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The Affect of Viral Marketing Factors on Impulse Purchasing Behavior within the Scope of International Electronic Commerce Applications*

Uluslararası Elektronik Ticaret Uygulamaları Kapsamında Viral Pazarlama Faktörlerinin Dürtüsel Satın Alma Davranışı Üzerine Etkisi

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Abstract: In the new economy process, rapid progress in the field of information technologies adds a new dimension to global competition, and enables businesses to better understand and meet consumer needs using computers and the Internet. Today, one of the electronic marketing tools used in international marketing is viral marketing. Viral is one of the most important ways of spreading the online promotion campaigns and brand to the masses. Viral methods which are applied to create awareness for reasonable costs and especially to increase the ratio of shoppers to total traffic among visitors to the E-commerce site, i.e., conversion rates, are one of the most attractive online marketing practices. Viral marketing is therefore an important part of the strategic planning of international electronic commerce companies in particular. This study was conducted to investigate the impact of viral marketing on the impulse (instant) purchasing behavior of customers of international companies engaged in e-commerce in the electronics industry. The purpose of this study is to examine whether informativeness, entertainment, irritation (annoyance), and source credibility, which are online viral marketing factors, influence impulse consumer purchasing behavior. Within the scope of the study, a quantitative research was conducted on the students of Istanbul Aydın University, and data was collected from 226 students through a structured questionnaire. The variables of the research were analyzed using SPSS statistical analysis program. Firstly, frequency distributions related to demographic data were presented. Then Means and Standard Deviations were found with respect to the variables. And then, the Cronbach's Alpha reliability test, Multicollinearity by utilizing Variance Inflation Factor (VIF), Simple Regression Analysis, and Analysis of Variance (ANOVA) were carried out. Pursuant to the findings of the study, the majority of the respondents are

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Turkish and foreign students with a master's and bachelor's degree. Findings show that there is a positive and meaningful relationship between informativeness and impulse purchasing behavior; between entertainment and impulse purchasing behavior; and between source credibility and impulse purchasing behavior. In addition, current research reveals that there is no positive relationship between irritation and consumer impulse purchasing behavior. According to these results, it is important for electronics companies engaged in electronic commerce on the international platform to send informative, entertaining and non-irritating viral messages to the customer and to gain corporate reputation.

Structured Abstract: *Introduction and purpose of study:* The Internet has become increasingly feasible as a modern distribution and marketing channel, thanks to the fast development of e-commerce over the last few decades (Cheng, Sheen and Lou, 2006). Actually, the Internet has provided a marketing context that may influence the choice behavior of consumers (Kulkarni, Ratchford and Kannan, 2012). Using viral marketing on the Internet to "spread the word" and accelerate growth at exponential rates has become popular. Viral marketing is known as the Internet word of mouth. It seems like viruses that use rapid duplication to pass on a specific message to billions (Wei, 2014). Viral marketing has become an option promising future, particularly for international businesses, as it enables the transmission of marketing messages quickly and at reduced costs (Nguyen and Nguyen, 2020). Viral marketing is relatively a new phenomenon that has still being developed as an international marketing tool. In-depth knowledge about it is still not available (Cruz and Fill, 2008). Compared to traditional marketing tools, viral marketing offers additional benefits such as minimizing costs, providing closer relationships of company and customer, and redesigning distribution (Tiago and Tiago, 2012). On this basis, this article seeks to identify the impact of viral marketing factors (informativeness, entertainment, irritation, and source credibility) on the impulse purchasing behaviors of customers of international companies engaged in e-commerce in the electronics industry.

Conceptual Framework: Marketers need to comprehend the reasons leading the recognition of viral marketing by consumers (Zernigah and Sohail, 2012). Pursuant to the study of Best (2013), effective marketing strategies are required to attract, satisfy and retain the targeted customers. Marketers should also understand the power of word of mouth. A viral marketing strategy use various tools on the Internet platform to generate word of mouth for a certain product or service. This strategy has crucial advantages, particularly in terms of the company's brand awareness and brand image. The power of this new communication tool lies in the fact that consumers quickly spread the word, and the message becomes viral like a virus. People on social networks are more willing to share the marketing message with their friends or their family. However it is difficult the company to control what people share. Therefore, through this powerful communication way, a company can reach its peak or go down in a short time. That's why companies should be careful to go viral (Dufour, 2011). Especially, understanding the link between online viral marketing and customer buying behavior is essential to achieve marketing value. In addition, Palka et al. (2009) argued that although there is some evidence of the effectiveness of viral marketing for businesses, there is not much research undertaken related to the motivations and attitudes of consumers towards this marketing tool. Therefore, defining the effect of online viral marketing on impulse customer behavior can help businesses in the electronics industry to better decide on the type of marketing strategies in online markets. Besides, today "Generation Y" which has different characteristics compared to other generations and is not easy to manage, has been active in working life. Generation Y is composed of those born between 1981-2000. The important effects of becoming a fast consumer society have been decisive in the basic features of the Generation Y. (Muslu, 2017). This generation is more advanced in terms of information and demand than other generations, especially in electronic products. For this reason, it's essential to know the purchasing habits of this generation, especially for the enterprises in electronics industry. Thus, this research, whose sample consists of students of this generation, is important for the relevant sectors. This study can also support the managers and the marketers of the businesses which are active in international electronics industry and using electronic trading applications, to understand the attitudes of consumers towards viral marketing in more detail. By acquiring this knowledge managers will be able to utilize viral marketing in their business environment, so this research will be beneficial as a guideline and benchmark for most marketers.

Method: Within the scope of this research, four hypotheses were determined in accordance with the purpose of this study. In this quantitative study, survey strategy was pursued. Therefore a structured questionnaire was used as a data gathering tool from 226 students of Istanbul Aydin University where this research was taken place. Questionnaire tool which is developed by reviewing and refining the previous studies, contains 3 close-ended questions about answerer's demographic information, and 27 close-ended questions to measure the effects of independent variables. SPSS Statistics 22.0 software was used to perform the descriptive

and multivariate analysis. Mean and standard deviation were evaluated. Likewise, for testing the internal reliability of the scales structured at the 5 Likert levels, the Cronbach's Alpha test is used. In order to make sure that there are no high correlations among variables, Multicollinearity had been examined by utilizing variance inflation factor (VIF). In addition, the hypothesis testing process through Simple Regression Analysis was used. Analysis of variance (ANOVA) was performed to investigate the level of variance.

Findings and discussion: The findings of the analysis verify that there is a positive relationship between informativeness, entertainment and source credibility, and impulse buying behavior. It was also concluded that one of the variables, irritability was not positively correlated with impulse buying behavior. Consumers feel uncomfortable when advertisers use a method that is annoying or insulting to the recipients of the message. As a result, 3 of the 4 hypotheses of this study are accepted at $p < .01$ level of significance.

Conclusion and suggestions: The findings reveal that it is important for e-commerce executives to make sure that messages sent about products and services through viral marketing are informative to the customer. Therefore customer may respond positively. In addition, it is important to ensure that messages sent through viral marketing are fun. This helps maintain customer interest. On the other hand, management must make sure that messages sent through viral marketing are free of irritation. Messages should not be annoying. Lastly, it is important for the company to work on its reputation. So that the recipient of the message realizes the value of the sender. Therefore, if the businesses operating in the electronics market using e-commerce can use viral marketing by considering these four important factors within the scope of international marketing activities, they can enable consumers to develop positive attitudes towards marketing messages they receive.

Keywords: Electronic Commerce, Impulse Purchasing Behavior, International E-Commerce, International Marketing, International Trade, Viral Marketing.

Öz: Yeni ekonomi sürecinde, bilişim teknolojileri alanında hızla kaydedilen gelişmeler küresel rekabete yeni bir boyut kazandırmakta ve işletmelerin bilgisayar ve internet kullanarak tüketici ihtiyaçlarını daha iyi anlamalarını ve karşılamalarını sağlamaktadır. Günümüzde, uluslararası pazarlamada kullanılan elektronik pazarlama araçlarından biri de viral pazarlamadır. Viral, çevrimiçi tanıtım kampanyalarını ve markayı kitlelere yaymanın en önemli yollarından biridir. Makul maliyetler konusunda farkındalık yaratmak ve özellikle de E-ticaret sitesi ziyaretçileri arasında alışveriş yapanların toplam trafiğe oranını, yani dönüşüm oranını artırmak için uygulanan viral yöntemler, en cazip çevrimiçi pazarlama uygulamalarından biridir. Bu nedenle viral pazarlama, özellikle uluslararası elektronik ticaret şirketlerinin stratejik planlamasının önemli bir parçasıdır. Bu çalışma viral pazarlamanın, elektronik endüstrisindeki e-ticaret yapan uluslararası şirketlerin müşterilerinin dürtüsel (anlık) satın alma davranışı üzerindeki etkisini araştırmak üzere gerçekleştirilmiştir. Çalışmanın amacı, çevrimiçi viral pazarlama faktörleri olan bilgilendirebilirlik, eğlence, iritasyon (rahatsız etme) ve kaynak güvenilirliğinin dürtüsel tüketici satın alma davranışını etkileyip etkilemediğinin incelenmesidir. Çalışma kapsamında İstanbul Aydın Üniversitesi öğrencileri üzerinde nicel bir araştırma gerçekleştirilerek, yapılandırılmış bir anket aracılığıyla 226 öğrenciden veriler toplanmıştır. Araştırmanın değişkenleri SPSS istatistiksel analiz programı kullanılarak analiz edilmiştir. Öncelikle, demografik verilere ilişkin frekans dağılımları ortaya konmuştur. Ardından değişkenlerin Ortalama ve Standart Sapmaları bulunmuştur. Daha sonra ise Cronbach's Alpha güvenilirlik testi, Varyans Artış Faktöründen (VIF) yararlanarak Çoklu Doğrusallık, Basit Regresyon Analizi ve Varyans Analizi (ANOVA) yapılmıştır. Araştırmanın bulgularına göre, katılımcıların çoğu yüksek lisans ve lisans derecesine sahip Türk ve yabancı öğrencilerden oluşmaktadır. Bulgular, bilgilendirebilirlik ve dürtüsel satın alma davranışı arasında; eğlence ve dürtüsel satın alma davranışı arasında ve kaynak güvenilirliği ve dürtüsel satın alma davranışı arasında pozitif ve anlamlı bir ilişki olduğunu göstermektedir. Araştırma ayrıca, iritasyon ile tüketici dürtüsel satın alma davranışı arasında pozitif bir ilişki olmadığını ortaya koymaktadır. Bu sonuçlara göre, uluslararası platformda elektronik ticaret yapan elektronik işletmeleri için müşteriye bilgilendirici, eğlenceli ve irite etmeyen viral mesajların gönderilmesi ve kurumsal itibarın kazanılması önem arz etmektedir.

Anahtar Kelimeler: Elektronik Ticaret, Dürtüsel Satın Alma Davranışı, Uluslararası E-Ticaret, Uluslararası Pazarlama, Uluslararası Ticaret, Viral Pazarlama.

Introduction

The fundamental marketing and advertising tools which are used to attract e-commerce consumers are: search engine marketing, display ad marketing (such as video ads, rich media ads, banner ads, and sponsorships), e-mail and permission marketing, affiliate marketing, lead generation marketing, and viral marketing. Viral marketing is a form of social marketing involving the process of getting customers to pass along the marketing message of a company to friends, family, and colleagues. It's the online version of "word of mouth" advertising, that spreads even faster and further than in the real world (Laudon and Traver, 2017).

The Internet has become increasingly viable as a distribution channel thanks to the fast development of international e-commerce activities over the last few decades (Cheng et al., 2006). Kulkarni et al. (2012) highlighted that, today lots of customers consult online resources to obtain information on product category, brand, manufacturer, and retailer, particularly while deciding on purchasing the basic durable goods. New tools have been emerging in order to meet new expectations of the social environment, and this leads to another approach to marketing called viral marketing. In the recent years, especially when the Internet and smart phones are used extensively by people, understanding and using viral marketing has become very important for marketers. For this reason, it is evident that viral marketing is becoming more famous these days. In general, viral marketing is a form of online marketing. It is an international marketing strategy that seeks to urge someone to pass on a marketing message to their friends, colleagues or family, thereby enhances the exposure and influence of the marketing message. It seems like a virus that uses rapid duplication to transmit a certain message from hundreds to billions. Viral marketing is also known as online word of mouth (Wei, 2014). The basis of this emerging marketing form is transmitting marketing messages by peers through various Internet based channels (Woerndl et al., 2008).

Viral marketing has some advantages compared to traditional marketing tools, such as lower cost, closer relationship between the company and the customer, and better designed distribution (Tiago and Tiago, 2012). Viral marketing has become a future promising option particularly for international businesses for the marketing messages are transmitted rapidly with the minimized costs. On this basis, it is significant to evaluate viral marketing factors that affect consumers' behavior (Nguyen and Nguyen, 2020). Businesses should take into account using the Internet as a marketing instrument as Internet usage for communication and shopping has still been an ongoing trend among customers. In fact, new media consisting of online, mobile and social media is emerging today as a growing advertising medium for manufacturers and retailers (Naik and Peters, 2009). As a result, in addition to changing the way people receive information, the Internet has also changed the way they purchase. Therefore businesses need to comprehend the impact of viral marketing and optimize it by identifying customers' behaviors towards viral marketing (Wei, 2014).

Customer purchasing behavior is a decision process that customers use to make a market deal in the form of buying products and services from sellers (Khan et al. 2012). Customer behavior is a combination of a customer's beliefs, feelings, and intentions about certain objects within the marketing context, such as a brand or retail store (Perner, 2010). Pride and Ferrell (1991) stated that behavior indicates positive or negative emotions and knowledge on an activity or object. Researchers have also taken a keen interest in impulse buying behavior over the past decades. Impulse buying behavior is characterised as an unplanned behavior involving quick decision making and tendency for immediate acquiring of the product. During impulse buying, the consumer experiences an instantaneous, overpowering and persistent desire (Muruganatham and Bhakat, 2013).

The attitude of consumer towards viral marketing is often measured in terms of their reaction towards the marketing messages which are evaluated based on their informativeness, entertainment, irritation, and source credibility (Zernigah and Sohail, 2012). These four factors can be considered as online viral marketing factors. According to Van der Walldt et al. (2009), informativeness can be

defined as the capability of the marketing message to provide information about various product options in order to maximize customer satisfaction. So it indicates the customer's perception of how useful and current this information is (Oh and Xu, 2003). Pursuant to Ducoffe (1996), entertainment refers to the capability of the marketing message to meet the needs of customers who received it, for visual pleasure, emotional pleasure and fun amusement. Irritation signifies annoying and offending marketing messages that may be contrary to the values of consumers (Oh and Xu, 2003). Lastly, source credibility can generally be considered as the perception of the consumer regarding the openness and reliability of marketing messages (MacKenzie and Lutz, 1989).

In this research, customers' behaviors towards viral marketing is explained by instant buying which refers to impulse purchasing. Thus, in this study, the relationship between online viral marketing and customer impulse buying behavior is investigated through four independent variables. Accordingly, informativeness, entertainment, irritation and source credibility have been examined to find whether they have a positive relationship with impulse purchasing behavior.

Viral Marketing as a Global Online Marketing Medium

Terms such as "word of mouth marketing" or "buzz marketing" are often used synonymously instead of "viral marketing" (Stevenson, 2008). According to Kim and Lowrey (2010), viral marketing is one of the modern marketing tools that encourages people to spread the message of viral marketing within the community. It promotes and advertises the firms by the use of interactive media. Viral marketing, emerged as an important development in the field of marketing, is generally known as EWOM, which stands for Electronic Word of Mouth (Ferguson, 2008). Besides, Palka et al. (2009) defined the term "viral" as a marketing type that affects customers by spreading a marketing message from one customer to another like a flu virus. Viral marketing, the importance of which is highlighted by many authors, has become widely used today as a marketing tool in international trade.

There are many online venues where viral marketing appears. E-mail used to be the primary one, however venues such as Facebook, Instagram, Twitter, and YouTube are leading now (Laudon and Traver, 2017). Thus, a company can interact with consumers through several viral marketing channels such as e-mails, forums, chat rooms, instant messages, newsgroups, social networking sites, homepages, blogs and vlogs (Goldsmith and Horowitz, 2006). They contain various contents ranging from text to image, presentation file, animation and video clip (Woerndl et al., 2008). According to Zernigah and Sohail (2012), people are usually eager to pass on a viral marketing message received from a trustworthy source to their social networks, and that can increase message's reliability for the recipients. A potent viral promotion can spread to thousands of consumers and encourage them to buy a certain brand (Bampo et al., 2008; Chiu et al., 2007). According to Aldridge et al. (1997), many companies have discovered how effective viral marketing is for the company to have some distinctive features. However, consumers' behaviors towards viral marketing are various and unpredictable, and that is an obstacle for the companies. These approaches are commonly used to reduce the cost of viral marketing and to increase its commercial impact, and to ensure rapid transmission of the messages through viral marketing: "chain reaction" and "exponential growth" (Wei, 2014). According to Dufour (2011), viral marketing, a growing phenomenon, can be an effective tool for the communication of companies if used in a proper manner, however it is difficult to control as well.

Using viral marketing method on the Internet to "spread the word" and increase growth at exponential rates is gaining popularity (Wei, 2014) particularly among the firms doing business in international markets and willing to reach their global clients. Actually, the Internet has provided a marketing context that may influence customer's choice behavior in shopping. There are numerous studies on the potential of online marketing to influence customer's purchasing decision (Kulkarni et al., 2012). Unlike traditional tools, Internet marketing involves using the Internet to obtain information, to communicate, and to perform transactions (Rahimnia and Hassanzadeh, 2013). Compared to traditional tools such as print or broadcast media, online marketing is more creative.

Viral marketing can be fully utilized as an online marketing option. It can create innovative online businesses and ease to transfer product-related messages from customer to customer through the Internet. Today, the traditional marketing methods are off the track as they no longer effective enough to attract customers. The more the individual user uses the Internet, the more likely the Internet is viewed as a viral marketing channel promoting the further development of e-commerce (Wei, 2014).

Customers' Impulse Purchasing Behavior

There are different ways to explain customer's decision making in different situations or under different circumstances. One of these methods is impulse buying, which has been tested and explained by the efforts of many marketing researchers over time. According to the researchers, impulse buying behavior involves an emotional part, and this purchase is naturally unplanned. To better define impulse purchases, researchers use terms such as unplanned purchases, unexpected purchases, and instant purchases (Cobb and Hoyer, 1986; Kollat and Willett, 1967). Because, instant purchases can be made with unplanned or unexpected purchases in general. However, planned purchase is a purchase when there is a known problem and a previous intention to buy (Kollat and Willett, 1967; Stern, 1962). Thusly Kollat and Willett (1967) described the impulse purchase as an unplanned buying that occurs at a store environment reminding them of their shopping needs, since the goods satisfying these needs are not in the pre-shopping list. Beatty and Ferrell (1998) defined impulsive buying as an instantaneous purchase which has no previous goal to buy the commodity.

By Rook and Gardner (1993), impulse purchasing behavior is considered as an unplanned behavior that involves sudden decision making process and tendency to urgently acquire the product. The instant purchase action is more of an internal decision that takes place within the store or website immediately and is known for its speciality called immediate and unplanned purchasing (Cobb and Hoyer, 1986). When customers are asked to make a comparison between their predetermined purchase plans and their purchasing results, most will tell the difference in instant purchases (Kollat and Willett, 1967). The keywords of impulse purchasing can be listed as unexpected behavior, sudden experience, and deviance from the rational one with the presence of an emotional component.

Piron (1991) put forward a definition of impulse purchasing that includes four criterions: unplanned purchasing, exposure to stimulus, on the spot decisions, and emotional and/or cognitive responses. According to Rook (1987) impulsive purchasing occurs when a consumer experiences a sudden, mostly strong and continual urge to purchase something immediately. He proposed that impulse purchasing behavior refers to extraordinary, exciting and complex buying. Impulse purchase speeds up the decision to purchase without any rational consideration for other alternatives. Hence, impulse purchasing is associated with high emotional activity, low cognitive control, and spontaneous behavior in proximity to an attractive object. Impulse purchasing seems to serve the pleasures. Impulsive shoppers exhibit behaviors full of more happiness and pleasure compared to those who buy with rational considerations. Thus purchasing experiences of instant shoppers indicate a high motivation driven by factors such as excitement and pleasure.

Factors affecting impulse purchases

Informativeness: Informativeness refers to the quality of information contained in marketing messages. By Siau & Shen (2003) the major indicators of information quality are specified as accuracy, usefulness and timeliness. Informativeness is considered a significant factor to identify the effectiveness of marketing (Saadeghvaziri & Hosseini, 2011). It shows the capability of marketing message to convey information to consumers aligned with their needs (Wei, 2014).

Entertainment: Entertainment refers to the level of enjoyment of that a conveyed marketing message provides to the consumer. It is considered a fundamental strategy to form an effective marketing method (Nguyen and Nguyen, 2020). Tsang et al. (2004) suggest that perceived entertainment by consumer includes elements such as fun, pleasant, enjoyable, and exciting to use.

In order for the consumer to develop a positive attitude towards viral marketing, it is essential that she/he is pleased with the marketing message sent by the marketer. Many studies in management and marketing show that customers prefer messages that contain funny and entertaining content.

Irritation: It refers to the level of dissatisfaction and intolerance towards the message. Ducoffe (1996) proposed that irritation occurs when consumers are exposed to annoying, offending, insulting, or manipulative advertising. According to Muzaffar and Kamran (2011), non-irritating marketing messages tend to create positive consumer behavior towards viral marketing.

Source Credibility: Credibility indicates the level of respect of consumers towards the person or company sent the marketing message, or the perceptions of consumers towards the honesty and reliability of advertisers and advertising (Nguyen and Nguyen, 2020). According to Ghane et al. (2014), credibility of each marketing message depends on various dimensions, particularly on the reputation of the company itself and the person sending the advertising. Credibility has a direct and positive affect on consumers' attitudes towards viral message released by the organization.

Statistical Analysis

The present study was undertaken in order to examine the impact of viral marketing on the impulse purchasing behavior of customers of international companies engaged in e-commerce in the electronics market. Impulse purchasing behavior is the dependent variable of this research; informativeness, entertainment, irritation, and source credibility, which are the factors of viral marketing, are the independent variables of this research. In this quantitative study, survey strategy was pursued. Therefore a structured questionnaire was used as a data gathering tool from 226 students of Istanbul Aydin University where this research was conducted.

Previous studies in the related field had been reviewed and refined to assist in the development of the questionnaire tool. The statements in the questionnaire had been adapted and modified by the use of the research of Rukuni et al. (2017); Wei (2014); Zernigah and Sohail (2012). This research uses attitude and classification questions. Classification questions are aimed at collecting demographic and socio-economic data from participants in the survey (Tull and Hawkins, 1976). Attitude questions are prepared for the search of customers' views or opinions on their consumption experiences. In the current study, the researcher used a closed-ended questionnaire to collect data from answerers. In such a questionnaire, the researcher asks questions and the participants choose one or several options from different options (Hussey and Hughes, 2007). This can provide a response for the participants and allow for stronger solidarity in the analysis phase (King, 2004). The questionnaire in this paper consists of two parts:

- The first part contains three closed-ended questions provided with a checklist answers which includes answerer's demographic and general information such as sex, age, education level.
- The second part contains 27 closed-ended questions provided with a five-point Likert type scale which includes the questions to measure the effects of informativeness, entertainment, irritation, and source credibility. The questionnaire's answers were rated by the answerers on a five-point Likert scale, every question has a scale from 1 being strongly disagree level to 5 with strongly agree level.

Within the scope of this research, four hypotheses below have been determined in accordance with the purpose of the study:

- H1: There is a positive relationship between Informativeness and Impulse Purchasing Behavior.
- H2: There is a positive relationship between Entertainment and Impulse Purchasing Behavior.

- H3: There is a positive relationship between Irritation and Impulse Purchasing Behavior.
- H4: There is a positive relationship between Source Credibility and Impulse Purchasing Behavior.

SPSS Statistics 22.0 software was used to perform descriptive and multivariate analysis in the present study. Mean and standard deviation were evaluated. Likewise, for testing the internal reliability of a construct using 5 Likert levels, The Cronbach's Alpha test is used. In order to make sure that there are no high correlations among variables, Multicollinearity had been examined by utilizing variance inflation factor (VIF) through SPSS. In addition, the hypothesis testing process through Simple Regression Analysis was used to investigate the impact of independent variables on the dependent variable. Analysis of variance (ANOVA) was performed to investigate the level of variance for which the independent variables are responsible.

One of the limitations of the study was time. The survey was conducted at a specific date and time. In addition, the questionnaires were administered to the students at Istanbul Aydin University, which constitutes the population of this research. Despite the limitations, this study is able to have a thorough understanding of the viral marketing factors influencing the shopping behavior, and pave the way for further research in other regions and countries.

The response rate

The statistical population of this study consists of the students of Istanbul Aydin University, whose number is stated as 39000 on the website of the university (Istanbul Aydin University, 2019). The sample size of the electronics customers was drawn from Istanbul Aydin University between Septembers - October 2019. The sample size of 226 with a confidence level of 90% and a marginal error of 5% based on the Cochran's Sample Size Formula was decided. In this study, non-probability sampling was performed as convenient sampling. Answerers are customers in electronics industry who wish to cooperate with the researcher by answering a questionnaire survey form. The researcher provided the participants with questionnaires and applied them on-site. 226 survey questionnaires were distributed and collected. Therefore, the response rate of this research was determined as 100% by using the following formula:

$$(\text{Total received forms} / \text{Total distributed forms}) * 100$$

$$(226 / 226) * 100 = 100\%$$

Demographic data analysis

The findings about the demographic data including gender, age, and education collected through a questionnaire from 226 answerers of this research, are presented below;

Table 1: Gender

Gender	Frequency	Percentage
Male	148	65.5%
Female	78	34.5%
Total	226	100%

In accordance with the Table 1, of the 226 answerers, 148 (65.5%) responses are from males and 78 (34.5%) responses are from females.

Table 2: Age

Age Level	Frequency	Percentage
18-25 years	110	48.7%
26-30 years	102	45.1%
31-40 years	14	6.2%
41-45 years	0	0.0%
above 45	0	0.0%
Total	226	100 %

According to the Table 2, of the 226 answerers, most of the answerers are within the age range of 18-25 years old with 110 responses (48.7%), followed by 26-30 years old with 102 responses (45.1%), 14 answerers were within the range of 31-40 years old (6.2%), and no respondents is more than this age.

Table 3: Education Level

Education Level	Frequency	Percentage
Vocational school	0	0.0%
Bachelor Degree	71	31.4%
Master Degree	146	64.6%
Above Master Degree	9	4%
Total	226	100 %

In accordance with the Table 3, most of the answerers are Master Degree graduates totaling 146 responses (64.6%), followed by 71 answerers with Bachelor Degree (31.4%), and 9 answerers are above Master Degree (4.0%).

Mean Rates and Standart Deviations of the variables

All the independent variables (Informativeness, Entertainment, Irritation and Source Credibility) as well as the dependent variable (Impulse Purchasing Behavior) were presented and measured in five-point Likert scale pursuant to the following Table:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5	4	3	2	1

The mean formula and class distance were used in order to analyze the range of information at each level. When the mean rates for the independent variables have the highest number, this shows the highest level of customer interest in the independent variables used to determine purchase behavior. The mean rates of agreeability level of the respondents were evaluated according to the following groupings:

- Average mean rate at 1.00 - 1.49 shows the answerers' lowest agreeable level.
- Average mean rate at 1.50 - 2.49 shows the answerers' low agreeable level.
- Average mean rate at 2.50 - 3.49 shows the answerers' moderate agreeable level.
- Average mean rate at 3.50 - 4.49 shows the answerers' high agreeable level.
- Average mean rate at 4.50 - 5.00 shows the answerers' highest agreeable level.

Using descriptive statistics in SPSS software, the following means and standard deviations were found with respect to the research variables.

Table 4: Analysis of Informativeness

Informativeness	Mean	Standard Deviation	Interpretation
I find e-mail marketing messages of the Electronics Companies informative.	3.55	0.923	High
Marketing messages displayed on social networking sites for the Electronics companies are informative.	3.98	0.851	High
Fan pages on social networking sites for the Electronics companies are informative.	4.02	0.928	High
SMS advertisements by the Electronics companies provide useful information about products and services.	3.60	0.985	High
Internet Blogs of the Electronics companies are an important source of information.	3.91	0.978	High

Pursuant to the data presented on Table 4, the result obtained from the opinion of the answerers towards Informativeness indicates an overall High mean rate. “Fan pages on social networking sites are informative” is on top of the ranking rates amongst all the items which is ranked high (Mean=4.02, S.D=0.928), followed by “Marketing messages displayed on social networking sites are informative” which is again ranked high level (Mean=3.98, S.D=0.851), “Internet blogs are an important source of information” ranked high level (Mean=3.91, S.D=0.978), “SMS advertising provide useful information about products and services” ranked high level (Mean=3.60, S.D=0.985), and “Email marketing messages are informative” ranked high level (Mean=3.55, S.D=0.923) respectively.

Table 5: Analysis of Entertainment

Entertainment	Mean	Standard Deviation	Interpretation
I find marketing messages received from the Electronics companies via e-mails entertaining.	3.58	1.082	High
Joining fan pages of the Electronics companies on social networking sites is entertaining and exciting.	3.65	0.955	High
The element of humors and fun of the Electronics companies makes SMS advertisements entertaining.	3.73	0.843	High
I find the blogs of the Electronics companies entertaining as people share their views about products and services that makes them fascinating and worth to read.	3.97	0.859	High
I feel exciting via online purchasing.	4.15	0.866	High
I find fun things via online purchasing.	3.83	1.029	High

Pursuant to the data presented on Table 5, the result from the opinion of the answerers towards Entertainment indicates an overall High mean rate. “Feeling exciting via online purchasing” is on top of the ranking rates amongst all the items which is ranked high (Mean=4.15, S.D=0.866), followed by “The blogs are entertaining” which is again ranked high level (Mean=3.97, S.D=0.859), “Finding fun things via online purchasing” ranked high level (Mean=3.83, S.D=1.029), “The element of humors and fun makes SMS advertisements entertaining” ranked high level (Mean=3.73, S.D=0.843), “Joining fan pages is entertaining and exciting” ranked high level (Mean=3.65, S.D=0.955), and “Marketing messages received via e-mails are entertaining” ranked high level (Mean=3.58, S.D=1.082) respectively.

Table 6: Analysis of Irritation

Irritation	Mean	Standard Deviation	Interpretation
E-mail marketing messages of the Electronics companies are a source of irritation.	2.92	0.969	Moderate
I believe that unsolicited e-mails from the Electronics companies contain viruses.	3.06	1.106	Moderate
Marketing messages on social media sites of the Electronics companies are irritating.	2.54	0.957	Moderate
I delete SMS advertisements from the Electronics companies without reading.	2.22	0.850	Low
The Electronics companies' SMS advertisements are annoying.	3.69	0.933	High
I find blogs irritating as the information provided is misleading and unreliable.	3.28	0.889	Moderate

Pursuant to the data presented on Table 6, the result from the views of the answerers towards Irritation indicates an overall Moderate mean rate. "SMS advertisements are annoying" is on the top of the ranking rates amongst all the items which is ranked high (Mean=3.69, S.D=0.933), followed by "Blogs are irritating as the information provided is misleading and unreliable" which is ranked moderate level (Mean=3.28, S.D=0.889), "Unsolicited e-mails contain viruses" ranked moderate level (Mean=3.06, S.D=1.106), "E-mail marketing messages are a source of irritation" ranked moderate level (Mean=2.92, S.D=0.969), "Marketing messages on social media sites are irritating" ranked moderate level (Mean=2.54, S.D=0.957), and "Deleting SMS advertisements without reading" ranked low level (Mean=2.22, S.D=0.850) respectively.

Table 7: Analysis of Source Credibility

Source Credibility	Mean	Standard Deviation	Interpretation
I trust the information provided by marketers of the Electronics companies through e-mails.	3.58	1.035	High
Fan pages on social media sites of the Electronics companies are trustworthy.	3.81	0.963	High
I trust SMS advertisements received from the Electronics companies.	3.61	1.006	High
I trust the information provided by bloggers of the Electronics companies.	3.40	1.037	Moderate

Pursuant to the data presented on Table 7, the result from the opinion of the respondents towards Source Credibility indicates an overall High mean rate. "Fan pages on social media sites are trustworthy" is on top of the ranking rates amongst all the items which is ranked high (Mean=3.81, S.D=0.963), followed by "Trust in SMS advertisements received" which is again ranked high level (Mean=3.61, S.D=1.006), "Trust in the information provided by marketers through e-mails" ranked high level (Mean=3.58, S.D=1.035), and "Trust in the information provided by bloggers" ranked moderate level (Mean=3.40, S.D=1.037) respectively.

Table 8: Analysis of Overall Purchasing Behavior

Purchasing Behavior	Mean	Standard Deviation	Interpretation
I will become a part of the viral campaigns of the Electronics companies.	3.85	0.943	High
I consider viral marketing of the Electronics companies as a useful marketing tool for creating brand awareness.	4.08	0.859	High
Viral marketing of the Electronics companies convinces me to buy more of its products.	4.08	0.852	High
I often buy online things without thinking.	2.09	0.962	Low
I buy things according to how I feel at the moment.	3.65	0.931	High
I often buy things intuitively rather than deliberately.	3.00	1.127	Moderate

Pursuant to the data presented on Table 8, the result from the opinion of the respondents towards Overall Purchasing Behavior indicates an overall High mean rate. “Considering viral marketing as a useful marketing tool for creating brand awareness” and “Viral marketing persuades to buy more” are on top of the ranking rates amongst all the items which is ranked high (Mean=4.08 S.D=0.859 and 0.852), followed by “Becoming a part of viral campaigns” which is again ranked high level (Mean=3.85, S.D=0.943), “Buying things according to the feelings at the moment” ranked high level (Mean=3.65, S.D=0.931), “Buying things intuitively rather than deliberately” ranked moderate Level (Mean=3.00, S.D=1.127), “Buying online things without thinking” ranked low level (Mean=2.09, S.D=0.962) respectively.

Reliability test

Data reliability is the degree of consistency that a tool shows (Gay, 1996). The Cronbach's Alpha test is usually used to test the reliability of instruments using a 5-point Likert scale. In this study the Cronbach's Alpha test was used for testing the reliability of the collected data. Alpha values between 0 and 1 was deemed normal, and the alpha value above 0.7 was classified as acceptable reliability in social science research (Gliem and Gliem, 2003). The alpha value closer to 1 is described as more reliable information.

Table 9: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha based on standardized Items	N of Items
0.716	0.720	27

Table 9 shows a confidence factor for all items in the instrument that has an alpha value of 0.716 that is greater than the acceptable value of 0.7. This tool classifies 27 items as internal for stability.

Multicollinearity

In order to make sure that there are no high correlations among variables, Multicollinearity has been conducted through the use of SPSS. In general Multicollinearity in other words high correlation amongst independent variables has the potential in a regression equation to make it hard to accurately determine the significant predictors toward a process. Therefore, this problem may be due to the lack of statistical variables of the independent variables, although the general model seems to be significant. Multicollinearity can be examined by utilizing variance inflation factor (VIF) through SPSS. The VIF of 1 shows no correlation between the independent variables. According to the rule of thumb, a VIF of 10 or even one as low as 4 indicates excessive or serious multicollinearity, that requires correction, otherwise the analysis's results are questioned (O'brien, 2007).

Table 10: Multicollinearity

Independent Variables	Tolerance	VIF
Informativeness	.569	1.758
Entertainment	.680	1.470
Irritation	.941	1.063
Source Credibility	.774	1.293

Table 10 shows the collinearity diagnosis with respect to all independent variables in this study. The above diagnostics results indicate that VIF values are within the acceptable range (below the rule of thumb of 4 or 10), thus prove that there is no occurrence of multicollinearity.

Hypothesis testing

The hypothesis testing process was carried out through Simple Regression Analysis in order to investigate the impact of independent variables on the dependent variable. In general, Simple Regression Analysis is performed to investigate the relationship between a single independent variable and a single dependent variable. Analysis of variance (ANOVA) was performed to investigate the level of variance for which the independent variables are responsible (Miles and Shevlin, 2001; Kanthawongs, 2017).

Table 11: Hypothesis 1 Simple Regression Analysis

Model Summary			ANOVA		
R	R Square	Model	df	F	Sig.
.251 ^a	.063	Regression	1	15.095	.000 ^b
	Residual		224		
Coefficients					
Independent Variable		Std. Error		Beta (β)	Sig.
(Constant)		.259			.000
Informativeness		.067		.251	.000

Dependent Variable: Impulse Purchasing Behavior

Predictors: Informativeness

n value: 226

Model Summary:

$R^2 = .063$; Informativeness, taken as a predictor, accounts for 6% of the variance in Impulse Purchasing Behavior.

ANOVA (test using $\alpha = .05$): The regression model was Significant.

$F(1,224) = 15.09$, $p < 0.001$, $R^2 = .063$. It can be concluded that the independent variable explained 6% ($R = .251$, $R^2 = .063$) of the variance.

Coefficients (test predictor at $\alpha = .05$): Informativeness with Sig. level at ($p < .001$) is less than Alpha 0.05 then the result of the hypothesis is as below:

Hypothesis 1: There is a positive relationship between informativeness and Impulse Purchasing Behavior. At the level of significance being $p < .001$, hence the hypothesis is accepted.

Table 12: Hypothesis 2 Simple Regression Analysis

Model Summary		ANOVA			
R	R Square	Model	df	F	Sig.
.477 ^a	.227	Regression	1	65.866	.000 ^b
	Residual		224		
Coefficients					
Independent Variable		Std. Error		Beta (β)	Sig.
(Constant)		.201			.000
Entertainment		.052		.477	.000

Dependent Variable: Impulse Purchasing Behavior

Predictors: Entertainment

n value: 226

Model Summary:

$R^2 = .227$; Entertainment, taken as a predictor, accounts for 23% of the variance in Impulse Buying.

ANOVA (test using $\alpha = .05$): The regression model was Significant.

$F(1, 224) = 65.86$, $p < 0.001$, $R^2 = .227$. It can be concluded that the independent variable explained 23% ($R = .477$, $R^2 = .227$) of the variance.

Coefficients (test predictor at $\alpha = .05$): Entertainment with Sig. level at ($p < .001$) is less than Alpha 0.05 then the result of the hypothesis is as below:

Hypothesis 2: There is a positive relationship between Entertainment and Impulse Purchasing Behavior. At the level of significance being $p < .001$, hence the hypothesis is accepted.

Table 13: Hypothesis 3 Simple Regression Analysis

Model Summary		ANOVA			
R	R Square	Model	df	F	Sig.
.014 ^a	.000	Regression	1	0.044	.834 ^b
	Residual		224		
Coefficients					
Independent Variable		Std. Error		Beta (β)	Sig.
(Constant)		.216			.000
Irritation		.072		-.014	.834

Dependent Variable: Impulse Purchasing Behavior

Predictors: Irritation

n value: 226

Model Summary:

$R^2 = .000$; Irritation, taken as a predictor, does not explain the variance in Impulse Buying Behavior.

ANOVA (test using $\alpha = .05$): The regression model was not Significant.

$F(1, 224) = 0.044$, $p < 0.001$, $R^2 = .000$. It can be concluded that the independent variable didn't explain ($R = .014$, $R^2 = .000$) of the variance.

Coefficients (test predictor at $\alpha = .05$): Irritation with Sig. level at ($p = .834$) is bigger than Alpha 0.05 then the result of the hypothesis is as below:

Hypothesis 3: There is a positive relationship between Irritation and Impulse Purchasing Behavior. At the level of significance being $p = .834$, hence the hypothesis is rejected.

Table 4.14: Hypothesis 4 Simple Regression Analysis

Model Summary		ANOVA			
R	R Square	Model	df	F	Sig.
.399 ^a	.160	Regression	1	42.526	.000 ^b
	Residual		224		
Coefficients					
Independent Variable		Std. Error		Beta (β)	Sig.
(Constant)		.164			.000
Source Credibility		.045		.399	.000

Dependent Variable: Impulse Purchasing Behavior

Predictors: Source Credibility

n value: 226

Model Summary:

$R^2 = .160$; Source Credibility, taken as a predictor, accounts for 16% of the variance in Impulse Purchasing Behavior.

ANOVA (test using $\alpha = .05$): The regression model was Significant.

$F(1, 224) = 42.52$, $p < 0.001$, $R^2 = .160$. It can be concluded that the independent variable explained 16% ($R = .399$, $R^2 = .160$) of the variance.

Coefficients (test predictor at $\alpha = .05$): Source Credibility with Sig. level at ($p < .001$) is less than Alpha 0.05 then the result of the hypothesis is as below:

Hypothesis 4: There is a positive relationship between Source Credibility and Impulse Purchasing Behavior. At the level of significance being $p < .001$, hence the hypothesis is accepted.

Conclusion and Suggestions

Viral marketing is one of the increasingly popular electronic marketing tools used in international marketing. It is a business strategy promoting a product through social networks, and also known as the Internet word of mouth. Today, viral marketing has become an important part of the strategic planning of international companies engaged in e-commerce in the electronics industry. The purpose of this paper is to analyze the effects of online viral marketing factors towards impulse purchasing behavior. Within the scope of this purpose, four factors, informativeness, entertainment, irritation and source credibility, related to online viral marketing were determined as independent variables of this study. Impulse purchasing behavior constitutes the dependent variable of this study.

In this study, which is based on the quantitative method, the survey questionnaire were used as an instrument to collect data. The statistical population of this study is electronics customers in Istanbul Aydin University located in Istanbul, Turkey. The population of study is about 39000 Students in Istanbul Aydin University, and the sample size for the population was determined as 226 with the confidence level of 90% and with an error margin of 5% based the Cochran's Formula. The response rate of this research is 100%, which means that 226 questionnaires were distributed and all of them were collected. Collected data were analyzed by SPSS 20.0 software. The results of the analysis on the collected data indicate that; there are 65.5% Male and 34.5% Female answerers, most of the answerers (48.7%) are within the age range of 18 to 25 years old, most have attained Master degree (64.6%) followed by Bachelor degree (31.4%).

A lot of research on viral marketing supports the positive relationship between awareness, entertainment and source credibility with impulse buying behavior. Similarly, the findings of the analysis in this study verify that there is a positive relationship between informativeness,

entertainment and source credibility with impulse buying behavior. It was also concluded that one of the variables, irritability was not positively correlated with impulse buying behavior. Consumers feel uncomfortable when advertisers use a method that is annoying or insulting to the recipients of the message. This fact is confirmed by the findings of this research. As a result, 3 of the 4 Hypotheses of this study are accepted at $p < .01$ level of significance.

It is important for e-commerce executives to make sure that messages sent through viral marketing are informative to the customer. This should be reflected in social media and emails sent to customers. Information sent to customers related to products and services should be useful to customers, and customers should respond positively. In addition, it is important to manage to make sure that messages sent through viral marketing are fun. This helps maintain customer interest. Therefore, it is important that emails or social media sites are humorous and fun, as this leads to good circulation. On the other hand, management should ensure that messages sent through viral marketing are free of irritation. Therefore messages must be virus free. Messages should not be annoying. The management should also ensure that the message is not offensive and untrustworthy, as customers get angry with messages in such forms, and react negatively. Lastly, it is important for the company to work on its reputation. Corporate credibility can be gained by participating in social responsibility programs, for example, supporting charitable and sports programs. This helps to build the organization's name, so that the recipient of the message realizes the value of the sender.

This study can support the managers and the marketers of the businesses which are active in international electronics industry and using electronic trading applications, to understand the attitudes of consumers towards viral marketing in more detail. Examining the relationship between consumer attitudes and viral marketing will help managers know how online viral marketing affects the buying behavior of customers. By acquiring this knowledge managers will be able to utilize viral marketing in their business environment, thus this research will be useful as a guideline and benchmark for most businesses. Finally, it can be stated that viral marketing has been emerging as a significant tool for effective marketing at the international level in the new economic era.

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