

The Effect of the Online Social Network Structure Characteristic toward Cognitive and Affective Involvement, And Its Implication toward Purchase Intention: Buzzing Product on Twitter

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Abstract

The purpose of this research is to examine the influence of online social network structure characteristics on cognitive and affective involvement, and its implication on purchase intention of the product buzzed on twitter. As one of online social media, twitter has created vast opportunity for companies to promote their products and services. Twitter becomes a new and promising alternative channel to promote companies' products and services. Twitter has been growth rapidly in Indonesia. However, only a few companies that have used twitter as a media to promote the product, and most of them are of small and mid size enterprises. In general, Indonesian companies still in doubt and skeptic on the use of twitter as an alternative promotion media. Research done by IBM revealed that the main reasons behind this skepticism were trust and privacy issues. The stimulus organism response was used as the underlying theory of this study. By using convenience sampling method, two hundred questionnaires were sent, and one hundred ninety returned and ready for further data analysis. This research found that network centrality and homophile are significantly influence affective involvement; tie strength, network density, and homophile are significantly influence cognitive involvement. Furthermore, this research also found that affective involvement is positively influence purchase intention. The limitation and suggestion of this research are also explained.

Keywords: Network Structure Characteristic, Network Involvement, Purchase Intention.

Introduction

In the last decades, most industries have to deal with the escalating pressures of business environment turbulences that become so very unpredictable. Some of these stresses are caused by the escalating competition intensity, unpredictable economic changes, and consumer that are become more demanding (Fisk, 2006). Furthermore, Fisk (2006) also argued that the products become easier to be imitated, and the product life cycle is shortening by seventy percent at the same time.

The way people deciding to buy some products become so simply different than before. Traditional approaches become not eligible anymore (Fisk, 2006). People make decision to buy some product only in 2.6 seconds (Fisk, 2006). Nevertheless, people too are getting confused to make decision because they are bombarded by more than 300 marketing messages in a day (Fisk, 2006). Hence, companies need to update and reshaping their marketing activities in order to adapt to the turbulences of their business environment.

The rapid growth of online social media has brought a huge change in how people are interact and socializing. Online social media, such as facebook and twitter, connect people in the way that no one could ever imagine before. Nowadays people can interact and socializing without bound by time and place. Online social media become a place (cyberspace) where people are gathered and form a community.

In the marketing perspective, a place where a group of people are gathered will bring an opportunity to promote a product or service. Today, online social media has become a new medium of marketing activities, and consequently the consumers' behavior in buying a product is gradually changing.

Indonesia has been becoming the fourth largest internet user in Asia (Setiawan, 2012). Undeniable, the growth of internet user in Indonesia is induced by the expansion of online social media and smart phone (Triwidodo & Dewi, 2012). One of the online social media that has rapidly growth in Indonesia is Twitter. Twitter user in Indonesia has achieved 29.4 million people (Schott, 2012). Companies should see this numbers as a big opportunity to deploy their marketing activities. Malcih for instance, a small midsize enterprise has successfully take this advantage by using Twiiter to promote their cassava chips, and make 5 billion Indonesian rupiah per month. (Axl, 2011). However, this is not always the case; in fact this tremendous benefit is not always inducing purchase intention of twitter user toward some product.

Wang (1998) and Schott (2011) unequivocally argued that there is still skepticism among Twitter user to deal with marketing offers at online social media. This skepticism is mostly caused by privacy and trust issues (Wang, 1998). Consumer's purchase intention on product offered in Twitter tends to be negative since they consider the ads has interfered their privacy (Aldridge, 1997).

Some research have shown that internet user tend to ignore marketing offers in social media. Baer (2011) revealed that 52 percent of internet user in England has left several brands at twitter because they felt the message content is always repeated and it makes them bored to see the ads. IBM revealed, purchases behavior which is based on the references from social media such as Facebook, Twitter, Google+, only provide 0.34 percent from the entire of online shopping activity at Black Friday event, it decrease 35 percent from 2011. The same

phenomenon is also happens on Cyber Monday (Beese, 2012). Twitter which offers free ads service for small medium enterprise on holiday season almost did not contribute at all, and it is hard to believe that almost all twitter user ignoring the recommended ads by not clicking the reference link which is attached in Twitter (Beese, 2012). Social media can provide a huge opportunity for a company yet in fact, several posts about the ads of product and service which is advertised in social media is not enough to boost consumer's purchase intention toward product and service which is attached in social media.

This study is aim to examine factors that could induce consumer's purchase intention on online social media, especially on Twitter in Indonesia by adopting the work of Shin, Park and Ju (2011). Shin et al (2011) examined the use of online social media as a medium of marketing activities. Shin et al (2011) found out that the characteristics of online social network structure (tie strength, network density, network centrality and homophile) could induce consumers' cognitive and affective involvement, which in turn would create consumer's purchase intention.

Theoretical Background

This research is a replication from the work Shin, Ju and Park (2011). This research attempts to develop an in-depth understanding on how online social network structure characteristics influence individual's responses toward their friend's recommendation at Twitter.

Research Framework

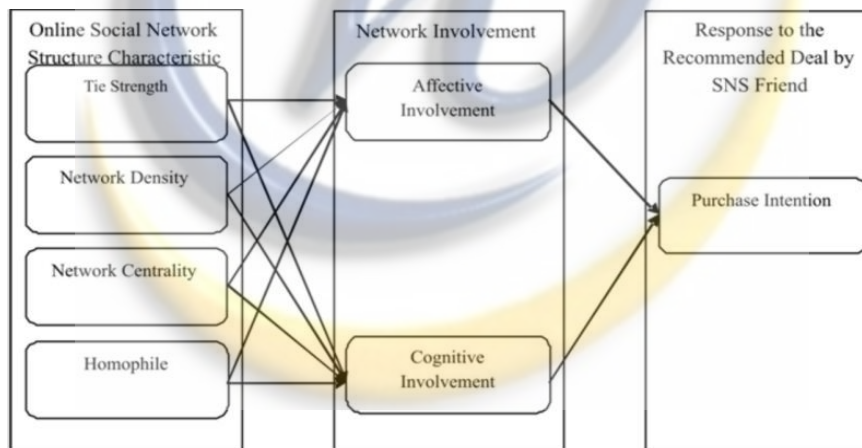


Fig 1 Research Model

This research is a replication from the work Shin, Ju and Park (2011). This research attempts to develop an in-depth understanding on how online social network structure characteristics influence individual's responses toward their friend's recommendation at Twitter. This research used stimulus organism responses to explain the relationship between constructs under study. According to Irwanto (1992), stimulus organism response is an association or a connection between stimuli on organism with certain response. This research divides stimulus organism response into three parts. Firstly, characteristic network structure as stimulus; secondly, network involvement as organism behavior; and thirdly, purchase intention as response. The relationship between construct could be seen on the above theoretical research framework.

Online Social Network Structure Characteristics

Based on the research done by Shin et al (2011), online social network structure characteristics consist of four dimensions: tie strength, network density, network centrality and homophile. Tie strength is a combination of the amount of time, emotional intensity, the intimacy (mutual confiding) and reciprocal service which is characterized by a tier (Granovetter, 1973). If tie strength relates with the interaction between two individuals, network density is a whole characteristic, which is the connection degree of all members at a network (Shin et al, 2011). Network centrality indicated the degree of individual's central position on the network. A person who is in a position that permits the direct contact with many individuals should begin to see themselves and be seen by those individuals as a major channel of information and they are likely develops the sense of being in the mainstream of information flow on the network (Freeman, 1978). Homophile is a group of composition in terms of the similarity of members' characteristic which refers to social identities that are attached externally on individual such as race, age and gender, or in internal state concerning value, beliefs, or norms (Lazarfeld & Robert, 1954).

Network Involvement

Shin et al (2011) divided network involvement into cognitive involvement and affective involvement. Cognitive involvement is the involvement that refers to the knowledge, perception and opinion which are taken from several past direct experiences toward object and information regarding certain resources (Kanuk, 2009). Affective involvement refers to the emotion and feeling of the individual toward some objects. The state of emotional and feeling of the consumer is treated as an evaluative base (Kanuk, 2009).

Purchase Intention

Ajzen and Fishbein (2001) depict purchase intention as a certain consumer conditions before they take any action, which can be use as a stepping stone to predict consumer reaction or consumer behavior. Base on Asseal (1995) purchase intention is a behavior which arises as a response toward object which explicates a willingness of consumer to buy some products.

Tie Strength and Network Involvement

Weak ties have certain advantages in providing new information, whereas strong ties gave more advantages in term of mobilization, which means, if somebody in the ties need help, friends in the ties will willing to help at the same time and barely will reject (Shin et al, 2011). People who feel in doubt when facing the information tend to develop and use their relationship with friends to ensure the information, hence reduce the risk of the uncertainty (Granovetter, 1982). In this research, strong ties relates along with mutual confiding and friendship which refers to affective involvement, and weak ties are related along with perception and experience which is referring to rational state and cognitive involvement. Based on the above argument, this study hypothesized:

Ha1: Tie strength is positively and significantly influences cognitive involvement

Ha2: Tie strength is positively and significantly influences affective involvement.

Network Density and Network Involvement

Network density refers to the relationship degree among network members. Shin et al (2011) found out that network density is positively foster cognitive and affective involvement. Wassermen (2011) revealed that the importance of communication intensity on network depends on certain context. Wellman (1982) revealed that the network which is used to communicate tends to come to people who really close with, such as relatives. Based on his finding, Wellman (1982) argued that every single person is almost able to trust other people to help them, at least from closest one, yet they too can ask for help as frequently as they want. Therefore, this research argues that network density could influence network involvement on online social media user. The density of the network will determine the accessibility of the information, and the density could also forming mutual confiding among network members. Based on the above argument, this study hypothesized:

Hb1: Network density is positively and significantly influences cognitive involvement

Hb2: Network density is positively and significantly influences affective involvement

Network Centrality and Network Involvement

Shin et al (2011) found that network centrality could significantly affect cognitive and affective involvement of social media user. Lien, Chong Lim, Saltz, and Ziegert (1996) found that individual who is highly educated and has a quite stable emotion tend to become a role model in the network. Shin et al (2011) indicates that someone who is in central position is able to access information easier from their network and spread that information faster toward their network. Richmond (1990) found that the power had by someone on the network is mostly associated with cognitive and affective learning. Based on the above argument, this research hypothesized:

Hc1: Network centrality is positively and significantly affecting cognitive involvement

Hc2: Network centrality is positively and significantly affecting affective involvement

Homophile and Network Involvement

Shin et al (2011) revealed that homophile could significantly induce cognitive and affective involvement of social media user. The similarities among individuals tend to create high interpersonal appeals, trust, and understanding among members at the same network, more than what could have been expected at a group which does not have similarities (Ruef, Aldrich, Carter, 2003). Shin et al (2011) argued that the similarities between two individuals can provide several emotional supports (affective involvement). Mark (1998) and McPherson, (2001) argued that every single person build friendship with others who have similarities with themselves since similarities could simplify communication, share beliefs, and other features, which in turn simplify activities, and communication coordination (cognitive involvement). Based on above argument, this research hypothesized:

Hd1: Homophile is positively and significantly affecting cognitive involvement

Hd2: Homophile is positively and significantly affecting affective involvement

Network Involvement and Purchase Intention

Mcmillan (2003) revealed that consumer's involvement on website is positively relates to their attitude toward the website, which in turn will induce their intention to buy a product on that website. Shin et al (2011) found that cognitive and affective involvement could swing purchase intention of online social media user. Eroglu (2003) revealed that consumer's

cognitive state and emotional feeling has an impact on their purchase behavior at online media. This research focuses on the involvement of twitter user with their network. The higher of affective involvement of individual toward social media, the higher is their positive feeling toward the network; and the higher of cognitive involvement of individual toward social media, the higher is their positive perception toward the network (Shin et al, 2011). Based on the above argument, this research hypothesized:

He1: Cognitive involvement is positively and significantly affecting network members' purchase intention

He2: Affective involvement is positively and significantly affecting network members' purchase intention

Methodology

This research employed descriptive explanatory model. The unit analysis of this research is individual, which is twitter user. Using convenience sampling method, this research send questionnaires to 200 twitter users in Bandung - Indonesia with the age range of 15 to 35 years old. The participant was given a questioner which aim to measure their perception on network structure characteristics, network involvement, and their purchase intention on some product based on their friend's tweet.

Measurement

The measurement of this research is using five point Likert Type Scale. Tie strength is measured using 5 items scale adapted from the work of Granovetter (1982) and Petroczi (2006). Network density is measured with 6 items adapted from Anita & Fraizer (2001). Network centrality is measured with 5 items adapted from Anita & Fraizer (2001). Homophile is measured with 5 items adapted from McPherson (2001). Affective involvement and cognitive involvement are measured with 10 items adapted from Zaichkowsky (1994). Purchase intention is measured with 4 items adapted from Li et al (2002).

Data Analysis

Reliability and Validity Analysis

In this research, the variable is affirmed reliably if the Cronbach's Alpha value is above 60 percent. The Cronbach's Alpha value of all of the variables in this research exceeds 60 percent. It could be concludes that all variables in this research are reliable (see Table 1). Factor analysis is used to test the validity of the scale. The result (see Table 1) confirm the dimensionality of the constructs under study, hence it could be concludes that the scale is valid.

Findings

Table 2 presented the result of hypothesis testing using multiple regression analysis. The result of hypothesis testing shows that hypotheses Ha1, Hc1, Hc2, Hd1, Hd2, and He2 are supported, whereas hypotheses Ha2, Hb1, Hb2, and He1 are not supported.

The result of this research shows that the four characteristics of network structure are not conclusively influence cognitive and affective involvement. Tie strength, network centrality, and homophile is found to be positively and significantly affecting cognitive involvement,

whereas network density is not. On the other hand, only network centrality and homophile that found to be positively and significantly affecting affective involvement, whereas both tie strength and network density are not.

On the relationship between network involvement and purchase intention, this study found that affective involvement is positively and significantly affecting purchase intention, whereas cognitive involvement is not.

Discussion and Conclusion

This study found that network density is not influences cognitive involvement. It might be explained that the number of friends on Twitter does not make people automatically follow the tweet of their friends, because the tweet might not be really important for them. The Twitter users tend to only believe information from the selective friends, who they really know and trust, and not from every friend they have on Twitter, especially friend they never actually meet.

Tie strength and network density are found to be insignificantly influences affective involvement. Privacy and trust issues might be the reason behind these findings. The relationship among twitter user has given huge possibility to share any information among them. However, the closeness of their relationship sometimes make their friends share so many information, although the information is not really important, even sometime the information could bother their privacy. Furthermore, the information or tweet from friends sometime comes from unreliable and untrusted source. Sometime, people post a message on Twitter only because they get paid from certain company, not because they really experienced the product or service that they promotes. This may explained why sometime people do not believe a message about certain product that spread by people that they never know before.

This study found that affective involvement influences purchase intention, while cognitive involvement is found to be insignificantly influences purchase intention. This finding is in line with Yuswohady (2009). The internet becomes more emotional than before, since the growth of online social media. In online social media, people could create a community based on their interest. People could create or join a certain community based on their hobby; even online social media could relates people with their idol. Conversation among people and their idol could tremendously enhance their emotional attachment. Strong attachment between people and their idol could shape or change people' behavior toward certain object. This may the explanation of why network centrality and homophile influences affective involvement, and in turn influence purchase intention.

Table 1. Item statistic and measurement model result

	Loading	Construct Reliability			
			I used to communicate with friends who sell certain product on twitter	0.597	
<i>Tie Strength</i>			<i>Homophile</i>		
I trust the product information which is spread by friends on twitter	0.729	0.735	I love to interact with friends who consume a product as the same as I like.	0.729	0.913
I have asked any suggestion to friends on twitter	0.799		I love friends on twitter who have positive thought toward product as I like.	0.832	
I love to discuss some product with friends on twitter	0.545		I love to make a friend with a person on twitter who has a same hope toward product	0.796	
I used to interact with friends on twitter who sold the certain products	0.625		I love to interact with friends who consume product as I like	0.839	
<i>Network Density</i>			I'm happy to interact with friends on twitter who have the same aspiration on certain product	0.870	
My friends in the real world make a friend each other on twitter	0.749	0.882	<i>Cognitive Involvement</i>		
There is a lot of interaction among my friends on twitter	0.835		The tweets about product really means a lot to me	0.813	0.931
I have good relationship with my friends on twitter	0.795		The tweets about product are really important	0.823	
My friends used to communicate each other on twitter	0.802		The tweets about product are necessary	0.862	
My relationship with friends is really ties.	0.663		The tweets about product are really valuable	0.849	
I have a strong ties with friends on twitter	0.703		The tweets about product are relevant	0.752	
<i>Network Centrality</i>			<i>Affective Involvement</i>		
I keep the good relationship with friends on twitter	0.688	0.712	The tweets about	0.820	0.894
I make a friend with friends on twitter who sell certain products	0.736				

Suggestion

This research found that network structure characteristics that influence affective involvement will foster purchase intention. Therefore, this research strongly suggest companies that utilize Twitter as an alternative media for their marketing activities to focus on network structure characteristics (i.e., network centrality and homophile) that found to be significantly influences affective involvement. Network centrality refers to the certain role given by people on the network, and homophile refers to the similarity among people around the network. Since these characteristics have significant effect on affective involvement and which in turn could foster purchase intention, to make Twitter or other social media could become an effective alternative media, it is important for companies to:

1. Collaborate with certain communities that could support companies' marketing program and activities. Certain communities will benefit companies in spreading and buzzing companies' product around their members, both offline and online;
2. Create or establish a community on Twitter which is aim to enhance sales. Mostly communities on social network are formed based on certain unique interest. Undeniably, sometime this uniqueness is closely related with the product of certain companies. If only these companies could facilitate this uniqueness, they could having an enormous opportunity to make profit;
3. Create or use brand ambassador could be beneficial for companies on Twitter. Twitter facilitates people to connect to each other, particularly between idol and its fans. Brand ambassador could influence its fans to act and response to a certain product.
4. Create or build effective communication. Communication is the essential key and the most important element in social media, especially on Twitter. Companies should build trust on communities through their communication system. Companies are strongly suggested to be honest and open in the way they communicate on Twitter. When companies open their self toward their consumer, consumer would think that the companies' cares on them and this will in turn create a strong bonding between companies and consumer.

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