



Emotional modeling of the green purchase intention improvement using the viral marketing in the social networks

Yaser Sobhanifard¹ · Ghodrat Allah Balighi²

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Abstract

This study explores a model of viral marketing emotional methods to increase the green purchase intention in the social networks. In the process of this research, 500 forms were distributed to respondents, and 384 responses used for analysis. All of the viral marketing emotional method items were created by Delphi method. The study discovered that the viral marketing-based joy and surprise have a significant positive effect on the social value of the green product consumption. Also, the effect of the social value of green product consumption on the green purchase intention was confirmed. The green activists and marketers can improve their green product markets for the future using this approach to viral marketing. In this way, the marketers in all green product industries can increase the consumption of the green product. The main contribution of this study is the light it sheds on how the viral marketing emotions have an effect on the green purchase intention in the social network.

Keywords Viral marketing emotions · Social network · Green purchase intention · Social value · Consumer

1 Introduction

This is obvious that when a consumer chooses a product, this choice has both direct and indirect effects on the environment and society (Gruber and Schlegelmilch 2014; Lai and Cheng 2016). For many years, humans have been dominated by nature but in the recent years, limitations of the natural resources have been found to be more important (Kotler 2014). Today, protection of the environment is considered as an ethical issue; therefore, ignoring this issue will have a bad consequence for humans (Kim 2002).

In this regard, at present, concepts such as green marketing, product and activities are becoming more widely used, reflecting the growing interest of society in the impact of growing consumption on the environment. For instance, protection of the environment can be done by green products

and green activities. The green product is the one claiming to be environmentally friendly and biodegradable and green activities are activities that support environment (Weber 1991). Green marketing consists of multiple activities designed to ensure the key aspect of marketing–product exchange with minimal negative environmental impact (Lieskovska 2010). Peattie defines green marketing as a holistic management process responsible for identifying, anticipating and meeting the needs of consumers and companies in an efficient and sustainable way (Moravcikova et al. 2017).

While most of the green activities have become prevalent in the twentieth century (Hai and Mai 2012), these activities only increase the peoples' interest to environmental issues and there is not enough growth to purchase green products (Kaufmann et al. 2012). Although consumers are sensitive to the environment and participate in the green marketing initiatives, they do not consider the environmental issues in their buying behavior. In fact, the production of the green products is only one of the requirements for the environment protection but it is not sufficient and real effort to environment protection is buying these products and using them. This means that the green purchase intention and the green consumption are real environmental protection. The green purchase intention is a willingness to consume with minimal

✉ Yaser Sobhanifard
sobhanifard@iust.ac.ir

Ghodrat Allah Balighi
GhodratAllahbalighi@iust.ac.ir

¹ Department of Business Administration and Engineering,
Iran University of Science and Technology, Tehran, Iran

² Iran University of Science and Technology, Tehran, Iran

damage to the environment (Anderson and Cunningham 1974; Brooker 1976).

Regarding the importance of the green purchase intention and traditional marketing weakness to eliminate environmental problems (Porter and Golan 2006), the green activists and marketers need to look for more effective ways to encourage consumers to consume green products. In this regard and regarding the increasing growth in the social networks, they can use these networks as a golden opportunity to enhance the green purchase intention and protect the environment. Also, the viral marketing is one of the most important methods in the social networks to message diffusing. This method focuses on the diffusion of product information by deliberately exploiting existing social networks to encourage people to make referrals to their friends (i.e., share news or information about a product or service) (Leskovec et al. 2007). The importance of the green purchase intention, high capabilities of the viral marketing and the increasing growth in the social networks show that the green activists and marketers should use the viral marketing techniques to increase green purchase intention in the social network.

Thus, this study explores a model of viral marketing to increase the green purchase intention. Although the literature review shows some studies about green purchase intention (Wang et al. 2017; Kabadayı et al. 2015; Hsu et al. 2017), viral marketing (Long and Wong 2014; Haryani and Motwani 2015; Serrano and Iglesias 2016) and social network (Hayat et al. 2017; Kim and Hastak 2017; Li and Du 2017), there is no prior study on using viral marketing in the social network to increase green purchase intention. Thus, the main value and originality of this study is the modeling of these three important concepts in the green marketing literature. This study sought a method to improve green purchase intention using viral marketing emotions in the social network.

Practically, the green activists and marketers can improve their green product markets for the future using the good viral marketing techniques. In this way, the marketers in all green product industries can increase the consumption of green product. The results of this study can help practically and socially activists and marketers that seek environment health, cleanliness, and protection.

The paper is structured as follows. Section 2 provides an overview of green products, green purchase intention, and viral marketing emotions. After proposing the research framework, the article describes the methods employed. Sections 5 and 6 includes research results, analysis, and discussion. Sections 7, 8 and 9 contains the limitations, recommendations for further research, managerial implications and conclusions.

2 Literature review

2.1 Green product

The green products are produced to protect the environment (Berchicci and Bodewes 2005). These products have fewer negative effects on human health and the environment. Achieving this concept involves sustainable supply chains, environmental sustainability, and a green environment (Palevich 2011). Although a large number of studies state that consumers tend to be skeptical towards green product claims (Bray et al. 2011; Nuttavuthisit and Thøgersen 2015), in recent years, some manager has focused on green technology to produce green products as competitive advantages in their markets (Dangelico and Pujari 2010). In fact, Green products can increase many manufacturers' benefits (Rao and Holt 2005; Jayaram and Avittathur 2015) and the advantage of green products is that it increases competitive advantages as well as improves the environment (Seuring 2013). Therefore, many managers have focused on green product manufacturing and considering that part of their practice the most important decisions in recent competitive markets concern pricing, advertising and selling channels (Jamali and Rasti-Barzoki 2018).

2.2 Green purchase intention

Based on the theory of reasoned action (TRA), one's intention to behave is the main factor in actual behavior and so the behavior can be anticipated by consumer intention. The green purchase intention is a consumer's intention to prefer a desirable environmental feature (Albayrak et al. 2012). This invention is an important predictor of the green purchase behavior (Beckford et al. 2010) and consumers' internal intent to buying an eco-friendly product (Akbar et al. 2014). In fact, the green purchase intention is a kind of an innovative, social and ethical action that will bring the personal and social benefits.

2.3 The theory of consumption values and social value

The theory of consumption values focuses on the consumption values that explain "why consumers choose to buy or not to buy (or use or not use) a specific product, why consumers choose one product type over another." (Sheth et al. 1991). This theory can be used in different product categories same as goods, industrial goods, and services (Lee et al. 2002; Park and Rabolt 2009; Williams and Soutar 2009).

The theory of consumption values has at its base three fundamental axiomatic propositions: the consumer's

behavior is a function of various consumption values, the consumption values have different contributions in any purchase situation, and the consumption values are independent. Therefore, a decision can be influenced by any or all of the five consumption values. Based on this theory, any or all of the five consumption values have an effect on consumer decision. These values are Functional value, Social value, Emotional value, Conditional value and Epistemic value (Gonçalves 2016). As mentioned, one of these values is social value. Since this study focused on the green product as a social product and because this study is conducted in the social network, the study focuses on social value.

2.4 Viral marketing emotions

People are influenced by others and their social ties, either strong or weak, tend to influence their decisions, actions, and opinions. When choosing a product or service, people look for recommendations (Mochalova and Nanopoulos 2014). Steve Jurvetson and Tim Draper (Knight 1999) were the first to coin the term viral marketing in 1997. The term describes any strategy that encourages individuals to pass on a marketing message to others, creating potentials for exponential growth in the message's exposure and influence. At the present time, however, a lack of consensus exists concerning any clear definition of what viral marketing is (Camarero and José 2011).

Viral marketing focuses on the diffusion of product information by deliberately exploiting existing social networks to encourage people to make referrals to their friends (i.e., share news or information about a product or service) (Leskovec et al. 2007). Particularly in the context of online viral marketing, referrals relate to passing along messages received from a marketer to one's peers. In essence, one can broadly describe viral marketing in two stages (Pescher et al. 2014). Viral marketing targets a limited number of initial users (by providing incentives) and utilizes their social relationships, such as friends, families, and co-workers, to further spread the awareness of the product among individuals. The individual who gets aware of the product is said to be influenced. The number of all influenced individuals corresponds to the influence incurred by the initial users.

Dobele et al. proposed six emotions to perform a successful viral marketing. These emotions are surprise (generated when something product, service, or attribute is unexpected or expected), joy (expressed when a goal has been achieved, or when the movement toward such an achievement has occurred), sadness (experienced when not in a state of well-being, which is most often derived from the experience of a fearful event), anger (response to the personal offense an injustice; this injustice is in that person's power to settle), fear (experienced when people expect a specific pain, threat, or danger) and disgust (feeling of aversion that can be felt

either when something happens or when something is perceived to be disgusting) (Dobele et al. 2007). This study uses these emotions to investigate the effect of them on the green purchase intention.

3 Conceptual model and research hypotheses

3.1 Effects of viral marketing emotions on social value

As mentioned, the social value is one of the consumption values. This value refers to the perceived utility resulting from the products related to one or more social groups (Sheth et al. 1991). The people in the social network became a member of groups to improve their self-image by communicating with others. Since the social value relates to approval and self-image improvement (Sweeney and Soutar 2001), social networks have a social value for people and facilitate the circumstance increasing this value for them. In this regard, a positive advertising can improve a person's social value of consumption about a product. Whereas viral marketing is one of the main methods of the advertising in the social network (Dobele et al. 2007), the use of the viral marketing emotions may have a positive effect on the perceived social value in the social network. So we hypothesize that:

The viral marketing emotions have a significantly positive effect on the social value.

3.2 Effects of social value on green purchase intention

The social value increases consumers' social satisfaction and improves their social emotions (Gonçalves 2016). Thus, if the consumers have more social value, they will give more importance to the community and will have a positive attitude to social fate. Since the green purchase intention means environment and social support, if consumers' social value is increased, the consumers will have higher tendency to purchase these products. So we hypothesize that:

The social value has a significantly positive effect on the green purchase intention. Figure 1 shows the conceptual model and research hypotheses.

4 Data collection and research methodology

In the process of this research, 500 forms were distributed to respondents and 384 responses used for analysis. In all, 42% of the respondents were female, and the median age of

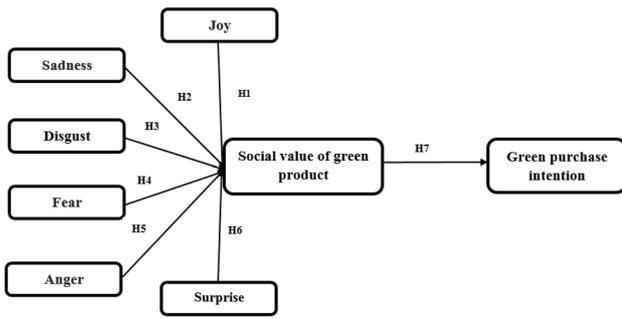


Fig. 1 Conceptual model and hypothesis

Table 1 Demographic characteristics

Items	N	%
Gender		
Male	222	58
Female	162	42
Age		
18–30	170	44
30–50	140	36
Above 50	74	20
Education		
Only a high school degree	100	26
Bachelor’s degree	122	32
Master’s degree	106	28
Doctoral degree	56	19

the sample was 32 years; 32% of the sample had a bachelor’s degree, 28% had a master’s degree and 14% had the doctoral degree, while 26% had only a high school degree. All of the samples were residents of Iran. All of them had experience of the social network. Table 1 shows their demographic information.

5 Results

5.1 Measures

The questionnaire is designed using a five-point Likert scale whenever appropriate and it ranges according to appropriate answers for each question, e.g., strongly agree to strongly disagree. This study measured green purchase intention using four items (Medeiros et al. 2015; Chang and Chen 2012; Lizawati et al. 2012) and modified their scales about overall purchase intention to green purchase intention scale. Also, the social value was measured by five items (Lin and Huang

2012). Table 2 shows all of this study’s measures. All of the viral marketing items created by Delphi method, which is a widely accepted method of consensus building among experts concerning a specific issue (Sandford and Hsu 2007), were used. This method is a type of survey tool used for structuring group opinion and discussion. The method is used to start discussions on specified topics and gather opinions among a given group so that decisions can be made on the basis of demands and views at a group level (Hasson et al. 2000; Sobhanifard 2018).

Due to the lack of literature identifying viral marketing emotions, in the first round, 25 social network users were asked to express types of emotional messages in the social media. They are users that regularly forward a Message to a social media. In the second round, a five-point scale was employed to measure the methods. After this round, the questionnaires were analyzed, the less important motives (with average scores of less than 3) were deleted (four methods). The third-round questionnaire followed the design of the second round which included methods and five-point scale. In this round, no changes were made in methods, and all of them were extracted. At the end of the third round, 22 methods were identified. According to Dobeles, these 22 methods were classified into six emotions (Dobeles et al. 2007). To assess the reliability, Cronbach’s alpha coefficients were used. Table 2 shows reliabilities, *t* value and loading on the latent construct of study’s measures.

5.2 Structural equation modeling (SEM) and hypothesis testing

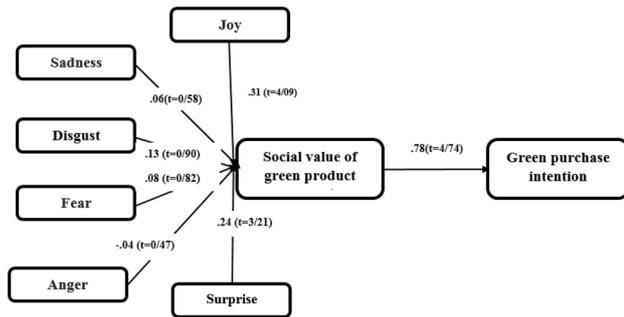
To test hypotheses, structural equation modeling was used. The structural equation model (SEM) is the most important tool for analyzing the interrelationships among latent variables that are measured using multiple correlated observable indicators (Song and Lee 2012). The structural model was verified to examine whether the research hypotheses could be empirically supported. The present study used the fit indices to evaluate the modeling fitness. The path analysis and hypotheses testing are shown in Fig. 1 and Table 3. As seen, three hypotheses were supported. Joy viral marketing has a significantly positive effect on Social value (path coefficients = 0.31, *t* value = 4.09), Surprise viral marketing has a significantly positive effect on Social value (path coefficients = 0.24, *t* value = 3.21) and Social value has a significantly positive effect on green purchase intention (path coefficients = 0.78, *t* value = 4.74). Also as can be seen in Table 2, the results show goodness of fit for this model (Chi square = 812.31, *df* = 410, *p* value = 0.0000, RMSEM = 0.051).

Table 2 Study's measurement indicators

Construct	Items	Loading on latent construct	<i>t</i> value	Cronbach's alpha
Tendency to viral marketing emotions				
Joy	If a message about the green product is happy, I am encouraged to accept it	68/0	99.12	0.741
	If a message about the green product is happy, I am forwarding it to my friends	66/0	70/12	
	If a message about the green product is happy, this message will have more effect on me	75/0	62/14	
Sadness	Happy messages about the green product are more understandable to me	48/0	47/8	0.719
	If a message about the green product is sad, I am encouraged to purchase it	50/0	69/8	
	If a message about the green product is sad, I am forwarding it to my friends	81/0	11/13	
Disgust	Using the sad a message about environment will have more effect on me	45/0	47/8	0.747
	Odious messages about the non-green product will have more effect on me	55/0	20/9	
	I am forwarding a message when it is an odious message about using a non-green product	59/0	82/9	
Fear	Odious messages about the non-green product are more understandable to me	49/0	27/8	0.795
	Scary messages about destructive effects of non-green have more effect on me	49/0	69/8	
	Scary messages about destructive effects of non-green encourage me to use the green product	61/0	17/11	
Anger	If a message about the non-green product is Scary, I am forwarding it to others	64/0	64/11	0.757
	Scary messages about environmental hazards can affect me to accept the green product	67/0	20/12	
	Angry messages about the non-green product can affect me to accept the green product	52/0	10/9	
Surprise	Angry messages about the non-green product can affect me to forward them to my friends	58/0	30/10	0.738
	If a message about the green product is angry, this message will have more effect on me	57/0	09/10	
	Angry messages about the green product are more understandable to me	57/0	06/10	
Social value	If a message about the green product is amazing, I am encouraged to accept it	50/0	17/9	0.743
	If a message about the green product is amazing, I am forwarding it to my friends	76/0	92/14	
	If a message about green product mention it's amazing consequences, I am encouraged to buy it	69/0	25/13	
Green purchase intention	Amazing messages about the green product are more understandable to me	66/0	75/12	0.743
	Eco-friendly products satisfy consumers more than other products	69/0	20/13	
	Buying this product makes me pleasant sense among my friends	59/0	00/11	
Green purchase intention	Buying this product shows my belief about environmental issues	69/0	13/13	0.826
	Buying this product gives me social satisfaction	71/0	12/33	
	I will choose the green products if the quality of these products is similar to ordinary products	34/0	01/5	
Green purchase intention	I want to buy these products in the future even if their prices are more expensive than ordinary ones	27/0	93/3	0.826
	I always try to buy products made from recycled materials	44/0	24/6	
	I avoid buying products that have a damaging effect on the environment, even if these are my favorite products	36/0	23/5	

Table 3 Standardized path estimates and *t* value

Hypothesis	Path coefficients	<i>t</i> value	Support or not
H1	0.31	4.09	Yes
H2	0.06	0.58	No
H3	0.13	0.90	No
H4	0.08	0.82	No
H5	0.04	0.47	No
H6	0.24	3.21	Yes
H7	0.78	4.74	Yes

**Fig. 2** Causal relationship diagram (Chi square = 812.31, *df* = 410, *p*-value = 0.0000, RMSEM = 0.051)

6 Discussion

This study explores a model of the viral marketing to increase the green purchase intention. In the study, the viral marketing emotions were defined and 22 indicators were extracted to measure these emotions. The study tested the effects of the six various viral marketing emotions on the social value of the green product consumption as an intermediate variable. Finally, the study tested the effect of the social value of the green product consumption on the green purchase intention (Fig. 2). The results of SEM confirm that the joy and surprise-based viral marketing have significant positive effects on the social value of the green product consumption. This result is in the line of numerous studies that confirm the effect of type of the advertising on the various values same as brand value (Tackxa and Rothenberge 2017), customer value (Zhang et al. 2016) and values of luxury (Freire 2014). Also, the effect of the social value of the green product consumption on the green purchase intention was confirmed. This result confirms other previous studies about factor affecting the green purchase intention. These studies stress the value as one of the main factors affecting purchase intention (Lizawati et al. 2012; Shafiq et al. 2011; Khan and Mohsin 2017).

Although there are many studies about the green purchase intention, there is no prior study about using viral marketing

emotions to increase the green purchase intention using the social network. Thus, the main contribution of this study is the light it sheds on how viral marketing emotions have an effect on the green purchase intention in the social network. It developed a model incorporating viral marketing emotions and green purchase intention. Each of joy and surprise viral marketing takes place under the four variable (Table 2). This means that improving them can improve the social value of the green product consumption and then green purchase intention.

The results also show that other four viral marketing emotions (sadness, disgust, fear, and anger) have no significant effect on the social value of the green product consumption and then green purchase intention. That is because the consumers in our study and in the social networks have a tendency to positive emotion than a negative one. Furthermore, since the green products benefit society and environment (Khan and Mohsin 2017; Wenge and Yuanjie 2017), according to the Skinner's theory of learning (1938), reinforcement of the social values and then green purchase intention cannot be diffused by negative emotions and to increase the motivation to do an action we should grant a reward (positive emotion) instead of a punishment (sadness, fear, disgust, and anger).

7 Managerial implications

Iranian green activists and marketers can use our findings and model to increase potential green product consumer and improve the level of environmental quality through green product demand enhancing. They can increase their overall green market through the improvement of their green purchase intention using the social network. This study showed that if green activists and marketers improve joy and surprise viral marketing by the social network, they can improve the social value of the green product consumption and then green purchase intention. Also focusing on other viral marketing emotion in the social network has no positive impact on green product consumption and environmental quality improvement. In this way, the marketers in all green product industries can increase the consumption of the green product. The results of this study can help practically and socially activists and marketers that seek environment health, cleanliness and protection.

8 Research limitations and future directions

This study is not free from limitations. The main limitation of this study is in the sampling domain, i.e., we conducted this study in Iran. Because of similarities in cultural, religious, economic and geographical conditions, the results may be transferable to neighboring regions. It is

also expected that the green activists and marketers in other Middle East countries with the democratic regime or even other developing countries are in a similar state. As a result, researchers may wish to investigate other similar countries and use the methods of this article. This study only examined viral marketing emotions on the green purchase intention but no other factors of viral marketing. We hope that our study's findings will foster future research investigating other factors of viral marketing in Iran and other countries and other social network and viral marketing tools.

9 Conclusion

The purpose of this study was to explore the viral marketing emotions to increase the green purchase intention. The study discovered that the viral marketing based on joy and surprise has a significant positive effect on the social value of the green product consumption. Also, the effect of the social value of the green product consumption on the green purchase intention was confirmed. According to our findings, four variables show joy and another four variables show surprise viral marketing that can increase the social value of the green product consumption. The study also shows that four viral marketing emotions (sadness, disgust, fear, and anger) have no significant effect on the social value of the green product consumption and then green purchase intention.

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