



Customer Satisfaction in the Context of the Use of Viral Marketing in Social Media

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ABSTRACT

Businesses could sustain their market presence at traditional brick and mortar or through the Internet by facilitating and encouraging the public to pass along a marketing message known as viral marketing. Nonetheless, it should be conducted in ethical manner to disseminate credible and trusted message content among both parties. This study aims to analyse the influence of some pre-defined factors (namely, playfulness, critical mass, community driven, and peer pressure) in customer satisfaction in the context of the use of viral marketing in social media. For this purpose, 200 respondents were randomly drawn from among students at a public university in the Federal Territory of Labuan, Malaysia. A questionnaire was implemented and the results were analyzed using multiple regression analysis. Results revealed that critical mass stood out as the most the important predictor of customer satisfaction with viral marketing via SNS, followed by playfulness. Meanwhile, social network website with high level of critical mass has more influence on potential users to believe and participate in viral marketing activity. Conclusion and recommendations for future study are also discussed.

Keywords: Community driven, critical mass, multiple regression analysis, peer pressure, perceived playfulness

INTRODUCTION

Viral marketing, which is known as an online form of word-of-mouth/Internet word-of-mouth/electronic word-of-mouth,

enables satisfied customers to randomly broaden simple messages of a company's product to existing and potential customers directly via channels such as email, blogs, YouTube, social networking sites (SNS) like Facebook, MySpace, Twitter, etc. (Larson, 2009). SNS are virtual communities that bring together people who have created personal information profiles with other

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inviting friends with shared interests to interact together after having access to those profiles by posting comments and messages, uploading videos, subscribing to a channel, etc. SNSs “permit individuals to: (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (Boyd & Ellison, 2007, 211).

Social networking via the Internet is becoming widely accepted by adolescents and young adults (Allen, Evans, Hare, & Mikami, 2010; Anderson & Butcher, Ball, Brzozowski, Lasseigne, Lehnert, & McCormick, 2010; DeGroot, Ledbetter, Mao, Mazer, Meyer, & Swafford, 2011; Regan & Steeves, 2010). SNS presents potentially interesting opportunities for new forms of product communication and commerce between marketers and consumers to spread the company’s product information (Miller & Lammas, 2010; Thevenot & Watier, 2001) at anytime and anywhere via the Internet. Customers in developed and developing countries provide diverse perceptions on viral marketing and/or social networks from the perspective of microeconomics and macroeconomics that could influence their satisfaction.

Prior studies have examined consumers’ behaviors of receiving, using, and forwarding viral marketing messages using SNS (e.g., Bolar, 2009; Boyd & Ellison, 2007; Chu & Choi, 2010; Chu & Kim, 2011). Research should focus on the manner SNS delivering

new forms of virtual experience in promoting virtual marketing that affects the satisfaction of online consumers. In relation to this, minimal studies shed light on insights among Malaysian customers. Therefore, this study aims to analyse the influence of some pre-defined factors (namely, playfulness, critical mass, community driven, and peer pressure) in customer satisfaction in the context of the use of viral marketing in social media among Malaysian customers. The key contribution of this empirical study is to grant a finding that could bring interest to researchers and practitioners interested in understanding the factors that influence customer satisfaction in the context of the use of viral marketing in social media among Malaysian customers.

The next section presents review of literature related to the variables being investigated. Methodology is elaborated in section three, followed by data analysis in section four. Conclusion and recommendations for future study are discussed in the last section, i.e. section five.

LITERATURE REVIEW

Social network component (namely, playfulness, critical mass, community-driven, and peer pressure) is one of the methods used to test the social network site that influences customer satisfaction on viral marketing. Customer’s satisfaction of a company’s product affects significantly on the manifestation of word-of-mouth about that company (Heitmann, Lehmann, & Herrmann, 2007; Wangenheim & Bayon, 2007).

Playfulness

Playfulness, which is also known as enjoyment, refers to the playful actions of the SNS that users can experience (Rao, 2008; Sledgianowski & Kulviwat, 2009). Preceding studies found that perceived playfulness influenced users' behavioural intention to use a computer system (Lee, Cheung & Chen, 2007; Norazah & Norbayah, 2009). The initiation of SNS is rapidly changing human interaction, with millions of people worldwide are living much of their lives on Facebook, MySpace, Twitter and LinkedIn (Zhong, Hardin, & Sun, 2011). Users will continue on using SNS if they perceive it as enjoyable (Kang & Lee, 2010). Prior research of Lin and Yu (2006) and Moon and Kim (2001) found that perceived playfulness has a direct effect on extent viral marketing content. Users have pleasure in SNS in terms of posting photos, sending product information and sharing website links with thier circle of friends (Powell, 2009; Tapscott, 2008). Kelly (2008) noted that people are motivated to use SNS due to mood enhancement in order to relieve boredom. It is expected that social communication via SNS may enable users to enhance their sense of pleasure and maintain contacts with connected online friends that could affect their satisfaction in the context of the use of viral marketing in social media. Hence, the study posits that:

H1: Playfulness has a significant effect on customer satisfaction in the context of the use of viral marketing in social media.

Critical Mass

Perceived critical mass is defined as "the degree to which a person believes that most of his or her peers are using the system" (Lou, Luo, & Strong, 2000, p. 95). Critical mass is related to an innovation sufficiently adopted by an individual who later convinces and influences other people to follow suit for further adoption (Rogers, 1995). Some previous research has found that perceived critical mass influence customers' behavioral intention to use communication technologies (see for e.g., Li, Chau, & Lou, 2005; Lou *et al.*, 2000; Van Slyke, Illie, Lou, & Stafford, 2007). In the case of SNS, an individual creates an account in SNS and actively participates in a social network at any time and any where to carry out continuous updates on information exchange and knowledge sharing activities with his or her circle of friends in the contact lists who will later invite others to join the communication network. This has smoothened the progress of critical mass.

"When the number of adoption by current users' increases, the innovation is perceived as increasingly beneficial to both previous and potential adopters" (Van Slyke *et al.*, 2007, p. 274). The potential users may develop favourable interest to be part of the communication network via SNS when a social network website has many current members, indicating that critical mass is achieved (Markus, 1994). Thereafter, it could influence customer satisfaction in the context of the use of viral marketing in social media. Therefore, the study hypothesises that:

H2: Perceived critical mass has a significant effect on customer satisfaction in the context of the use of viral marketing in social media.

Community-driven

Community-driven refers to a group of people who look for information, share and disseminate it to those who are in the contact lists with common interests. Community driven ties together friends with other circles of friends in communicating any kind of information and those who appreciate the benefits of the connection via the computer network (Huang & Xia, 2009; Moon & Kim, 2001). The virtual community post comments to express their agreement or disagreement on any issues that include technological, political, economic, legal, social and environmental. They also show concern for others (Hennig-Thurau & Walsh, 2004; Holme, Edling & Liljeros, 2004). Prior research found a significant correlation between customer connection with the other customer with regards to attitude and behavioral usage (Holbrook, 1992). This group of people can interact to each other through social network by looking for old friends or getting new friends and sharing information or product knowledge. "Social media introduced substantial and pervasive changes to communication between organizations, communities, and individuals (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011, p. 250). Community-driven may influence customer satisfaction in the context of the use of viral marketing in social media as the message shared by

customers is highly trusted based on their own experiential usage of the products or service after virtually communicating with the circle of communities via SNS. Thus, it is expected that:

H3: Community-driven has a significant effect on customer satisfaction in the context of the use of viral marketing in social media.

Peer Pressure

Peer pressure is related to the influence or invitation by friends to join and to participate in SNS such as Facebook, LinkedIn, Twitter, etc. for social communication. Viral marketing works because satisfied friends will transmit viral product messages to each other for information sharing and product knowledge (Bulkeley, 2002). In short, SNS make it possible for users to learn from peer experiences and advices (Kelly, 2008). They share with their peers news stories, blog posts, photo albums, etc. on SNS. Pressure from friends and family members can be seen as social influences that are perceived to be important to consumers in promoting and encouraging a greater dependency on communication technologies such as smartphones (Auter, 2007). Thus, peer pressure could help to increase the number of the social network members and affect customer satisfaction in the context of the use of viral marketing in social media. Accordingly, the study hypothesises that:

H4: Peer pressure has a significant effect on customer satisfaction

in the context of the use of viral marketing in social media.

The proposed research framework is presented in Fig.1.

METHODOLOGY

Two hundred respondents were randomly drawn from among the students at a public university in the Federal Territory of Labuan, Malaysia, utilizing a convenience sampling technique. Explanation for the objective of this study was given to the respondents prior to distributing the questionnaires. The questionnaires were collected immediately after the respondents had completed them so as to avoid low response rate. This whole process took around two weeks to complete with the responses rate of 100 percent. Quantitative method was applied as it is the type whereby to test the significance of hypotheses. A self-administered questionnaire with closed-ended questions was used to enable the respondents to

check the appropriate answers from a list of options. The questionnaire is divided into three sections: Section A consists of four questions to derived information related to the respondents' demographic profile. Section B asked the respondents to provide responses on the four questions related to their experiences in social network on viral marketing via SNS. Section C was designed and included twenty measurement items that required the respondents to furnish their perceptions on certain factors such as playfulness, critical mass, community-driven, peer pressure, and customer satisfaction with viral marketing via SNS.

Items for customer satisfaction in the context of the use of viral marketing in social media was adapted from Helm (2000) and Dobeles (2005), playfulness and community driven from Moon and Kim (2001) and Rao (2008), and critical mass from Van Slyke *et al.* (2007). Meanwhile, peer pressure items were adapted from Ajzen (2002) and Rogers (2005). These

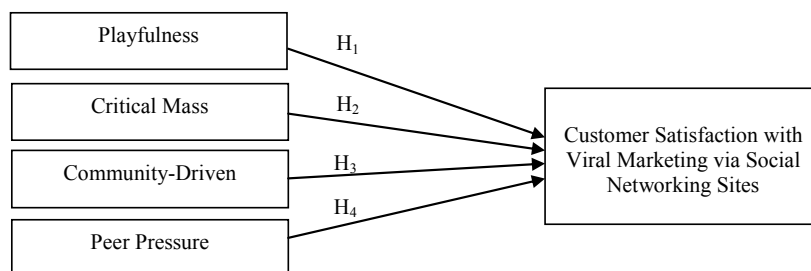


Fig.1: Proposed Research Framework

variables were measured with four items using a five-point Likert scale anchored by 1 (strongly disagree) to 5 (strongly agree). All of the variables and its measurement of instruments are presented in Appendix 1. Statistical Package for the Social Sciences (SPSS) computer programme version 17 was used to perform data analysis, including descriptive statistics such as frequencies, as well as sophisticated inferential and multivariate statistical procedures (Sekaran & Bougie, 2009). Multiple regression analysis was performed to describe the relationship between independent variables and a dependent variable based on the proposed research framework.

RESULTS

Table 1 depicts the respondents' demographic profile. The analysis of the respondents' gender revealed that more than half (56.5%) of the respondents are males and 43.5% are females. Most of the respondents were predominantly Malays, who accounted for 56%, followed by Chinese (28%) and Indians (16%). As for the respondents' education level, they were mostly pursuing bachelor degree (95.5%) and in the age range of 20 to 29 years old. The fact that 99% of the students are below 29 years is considered as normal as university students are among the highest contributors to the increasing number of smartphone sales (Jacob & Isaac, 2008) and they are also users who actively access SNS (DeGroot *et al.*, 2011; Regan & Steeves, 2010).

TABLE 1
Respondents' demographic profile

Demographic Characteristics	Frequency	Percentage
Gender		
Male	113	56.5
Female	87	43.5
Ethnicity		
Malay	112	56.0
Chinese	56	28.0
Indian	32	16.0
Educational Level		
Matriculation	7	3.5
Degree	191	95.5
Master	2	1.0
Age (years old)		
Below 20	8	4.0
20-29	191	95.5
30-39	1	0.5

Experiences on Viral Marketing via SNS

Table 2 describes the respondents' experiences in social network on viral marketing via SNS. Results showed that 97% of the respondents knew what viral marketing is, and only 3% did not know the definition of viral marketing. More than three-quarter of the respondents (97%) agreed that viral marketing had an impact on them, and 3% of respondents felt that viral marketing did not have any effect on them. Almost all of the respondents (98%) had a social network membership, while only 2% did not have it. Indeed, majority of the respondents (97%) had come across viral marketing through the social network that they joined, and only 3% of them had not encountered it through the social network.

Reliability Analysis

Reliability analysis was performed to check internal consistency of the variable items via Cronbach's coefficient alpha. Hair, Black, Babin, Anderson and Tatham (2010) stated that values ranging from 0 to 1, with higher values indicating greater reliability. Findings in Table 3 demonstrate that all values are more than 0.7. Thus, the survey instrument is reliable to measure all the constructs consistently and free from random error.

Correlation Analysis

Correlation coefficients are calculated to check correlations between variables either

significant positive correlation or negative correlation. Lind, Marchal, and Wathen (2010) stated that the correlation value can be interpreted as weak when the correlation value is $r=0.10$ to 0.29 or $r=-0.10$ to -0.29 , moderate when the value is $r=0.30$ to 0.49 or $r=-.30$ to $-.49$, and satisfying when the value is $r=0.50$ to 1.0 or $r=-0.50$ to -1.0 . Table 4 reveals that playfulness, critical mass, community driven and peer pressure are significantly correlated in a positive direction with customer satisfaction in the context of the use of viral marketing in social media, with r value between 0.301 and 0.595 . Meanwhile, playfulness is the strongest factor that has positive correlation

TABLE 2
Experiences on viral marketing via SNS

	Frequency	Percentage
Do you know what is viral marketing?		
Yes	194	97.0
No	6	3.0
Does viral marketing have had an impact on you?		
Yes	194	97.0
No	6	3.0
Do you have any social network membership?		
Yes	196	98.0
No	4	2.0
Have you ever come across any viral marketing through the social network that you have joined?		
Yes	194	97.0
No	6	3.0

TABLE 3
Reliability analysis

Variable	No. of Items	Cronbach's alpha
Customer satisfaction	4	0.868
Playfulness	4	0.745
Critical mass	4	0.892
Community driven	4	0.826
Peer pressure	4	0.778

with customer satisfaction in the context of the use of viral marketing in social media ($r=0.587$, $p<0.01$), followed by critical mass ($r=0.425$, $p<0.01$). There was a moderate positive correlation between peer pressure ($r=0.352$, $p<0.01$) and community driven ($r=0.422$, $p<0.01$), with customer satisfaction in the context of the use of viral marketing in social media.

Table 5 portrays mean, standard deviation, skewness, and kurtosis of each variable. The skewness of all the items ranged from 0.091 to 0.613, which is below ± 2.0 . Similarly, the values of kurtosis ranged from -0.483 to 1.489, which is well below the cut-off value of ± 10 . Both skewness and kurtosis are lower than the said value, signifying that the scores approximate a “normal distribution” or “bell-shaped curve”.

Relationship with Customer Satisfaction in the Context of the Use of Viral Marketing in Social Media

Multiple regression analysis was carried out to assess the direct effect/relationships between playfulness, critical mass, community-driven and peer pressure (independent variables) with customer satisfaction in the context of the use of viral marketing in social media (dependent variable). Table 6 illustrates that the independent variables explained 57.4% variance in customer satisfaction in the context of the use of viral marketing in social media ($F=11.506$, $p<0.05$).

Hypothesis 1 postulates that playfulness has significant impact on customer satisfaction in the context of the use of viral marketing in social media. As evident in Table 6, customer satisfaction in the context

TABLE 4
Correlation between the variables

	1	2	3	4	5
(1) Customer satisfaction	1				
(2) Playfulness	0.587**	1			
(3) Critical mass	0.425**	0.595**	1		
(4) Community driven	0.422**	0.583**	0.563**	1	
(5) Peer pressure	0.352**	0.401**	0.323**	0.301**	1

** Correlation is significant at 0.01 level (2-tailed)

TABLE 5
Mean, Standard Deviation, Skewness and Kurtosis of the Variables

	Mean	Std Deviation	Skewness	Kurtosis
Customer satisfaction	2.175	0.763	0.613	0.651
Playfulness	2.036	0.431	0.578	0.729
Critical mass	3.210	0.397	0.337	1.489
Community driven	1.918	0.495	0.091	0.483
Peer pressure	2.233	0.555	0.315	0.735

of the use of viral marketing in social media is significantly influenced by playfulness ($\beta_1=0.160$; $t\text{-value} = 1.990$; $p<0.05$). Hence, H1 is accepted as having direct effect. The estimates are consistent with the expectation because its hypothesized relationship was significant ($p<0.05$) and in the expected direction. Next, hypothesis 2 proposes that critical mass has significant impact on customer satisfaction in the context of the use of viral marketing in social media. The data confirmed the importance of critical mass in influencing customer satisfaction in the context of the use of viral marketing in social media ($\beta_2=0.221$; $t\text{-value} = 2.329$; $p<0.05$). These results provided support for hypothesis H2. Critical mass factor carried as the heaviest weight in explaining customer satisfaction in the context of the use of viral marketing in social media.

Hypothesis 3 hypothesizes that community driven has significant impact on customer satisfaction in the context of the use of viral marketing in social media. The results presented in Table 6 demonstrate that community driven is unable to significantly predict the customers' satisfaction in the context of the use of viral marketing in social media ($\beta_3=0.095$; $p>0.05$). Thus, H3

is rejected. Further investigation of the study examined hypothesis 4 which postulated that peer pressure had significant impact on customer satisfaction in the context of the use of viral marketing in social media. The findings revealed insignificant outcome as its $p\text{-value}>0.05$ ($H4\ p= n.s.$). For this reason, H4 is not supported.

DISCUSSION

The research examines the influence of some pre-defined factors (i.e., playfulness, critical mass, community driven, and peer pressure) in customer satisfaction in the context of the use of viral marketing in social media. The results, as illustrated in Fig.2, demonstrate that critical mass and playfulness have direct effects on customer satisfaction in the context of the use of viral marketing in social media, with asterisks denoting the significant results, i.e. $p\text{-value}<0.05$.

It is worthy noting that critical mass has the strongest direct effect with customer satisfaction in the context of the use of viral marketing in social media, followed by playfulness. This result aligns with prior research studies by Li *et al.* (2005), Lou *et al.* (2000), and Van Slyke *et al.* (2007) that social network website with high level

TABLE 6
Relationship with customer satisfaction in the context of the use of viral marketing in social media

Variable	<i>b</i>	SE <i>b</i>	β	<i>t</i>	Sig.	Result
Playfulness	0.176	0.089	0.160*	1.990	0.048	Supported
Critical mass	0.205	0.088	0.221*	2.329	0.021	Supported
Community driven	0.070	0.063	0.095	1.119	0.264	Not Supported
Peer pressure	0.037	0.062	0.051	0.607	0.544	Not Supported

* Significant at the 0.05 level; Adjusted $R^2 = 0.574$; $F = 11.506$; Sig. = 0.000

of critical mass has more influence on potential users to believe and participate in viral marketing activity. For the social network users, the mass that can be created in SNS and a website with playfulness element are the influencing factors with regards to their satisfaction on SNS content in viral marketing as these motivate them to join and remain with the social network. While information or messages can be communicated through viral marketing widely, coupled with the increasing use of SNS, viral marketing has become one of the marketing strategies for cost saving that supports customer satisfaction in the context of the use of viral marketing in social media. SNS imposes low cost but has greater influence on customers for marketers because they have trust in their friends than in company's advertisement when making any purchasing decisions. Customers do it in ethical manner where they spread electronic word-of-mouth known as viral marketing for social benefits. The playfulness of SNS attracts more users to stay on with the page satisfactorily, while attracting more users to actively participate in the social network

at the same time. This is consistent with the findings of Kang and Lee (2010), Lin and Yu (2006), and Moon and Kim (2001).

Next, this study reveals an insignificant relationship between community driven and peer pressure with customer satisfaction in the context of the use of viral marketing in social media. Though consumers have good understanding and perception of viral marketing via SNS as the social network website is expanding widely, they are not attracted to use SNS for viral marketing about company's product based on the influence and pressure by community peer. This result seems to oppose the findings of Abedniya and Mahmouei (2010) which reveal that social network websites with high level of community driven are predicted to be more likely to share and diffuse in viral content. Even though latest information can be achieved, transferred and responded to through social network, it still does not influence customer satisfaction with the information achieved through viral marketing using SNS. Despite the fact that customers could forward viral messages to their listed friends for message exposure

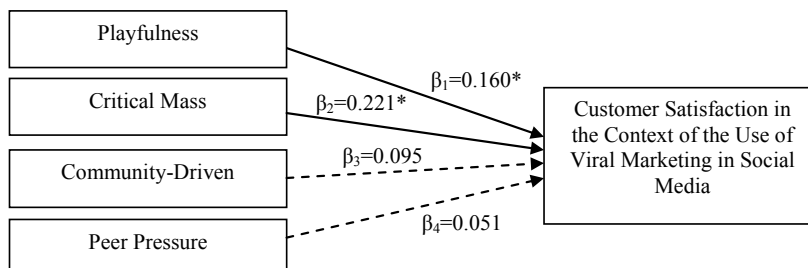


Fig.2: Results of the Full Model

and further action besides building social relations to share activities, ideas, interests, events within individual networks globally, they are still not attracted to use SNS for viral marketing of company's product. In other words, social network website with high level of peer pressure has not influenced customer satisfaction with viral marketing via SNS. Hence, the finding is incoherent with the discovery by Park and Chen (2007).

CONCLUSION

The research examined the influence of some pre-defined factors (i.e. playfulness, critical mass, community driven, and peer pressure) on customer satisfaction in the context of the use of viral marketing in social media. Factors such as playfulness and critical mass have significant relationships with customer satisfaction in the context of the use of viral marketing in social media. This study has several implications. Special attention needs to be given to the community driven and peer pressure factors if SNS providers wish to retain and enlarge their customers' satisfaction when using viral marketing in social media. Apart from that, this study has brought about insights for SNS providers such as Facebook, Twitter, etc. and for them to focus more on issues requiring special attention such as playfulness and critical mass in devising their marketing strategies to encourage the use of SNS with ethical comportment. This could then boost up customer satisfaction with SNS and motivate them to employ viral marketing for any products and services via SNS. As

for academic researchers, the framework could be the basis for further research that investigates customer satisfaction in the context of the use of viral marketing in social media.

The current study however has some limitations. The first limitation is related to the use of student sample. Expanding the number of sample coverage should be done in any future research in order to increase sample generalizability. It is also recommended separating the population sample into geographical locations that does not only focus on students in a public university in the Federal Territory of Labuan, Malaysia. For instance, individuals living in other areas may have different perceptions towards viral marketing contents offered by companies, owing to their different cultures, levels of education and some other demographic factors. Next, the impacts of certain environmental variables and their influence in shaping SNS need to be further explored. Investigation of potential moderating variables such as demographic factor is also relevant. Future research could also study on the influence of satisfaction towards SNS content in viral marketing with service quality dimensions such as tangibles, assurance, reliability, responsiveness and empathy so as to fulfill users' unlimited needs.

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APPENDIX 1

Measurement of Items

Construct	Label	Measure
Playfulness	P1	The social network website is attractive.
	P2	The social network website's application is interesting.
	P3	The social network website is pleasure.
	P4	The perceived playfulness has a direct effect on extent viral marketing content.
Critical Mass	CM1	Most of my friends joined the same social network.
	CM2	Information can be exchanged in the social network.
	CM3	People share common interest in social network.
	CM4	Perceived critical mass has an initiation to intention to use other communication technologies (such as groupware, instant messaging).
Community Driven	CD1	Information can be transferred through social network.
	CD2	Immediate respond can be achieved through social network.
	CD3	Members in social network are willing to share information.
	CD4	Latest information can be achieved through social network.
Peer Pressure	PP1	Most of my friends joined the same social network (such as Facebook).
	PP2	The social network website has a strong influence upon decisions.
	PP3	The social network website is important.
	PP4	The social network website is expanding widely.
Customer Satisfaction with Viral Marketing via SNS	S1	In thinking about my most recent experience with the viral marketing, the information I received is clear.
	S2	The information received helps me.
	S3	I am satisfied with the information achieved through viral marketing.
	S4	Overall, the information achieve through viral marketing is reliable.

