 2008; Malhotra and Dash, 2010). For this purpose, AVE and CR are used. In the table, all AVE values are reported to be above 0.5. In addition, values of the composite reliability of each construct should be more than its AVE that was also found satisfactory as shown in Table III.

Additionally, discriminant validity ensures that the construct is distinct from the other constructs (Malhotra and Dash, 2010; Casalo *et al.*, 2008). To assess the discriminant validity of scale, two conditions need to be fulfilled, i.e., $MSV < AVE$ and $ASV < AVE$. Both of these two conditions are found to be satisfactory, which indicates the distinctiveness of each construct from the other.

Assessing structural model validity

After assessing the reliability and validity of scale, a structural model was developed and the hypothesized paths between the latent constructs were examined with AMOS, maximum likelihood estimation method. Various indices were calculated to assess the fitness of the structural model. The value of $\chi^2/\text{degree of freedom}$ is 4.096, which is below the acceptable value of 5.00 (Hoyle, 1995). The values of CFI = 0.902, TLI = 0.899, IFI = 0.902 are found to be greater than or equal to the minimum acceptable value of 0.9, which indicates the good fit of the model to data.

The values of indices measuring badness of fit are also below the limits suggested by Hoyle (1995) and Fadlelmula (2011). The value of RMSR is 0.044 that is below the limit of 0.05 fixed for it. The value of RMSEA is 0.06 that is less than 0.1 and shows very good fit of the model to data. Evidence for all hypothesized relationships is given in Table IV.

All the hypothesized relationships have been found to be significant (see Table IV) with the exception of four hypotheses.

Latent variable	Composite reliability	AVE	MSV	ASV
Source familiarity	0.862	0.610	0.469	0.225
Positive relationship with the source	0.930	0.571	0.494	0.307
Message subject	0.824	0.540	0.494	0.251
Perceived value of message content for the recipient	0.870	0.691	0.479	0.256
Intention to open viral e-mails	0.835	0.717	0.446	0.280
Social network ties	0.880	0.647	0.490	0.310
Relational commitment	0.957	0.849	0.473	0.236
Self-efficacy	0.919	0.791	0.594	0.246
Sense of involvement with others	0.889	0.727	0.594	0.302
Content utility	0.910	0.717	0.490	0.331
Positive emotional response	0.945	0.773	0.365	0.232
Negative emotional response	0.908	0.714	0.196	0.078
Intention to forward viral e-mails	0.921	0.794	0.359	0.199

Notes: AVE, average variance extracted; MSV, maximum-shared variance; ASV, average shared variance

Table III.
Reliability and
validity analysis of
measurement scale

Hypotheses	Standardized loading	t-value	Decision
<i>H1</i> : Source familiarity → (+) Intention to open e-mails	–	–	Rejected
<i>H2</i> : Positive relationship with the source → (+) Intention to open e-mails	0.347	6.300***	Accepted
<i>H3</i> : Message subject → (+) Intention to open e-mails	–	–	Rejected
<i>H4</i> : Perceived content value → (+) Intention to open e-mails	0.303	5.993***	Accepted
<i>H5</i> : Opening e-mail → (+) Intention to forward e-mails	0.288	8.694***	Accepted
<i>H6</i> : Social network ties → (+) Intention to forward e-mails	0.144	2.324*	Accepted
<i>H7</i> : Relational commitment → (+) Intention to forward e-mails	–	–	Rejected
<i>H8</i> : Self-efficacy → (+) Intention to forward e-mails	–	–	Rejected
<i>H9</i> : Involvement with others → (+) Intention to forward e-mails	0.139	2.087*	Accepted
<i>H10</i> : Content utility → (+) Intention to forward e-mails	0.263	4.938***	Accepted
<i>H11</i> : Positional emotional response → (+) Intention to forward e-mails	0.082	1.977*	Accepted
<i>H12</i> : Negative emotional response → (–) Intention to forward e-mails	–0.124	–3.441***	Accepted

Notes: * $p < 0.05$; *** $p < 0.001$

Table IV.
Path coefficients of
the structural model

The results in Table IV indicate that the constructs “positive relationship with source” and “perceived value of message content for recipient” demonstrate significant positive effect on recipients’ intention to open e-mails. *H2* and *H4* were accepted at 0.001 level of significance. Conversely, *H1* and *H3* were rejected as the constructs “Source Familiarity” and “Message Subject” have an insignificant relationship with intention to open commercial e-mails received directly from companies. *H5* was accepted at 0.001 level of significance. This indicates that the opening of commercial e-mails by recipients increases the probability of forwarding them to others.

Furthermore, for the factors affecting referral intentions of the recipients, *H6*, *H9* and *H11* were supported at 0.05 level of significance and the support for *H10* and *H12* were found at 0.001 level of significance. The constructs “Social Network Ties,” “Sense of involvement with others,” “Content Utility,” “Positive Emotional Response” indicate a significant positive effect on intention to forward e-mails, whereas construct “Negative Emotional Response” has negative effect on forwarding intentions of the recipients. However, *H7* and *H8* were rejected as the determined relationships of constructs “Relational Commitment” and “self-efficacy” with intentions to further forward commercial e-mails received directly from the companies were found to be extremely weak and, therefore, not statistically significant.

6. Conclusion

Internet technology has paved the way for the development of new modes of communications such as e-mail, social networking sites and discussion forums. Consequently, these advancements have brought a revolutionary change in the ways of marketing the products, leading to one of the new forms of marketing known as e-mail viral marketing.

The framework of proposed model includes antecedents affecting the intention of the recipients to open e-mails containing product-related information from companies to others. These antecedents include source familiarity, positive relationship with the source, message subject and perceived value of message content. Another dimension of the model incorporates the determinants of recipients’ intention to forward these e-mails. These determinants are social network ties, relational commitment, self-efficacy, involvement for others, content utility, positive and negative emotional responses.

The results of path model indicate that recipient intention to open e-mails significantly depends upon “positive relationship with the source” and “perceived value of message content for the recipient.” These results are consistent with the results of studies by Spears and Brown (2006) and Sanz-Blas *et al.* (2015) on corporate association valence and mobile

marketing, respectively. The results further indicated that “social network ties,” “sense of involvement with others,” “content utility” and “recipients’ emotional response to the message content” are significant determinants of intentions to forward commercial e-mails. However, in terms of emotional response, the “negative emotions in the message content” reflects an adverse effect on the recipient intention to forward commercial e-mails. Moreover, a significant relationship was established in the model between intention to open and intention to forward e-mails. Therefore, it can be said that intentions to open e-mails by the receivers are influenced by the value perceived by them with respect to the e-mail content and their positive relationship with the sender of the message. Past studies on social capital and social cognitive theory mainly focused on forwarding intention to further share “pass-along e-mails” that are received from some known person (Huang *et al.*, 2009; Phelps *et al.*, 2004), whereas the present study stressed on commercial e-mails received direct from the company, hence contributing to the existing literature.

The results also indicate that the positive or high arousal emotions that trigger the interest of the recipients in viral advertising campaign or pass-along e-mails (as claimed in studies of Berger and Milkman, 2012; Pressgrove *et al.*, 2018; Lin *et al.*, 2006; Phelps *et al.*, 2004) also affect the referral behavior of receivers to further forward the commercial e-mails received directly from companies.

7. Managerial implications

The study has policy implications for the companies that are in the sphere of adopting viral marketing strategies for the promotion of their products. In short, it can be stated that in order to achieve the exponential spread of viral e-mails containing product-related information, marketers must craft their messages in such a manner as to create a utilitarian value of the message to the receivers and also evoke positive emotions in their minds. However, the existing literature indicates that both utilitarian and hedonic values contribute to trigger the intentions of the receiver to forward the message, but in the case of commercial messages the value of the content is judged on the basis of its cognitive and utilitarian values. Generally, the literature suggests that it is the high arousal of the emotions in the receiver through the content of the advertisement that leads to further dissemination. However, the present study specifically contributes by determining that it is actually high arousal emotions that are created by positive appeals in the content, rather than negative emotional appeals. This indicates that if appeals evoke a positive set of emotions, then the chances of dissemination are increased. In the case of negative emotions, even if high arousal has occurred, the receiver desists to further disseminate.

On the other hand, whether opening an e-mail is worthwhile or not, recipients first focus their attention on the message subject or on the perceived value of content for them (Miquel-Romero and Adame-Sanchez, 2013; Jose-Cabezudo and Camarero-Izquierdo, 2012). Thus, companies should pay special attention to make the message subject more attractive, which appeals to receivers at first instance and makes them feel motivated enough to open and read the advertising content received directly from a company. Companies should target only those consumers who are loyal and have positive association/relation with the organization. Consumers who feel concern with the company or have strong brand image in their minds always take interest in reading or forwarding the message sent by a company.

Consumers’ perceptions about the content value depends upon their age, gender, income level and their regional domicile so in order to be successful, companies have to design their viral marketing strategies according to the psychological and demographic characteristics of the target consumers.

Essentially, to target the particular segment for creation of “viral infection,” companies have to take into account the importance of customization of the message with regard to recipients’ individual characteristics in order to personalize the commercial e-mail received by the individual so that he may act as an initiator in creation of “viral chain.”

8. Limitations and further scope of the study

The sample of the study is confined only to some parts of the vast country of India. Replication in other regions would enhance generalizability. Moreover, a future study is possible that may target different cultural groups across different countries or different cultural groups existing within the same country. An attempt should also be made in future to conduct a comparative study that seeks to identify the message-driven factors and other intrinsic factors responsible for the differences in referral behavior of consumers with regard to the message content, in consonance with promotions related to various product categories.

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Further reading

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- Keller, K.L. and Aaker, D.A. (1997), "Managing the corporate brand: the effects of corporate marketing activity on consumer evaluations of brand extensions", *Journal of Marketing Research*, Vol. 19, pp. 35-50.

Scale	Adapted from studies
<i>I open a viral e-mail if ...</i>	Palka <i>et al.</i> (2009), Miquel-Romero and Adame-Sanchez (2013), Jose-Cabezudo and Camarero-Izquierdo (2012)
I know the company	
I have received previous e-mails from the sender which were satisfying	
I feel that the company is a reliable source	
I trust the company	
I receive it from a company having well-established brand name	
<i>I open a viral e-mail when I think that ...</i>	Mann and Ghuman (2014)
This company has potential for future growth	
This company is always improving	
This company has a clear vision about its future	
This is a successful company	
This company is the industry leader	
This company is innovative	
This company is doing a lot for the welfare of the society	
This company supports good causes	
This company sponsors social activities	
This company behaves responsibly regarding the environment	
<i>I open a viral e-mail if the message subject...</i>	Jose-Cabezudo and Camarero-Izquierdo (2012)
is interesting to me	
arouses my curiosity	
is clear	
is believable	
<i>I open a viral e-mail if I perceive the content of message is ...</i>	Miquel-Romero and Adame-Sanchez (2013), Yang <i>et al.</i> (2012)
useful to me	
relevant to me	
important to me	
<i>I am more willing to open a viral e-mail ...</i>	Miquel-Romero and Adame-Sanchez (2013), Jose-Cabezudo and Camarero-Izquierdo (2012)
when the company is credible	
When the message perceives to be valuable to me	
<i>I forward viral e-mail to those with whom ...</i>	Huang <i>et al.</i> (2009)
I maintain close social relationship	
I spend a lot of time interacting with them	
I have frequent communication with them	
I know them on personal level	
<i>I forward viral e-mail to most of my message receivers because ...</i>	Huang <i>et al.</i> (2009)
I am committed to maintain my relationship with them	
I feel attached to my relationships	
I feel strongly linked to them	
I am oriented toward the long-term future of my relationship with them	
<i>I think passing commercial message by e-mail to others would ...</i>	Huang <i>et al.</i> (2009), Hennig-Thurau <i>et al.</i> (2004)
Show others that I am a clever customer	
Improve my image among the receivers	
Build my reputation among the receivers	
Enhance my recognition among the receivers	
<i>I think passing commercial message by e-mail to others would ...</i>	Huang <i>et al.</i> (2009)
Help them in getting product-related information	
Show concern about them	
Make others feel that I care about their feelings	

Table AI.
Measurement scale

(continued)

Scale	Adapted from studies
Make others feel that I am closely attached to them <i>I am more willing to forward the viral e-mail to others when I think it ...</i>	Chiu <i>et al.</i> (2007), Chiu <i>et al.</i> (2014)
is useful in reducing others' purchase risks is helpful to others to make an efficient product-related decision make others to understand the product clearly helps others in saving their cost of acquiring and processing the information	
<i>If the viral e-mail content makes me feel ... after reading it, is more likely to be forwarded</i>	Lin <i>et al.</i> (2006)
Happy Glad Cheerful Warm Enthusiastic	
<i>If the viral e-mail content make me feel ... after reading it, is more likely to be forwarded</i>	Lin <i>et al.</i> (2006)
Sad Annoyed Fearful Worried Distressed	
<i>I would forward those viral e-mails to others that ...</i>	Huang <i>et al.</i> (2009)
Provide product-related news contain interesting information about product Provide useful information for recommending product	

Table AI.

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