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Generating consumer resonance for purchase intention on social network sites

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ABSTRACT

Consumer resonance is powerful in affecting a user's image of products and, as this resonance expands with iterative enforcement, the user's buying intention can be strongly altered. In order to develop consumer resonance, product messages articulated on a social network site (SNS) must be designed with the proper content and delivered through the proper channels. Using uses and gratifications theory, this study built a model to explain user behavior of consumer resonance on SNSs in dimensions of content gratification, social-relation gratification, and self-presentation gratification to drive increased purchase intention. By presenting two selected product articulates on social websites, we collected 392 samples and used modeling with partial least square to analyze the usable data. Meanwhile, a two-step cluster analysis method was applied to partition the sample into two groups and develop managerial implications by comparing them. The study results show that utilitarian value, tie strength, normative influence, information influence, and self-presentation have significant effects on customer resonance, which in turn influences purchase intention for successful consumer-brand relationship. It is hoped that the research findings might enhance our understanding of user resonance behavior and provide insights into social participants' future purchase intentions.

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1. Introduction

Every minute, hundreds of messages are created on social network sites (SNSs). Organizations use SNSs to reach existing and potential customers and build psychological and social bonds (Bernoff & Li, 2008; Boyd & Ellison, 2007) with their products and services. Social articulates have been developed to stimulate resonance on the network and develop a resounding impact on user buying decisions. By articulating and posting messages, enterprises expect to trigger customer responses through various types of expression on the digitized platform. These interactive processes are developed to more fully understand customers' views, entice users into extended discussions, accelerate expanded sharing within the site's social circle, and affect users' perception of products and services.

From an impression management view (Gardner & Martinko, 1988; Goffman, 1959; Leary & Kowalski, 1990), companies develop product articulations (introductions, stories, experiences, and promotions) on SNSs to create a desired impression of their products. This message impression is articulated to create a consumer resonance with open and positive responses and make the planned impression a reality (Laroche, Reza Habibi, Richard, & Sankaranarayanan, 2012; Lillqvist & Louhiala-Salminen, 2014) in customers' perceived views of the product. However, if users feel a dissonance, this particular articulation would not make the intended impression. Accordingly, product messages articulated on an SNS must be designed with the proper content and delivered through the proper channels.

The difference between word of mouth (WOM) and consumer resonance is that the former is the frequency and spread of key words by any users on a network platform (Brown, Broderick, & Lee, 2007), which can be positive, neutral, or negative (Richins, 1983). Resonance, which involves viewers' reactions to a particular post, is conveyed mostly through supportive moves to the posters. Measuring WOM is an attempt to understand the strength

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of a message's expansion while measuring resonance is an attempt to understand the strength of a user's support (reaction) to a particular post.

Although studies on WOM have examined the antecedents (Brown et al., 2007; Cheung & Lee, 2012; Gruen, Osmonbekov, & Czaplewski, 2006; Ha & Im, 2012; Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004; Munnukka, Karjaluoto, & Tikkanen, 2015) of the sharing intention on social networks and considered the sharing of words an important factor in marketing effects, these studies have not addressed the various responsive activities of customers to product articulations, including the slight gesture of clicking as well as the involvement of content discussion with posters.

Customers resonate on social media sites in different ways such as clicking, posting, discussing, and sharing. Clicking "like" is a subtle way of echoing support for the message; texting further echoes and elaborates the message with clarification, opinions, and sharing experiences; and sharing with peers is another way of referring to the articulated message. These responsive actions are constantly open to the entire virtual community and can ignite various paths of customer resonance among the linked community and can dynamically form a collective image of products and services in users' minds and perceptions.

Several threads of discussion on developing articulation to stimulate positive product portrait reactions currently exist. Some (Ha & Im, 2012; Ko, Cho, & Roberts, 2005; Nabi & Krcmar, 2004; Sherry, 2004) consider ingratiating customers with entertaining elements as a way to raise views while others (Hennig-Thurau & Walsh, 2003) consider providing educational experience as the best strategy. Additional studies (Park & Lee, 2009) consider platform characteristics in which customers interact as a key element for resonance. There are also studies (Racherla & Friske, 2012) that stress the importance of individual characteristics in affecting reactive motivation. These studies lead us to think that although triggering customer resonance on product articulations is critical, many points remain unclear such as the designed site content, the platform selected, and the participants' social platform needs. Furthermore, even if customers feel resonance, does this mean purchase intention will increase accordingly?

To address these concerns this study tries to explore the questions of (1) what creates consumer resonance on product articulation on SNSs, and (2) does high product resonance drive increased purchase intention?

Many scholars have applied Uses and Gratifications (U&G) theory in order to realize users' motives for adopting new technologies (Bonds-Raacke & Raacke, 2010; Katz, 1959; Magsamen-Conrad, Dowd, Abuljadail, Alsulaiman, & Shareefi, 2015; Ruggiero, 2000). Using U&G theory, we build a model to explain consumer behavior of resonance on product articulation in dimensions of content gratification, social-relation gratification, and self-presentation gratification. The association between consumer resonance on SNSs and user purchase intention is also examined.

The outline of the research is as follows. The first section provides a literature review of resonance with an emphasis on effects arising from resonance and customer online-purchase intention. We also hypothesize factors associated with consumer resonance on SNSs and the purchase intention. In the subsequent sections, we present the methodology, study results, and discuss the findings.

2. Theoretical background and hypotheses

2.1. Consumer resonance

Online communities such as Facebook, YouTube, and Flickr offer freely available user-created content that enables individuals to express their ideas and communicate opinions to many people (Riegner, 2007). When people are interested in a topic, they are more likely to discuss and share messages, thus creating resonance. The phenomenon of resonance is caused by massive responses that are triggered by an individual posting to which others react quickly. Solis (2010) states that there are three critical-path stages of social media to achieve social-media business goals: relevance, resonance, and significance. Businesses must first develop a relevant message concerning their products or services, which can then attain resonance with customers (Solis, 2010). The transition from relevance to resonance is motivated by individuals who are incentivized by thoughtfulness, values, and empathy on social media (Solis, 2010). From individuals' viewpoints, resonance is a cognitive engagement in which an audience participates in media (Russell, 2009).

Resonance is pre-conditional word-of-mouth (WOM) behavior. Word-of-mouth refers to a customer-to-customer interaction in online environments (Libai et al., 2010). Once a customer is aware and engaged, he or she will have a willingness to communicate with others (Hoffman & Fodor, 2010). The difference between resonance and WOM is explained in Table 1. Word-of-month can be positive, negative, and mixed. Resonance is simply a behavior between a user and a post on the social network. Hence, resonance is focus on an individual level while WOM involves large-scale group interaction on SNSs.

In addition to viewing and clicking, Hoffman and Fodor (2010) have indicated that metrics such as the number of reposts/shares and number of responses could be seen as a performance evaluation of resonance on social networks. Replying is one form of multiple forms of communication. People add their opinion when they see content posted by others, which is a mutual communication between the posters and the readers. Sharing is one of the functional blocks in social media and a process that exchanges, distributes, and receives information (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). If a user finds interest in a post, he or she may share the message by copying it or adding comments (Stieglitz & Dang-Xuan, 2013). This sharing behavior may represent responding to a posting, agreeing with someone's view, or entertaining a specific audience (Stieglitz & Dang-Xuan, 2013).

Consumers who have emotional and useful benefits tend to participate in online discussions (Riegner, 2007). Individuals that share information with their friends enhance the resonance on SNSs (Li & Shiu, 2012). Based on Kopp (2010), social resonance refers to the components of rapport as representing both the feelings of the participants during the experience of rapport and behaviors related to those feelings. The components have been identified in such a way as to enable us to use them in a harmonious or sympathetic connection that interlocutors have when they experience mutual attentiveness, positivity, and coordination. This rapport experience, defined by Tickle-Degnen and Rosenthal (1990), is expressed clearly when people say they "clicked" with each other, or felt the good interaction to be due to "chemistry". Moreover, Forr, Christensen, and DeRosia (2008) defined consumer resonance as that relevant consumers are likely to make with a firm's product or service. Accordingly, to understand the antecedents and effects of consumer resonance on SNSs, this study further identified it as the careful identification of foundational connections (both functional and emotional) serve as the extent to which a piece of content resonates with a consumer has with a firm's product or service and how well he or she can relate with it on SNSs.

Table 1
Comparisons between resonance and word-of-mouth.

Dimensions	Resonance	Word-of-mouth
Definition	Interactions between individual and the SNS posting.	Interactions among all individuals on the SNS.
Target	React to a poster on the SNS.	React to users on the SNS.
Characteristic	Valence (positive)	Valence (positive, negative or mixed)
	Quantitative index	Incidence (intention or behavior)
Objective	An indicator to evaluate the success of a post.	An indicator to evaluate the strength of the social performance.
Metrics	Number of "likes" of the post, number of comments about the post, and number of reposts/shares of the post.	Frequency of word appearances, and number of word appearances in the social network platforms.

2.2. Uses and gratifications theory

Uses and gratifications (U&G) theory was proposed by Katz (1959) and developed based on the social and psychological needs that generated expectations of the media. The theory posits that people have different gratification needs that result in different patterns of media usage (Katz, 1959). With emerging social technologies, many choices of mass communication venues exist—such as the Internet—to activate audience selection and satisfy needs (Ruggiero, 2000). Therefore, U&G suggests that people choose different media according to their needs and in order to satisfy demands. Different peoples' motivations result in different media usage.

Uses and gratifications theory speculates that people are goal directed with regard to needs and motivations. Social and psychological literature has indicated five categories of uses and gratifications needs that result in peoples' use of mass media (Katz, Gurevitch, & Haas, 1973) and includes functions of cognitive, affective, social integrative, personal integrative, and tension release (Katz et al., 1973). Cognitive needs are related to acquiring information for knowledge or a better understanding. Affective needs are related to aesthetic, pleasurable, and emotional experiences. Social-integrative needs are related to contact with family, friends, and others. Personal-integrative needs are related to individuals' desire to be more credible and confident of their status. Tension-release needs are related to escape.

Regarding the cognitive and affective needs, we relate them to the utilitarian and hedonic value of the contents in the areas of consumer consumption (Hirschman & Holbrook, 1982). Information of the functional use of the products and services is one of the most important aspects of the content of social networks (Bonds-Raacke & Raacke, 2010; Jahn & Kunz, 2012) while hedonic values in content can bring enjoyment when browsing information on social network fan pages. Next, social-integrative needs are related to social-relationship gratification. Components of social relationships on a social network includes: tie strength, homophily, trust, and interpersonal influence (Chu & Kim, 2011). These factors crucially affect to all activities on SNSs. Then, personal-integrative needs could be seen as self-presentation gratification. Tufekci (2008) stated that people participate in activities on social networks because customer behavior could be recognized as a form of self-presentation as theorized by Goffman (1959). About the motivation of escape, since tension-released is not relevant to resonance behavior, we do not discuss this factor. In sum, we view customer resonance on social media from three dimensions of gratification: content gratification, social-relation gratification, and self-presentation gratification.

2.3. Content gratification

Users' content gratification on a social network could be divided into utilitarian and hedonic dimensions. A utilitarian dimension is one way through which to evaluate consumer attitudes (Batra & Ahtola, 1991). Bloch and Richins (1983) defined utilitarian value as a customer-involving process such as collecting information out of necessity rather than recreation. From an information perspective, Jin, Cheung, Lee, and Chen (2009) also defined information usefulness as the degree to which information is perceived by individuals to be helpful and informative. Thus, the utilitarian value of content means how useful or beneficial information is on social networks (Batra & Ahtola, 1991). For example, individuals are more likely to talk about topics when they feel well informed (Mangold & Faulds, 2009). Hence, we consider that when more constructive product information exists, people might be more willing to respond to a message posted. Thus, the following hypothesis is developed:

H1a. *The utilitarian value of content positively affects consumer resonance on SNSs.*

The other dimension with regard to content gratification is hedonic value (Batra & Ahtola, 1991). Hirschman and Holbrook (1982) defined hedonic consumption as involving emotional arousal and feelings such as joy, jealousy, fear, rage, and rapture as well as a cognitively consumption value signifying the pleasant and agreeable feelings associated with the benefits of information on SNSs (Batra & Ahtola, 1991).

In the online environment, content often reflects an author's emotional state such as an evaluation or judgment about a topic or product (Stieglitz & Dang-Xuan, 2013). In addition, content that is fun, surprising, highly visible or having emotional attributes is more likely to promote conversation and sharing of information (Mangold & Faulds, 2009). Mangold and Faulds (2009) stated that people like to discuss something they feel is outrageous or something that makes them feel special. Thus, emotional messages are a successful factor in motivating customers to pass messages along (Dobele, Lindgreen, Beverland, Vanhamme, & Van Wijk, 2007). For example, Stieglitz and Dang-Xuan (2013) found that emotional Twitter messages tend to be retweeted quickly and more often than neutral messages. Thus, the following hypothesis is developed to understand the relationship between information of hedonic value on sharing and replying behavior in relation to customer resonance.

H1b. *The hedonic value of content positively affects consumer resonance on SNSs.*

2.4. Social-relation gratification

Chu and Kim (2011) developed a conceptual model of social relation that has an influence on customer engagement that includes five important factors in resonance behavior: tie strength, homophily, trust, and normative and informational-interpersonal influences.

Tie strength refers to "the potency of the bond between members of a network" (Mittal, Huppertz, & Khare, 2008). On SNSs, the

associations that spark connection and conversation between individuals is an important function (Granovetter, 1973; Kietzmann et al., 2011). Both strong and weak ties are classified as tie strength on social networks (Granovetter, 1973). While customers browse on social networks, choices of different kinds of products may be influenced by both stable and intimate "strong-tie" interactions and randomly or remotely connected "weak ties" (Chu & Kim, 2011). For example, friendships on SNSs could be seen as based on users' interests and tastes (Susarla, Oh, & Tan, 2012). Users follow their friends or classmates' online actions, which are considered a strong tie, and we speculate that strong ties could have an impact between individuals or groups in responding to posts. On the other hand, the anonymous characteristic of weak ties on SNSs will make individuals more willing to express their opinions or share posts with their friends.

Since perceived tie strength could motivate individuals to reply and exchange information on SNSs, the following hypothesis is developed to understand the relationship between tie strength and customer resonance on social networks.

H2a. *The tie strength of a social relation positively affects consumer resonance on SNSs.*

The definition of homophily is the degree to which individuals who interact with others have certain similar characteristics (Rogers & Bhowmik, 1970). Prior research suggests that people and groups are likely to interact with those having the same socio-demographic characteristics such as age, gender, and race (Gilly, Graham, Wolfinbarger, & Yale, 1998), as well as the same attitudes and beliefs (Gremler, Gwinner, & Brown, 2001).

In an online environment, individuals are more likely to communicate and interact with those who share similar attributes (Mouw, 2006; Riegner, 2007; Sheldon, 2008). Therefore, the following hypothesis is developed to describe the relationship between homophily and customer resonance on social networks.

H2b. *Homophily within a social relation positively affects consumer resonance on SNSs.*

Trust is defined as a willingness to rely on an exchange with partners in whom one has confidence (Moorman, Deshpande, & Zaltman, 1993). Morgan and Hunt (1994) also defined trust as the perception of confidence in the exchange partner's reliability and integrity and stated that trust can be seen as an important factor to maintaining successful relationships. In an online virtual community, trust is an essential factor for individuals who take part in exchange messaging to other members (Jarvenpaa, Knoll, & Leidner, 1998) and the most powerful factor to influence consumers' willingness (Duane, O'Reilly, & Andreev, 2014). On SNSs, trust plays an important role in disseminating messages or exchanging information (Ridings, Gefen, & Arinze, 2002). Thus trust is one factor that affects customer-engagement behavior in a customer-based relationship (Kietzmann et al., 2011; Van Doorn et al., 2010).

Individuals on SNSs are relatively invisible rather than face-to-face, making it difficult to directly communicate or share information. As a result, a higher level of trust will lead to a higher level of resonance behavior. We assume that trust can create an open atmosphere in which communication and sharing are more likely to occur. Therefore, the following hypothesis is developed to understand the relationship between trust and customer resonance on social networks.

H2c. *Trust within a social relation positively affects consumer resonance on SNSs.*

Interpersonal influence is an important social factor that affects customer decision making (Chu & Kim, 2011; D'Rozario & Choudhury, 2000; Park & Lessig, 1977). Interpersonal influence could be classified into two dimensions: normative influence and informational influence (Bearden, Netemeyer, & Teel, 1989).

The definition of normative influence is the idea of corresponding to expectations from others, which affects attitudes, norms, and values (Burnkrant & Cousineau, 1975). People who have a high level of normative influence are more likely to correspond to others' expectations and seek others' approval (Chu & Kim, 2011).

In the online environment, Dholakia, Bagozzi, and Pearo (2004) reported that individuals hope to gain acceptance and approval from other members. Many individuals participate in activities to escape their loneliness, find other members who have similar interests, or obtain approval from others (Dholakia et al., 2004). For instance, taking part in YouTube or Facebook could be seen as representing a form of normative influence because users customize their personal pages in order to obtain peer recognition from interacting with other users (Dehghani & Tumer, 2015; Liew, Vaithilingam, & Nair, 2014; Susarla et al., 2012).

Accordingly, we consider that people who refer to a high degree of normative influence tend to communicate, reply, or share information on SNSs in order to be accepted by a society with the same interests. The following hypothesis is developed to understand the relationship between normative influences and customer resonance on social networks.

H2d. *Normative influences of a social relation positively affect consumer resonance on SNSs.*

The definition of informational influence is the tendency to accept information from others and the degree to which an individual is directed to search for topics, products, or brand (Bearden et al., 1989; Deutsch & Gerard, 1955). People who have a high level of informational influence tend to gain more social benefits such as friendship, support, or knowledge in an online environment (Dholakia et al., 2004). In addition, they are more likely to obtain information and useful contacts from others in buying decisions (Chu & Kim, 2011).

According to the above viewpoints, people who refer to a high degree of informational influence tend to communicate, reply, or share information because they want to obtain more useful information from others in social networks. The following hypothesis is developed to understand the relationship between informational influences and customer resonance on social networks.

H2e. *Informational influences of a social relation positively affect consumer resonance on SNSs.*

2.5. Self-presentation gratification

Self-presentation is built as an identity and a social performance so that people can feel more self-assurance and group-respect in a social environment (Jahn & Kunz, 2012). In recent years, social networks have become popular platforms on which people to express themselves. Tufekci (2008) found that many activities on a social network can be seen as a form of self-presentation according to the theory by Goffman (1959). People are willing to talk about certain topics online when those issues present the way they want others to see them or sustain their desired self-image to others in a social network (Kaplan & Haenlein, 2010; Mangold & Faulds, 2009). With the ease of creating a personal page, individuals engaging on the SNSs could be seen as self-expressive to others (Susarla et al., 2012). For example, users who upload videos and make comments could be seen as engaging in a self-image on YouTube (Susarla et al., 2012). We suppose that if people have a strong

intention to intensify their self-image, they communicate through replying to posts, talking more often, or sharing with others. Thus, the following hypothesis is developed:

H3. *Self-presentation positively affects consumer resonance on SNSs.*

2.6. Purchase intention

Purchase intention is a result of pre-purchase satisfaction (Chen, Hsu, & Lin, 2010). In an online environment, consumers could be influenced by information on purchasing decisions (Mangold & Faulds, 2009). Individuals read comments or opinions posted on SNSs before they make a purchase decision (Jin et al., 2009). User clicking the "like" button, replying or sharing posts could imply that they have read information from the post and supported the contents about the products or services. Thus, consumer's intention is critical to predict usage behavior (Zolait, 2014). We consider that people who search and see content with higher volumes of resonance behavior could lead to a higher intention to purchase the product. So the following hypothesis is developed:

H4. Consumer resonance on SNSs *in a social network positively affects purchase intention.*

3. Research methodology

3.1. Research model

The objective of the study is to develop a better understanding of factors that could raise customer resonance while participating in social network activities and the impact on a customer's intention to buy. The conceptual model of this study is based on the uses and gratifications (U&G) theory. We separately use the content construct, the social-relation construct, and self-presentation constructs to develop a model to explore customer resonance and purchase intention. The model is shown in Fig. 1.
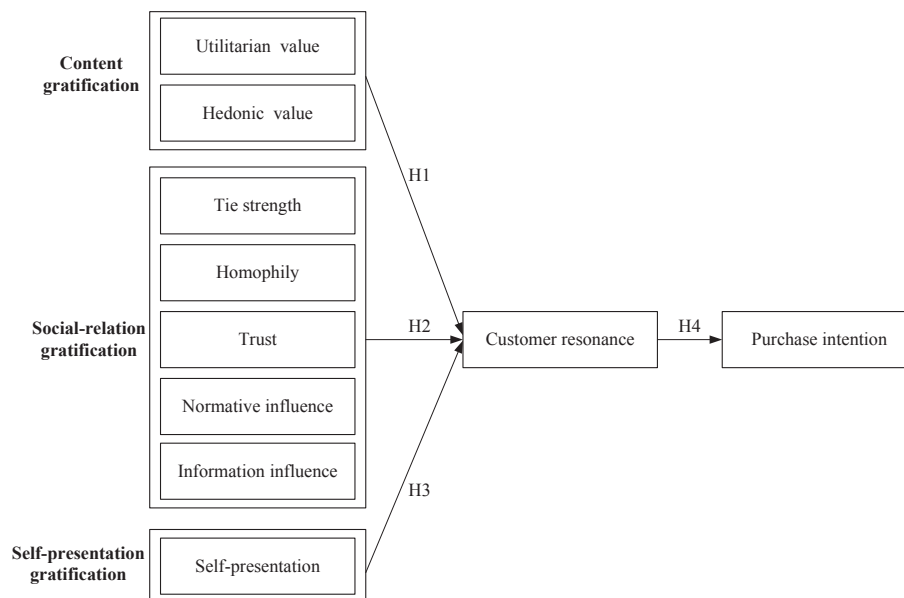
3.2. Measurement development

Questionnaires are developed to evaluate the relationships among different kinds of gratification, customer resonance toward user-generated content (UGC), and purchase intention. We use multi-item scales to test the constructs in our model according to collected data from different SNSs. Each construct is designed by adapting and modifying existing scales to accommodate the research construct. The questionnaire includes six sections. The first section is to collect demographic information. The second section, the measurement scale of utilitarian value (UV) and hedonic value (HV) of content gratification, is adapted from the Jahn and Kunz (2012) as well as those designed by Babin, Darden, and Griffin (1994). Third, for tie strength (TS), homophily (HO), trust (TR), normative influence (NI), and interpersonal influence (II), we adapted from the social-relation conceptual model via the social network from Chu and Kim (2011). Fourth, the self-presentation (SP) gratification scale was adapted from Jahn and Kunz (2012). The fifth section includes items measuring the concept of customer-resonance (CR) which is operationally defined as the behavior of sharing and replying to an online posting on an SNS; the items were developed based on the scale of "quantity of knowledge sharing" from Chiu, Hsu, and Wang (2006) for this study. Finally, the scale of purchase intention (PI) was adapted from Lu, Zhao, and Wang (2010). A small-scale pretest of the questionnaire was conducted with six experts in the field of electronic commerce using their experience to ensure the questionnaire's correctness, ease of understanding, and contextual relevance. Moreover, a pilot test with 36 graduate students was conducted to confirm the measurement properties of the final items. The measures have Cronbach's α exceeding 0.7 for all constructs, and factor loadings of all items were over 0.5, supporting the reliability and validity of the final questionnaire (See the Appendix).

3.3. Survey administration

In order to test the relationship between user gratification factors and consumer resonance, we conducted a quasi-experimental study to collect empirical data about consumer behavior on SNSs,

Fig. 1. Research model.

Table 2
Research design.

Dimensions	Research design
How	Adapting a quasi-experimental method in a virtual lab to disseminate the online SNSs questionnaire
Who	Targeting users who have experiences in using SNSs
Where	SNSs such as Facebook and Mobile 01
When	March to April 2014
Analysis Method	A two-step structural equation modeling approach

and all details are presented in Table 2.

The first step is for choosing the representative SNSs. Out of 20 SNSs in Taiwan, we selected Mobile 01 and Facebook. Mobile 01 is the largest platform in Taiwan that people refer to for product reviews, and Facebook is the largest SNS on which companies post different kinds of products or services information. Moreover, they provide various kinds of functions supporting user behaviors such as "like", "reply." or "share" on the platforms. People can follow other users, make friends, reply to or share messages. Accordingly, we focus on these two SNSs which have been viewed as useful platforms to ensure that customers can interact and communicate based on different needs for social interaction and information sharing.

Second, the study invites users with experience in using the above two SNSs to attend the online survey. We published survey information on Facebook, Mobile 01, and several bulletin board systems (BBSs). To ensure that the participants were consumers contributed to these SNSs, they must join a fan page or have experience in creating content on an SNS. Next, we separately offered different sets of questionnaires for each platform to customers. For each questionnaire, we selected a type of user-generated content such as product news or stories for users to browse and to answer questions on the online questionnaire. We collected the data using the online questionnaire tool Typeform in a virtual lab from March to April 2014. The web-based survey yielded a total of 392 complete and valid responses for subsequent data analysis. Table 3 lists the demographic information of the respondents.

4. Data analysis

A two-step approach of measurement model and structural model was employed to analyze the data as recommended by Anderson and Gerbing (1988). The aim of the two-step approach is to establish the reliability and validity of the measures before assessing the structural relationship of the model. To test the hypotheses postulated in this study, we adapted the variance-based SEM, such as partial least squares (PLS) because the method is appropriate for model prediction and theory development (Hair, Ringle, & Sarstedt, 2011). As the objective of this study is to predict the influences of content gratification, social-relation gratification, and self-presentation gratification on user purchase intention through consumer resonance on SNSs, using the PLS method is appropriate.

4.1. Measurement model

Before testing the hypothesized relationships, we evaluated the adequacy of the measurement model based on the criteria of reliability, convergent validity, and discriminant validity. As for the reliability test, we used composite reliability and Cronbach's α to examine the internal consistency (shown in Table 4), and the values were all above 0.7, indicating that the scale had good reliability (Fornell & Larcker, 1981).

As for the validity test, we tested both the convergent validity and discriminant validity. The convergent validity of the scales was verified by using two criteria suggested by Fornell and Larcker (1981): (1) all cross-factor loadings should exceed 0.7, and (2) the average variance extracted (AVE) by each construct should exceed the variance due to measurement error for that construct (i.e., AVE should exceed 0.5). As shown in Table 5, all items exhibited loading higher than 0.7 on their respective construct, and all AVE values (Table 4) ranged from 0.60 to 0.87, thereby satisfying the criteria of convergent validity.

Next, discriminant validity was confirmed using the following two tests. First, the cross-factor loadings exhibit the pattern that the loading of each measurement item on its assigned latent variable is larger than its loading on any other constructs (Chin, 1998) (see Table 5). Second, the square root of the AVE from a construct is larger than all correlations between the construct and other constructs in the model (Fornell & Larcker, 1981) (see Table 6). In this study, these two test conditions for discriminant validity were met.

4.2. Structural model

In the PLS analysis, we used SmartPLS 2.0 M3 to examine the structural paths and the R-square scores of endogenous variables and assess the explanatory power of a structural model. Bootstrapping of the 392 cases was done with 500 samples for significance testing. Fig. 2 shows the results of the structural path analysis. The path coefficient between consumer resonance on SNSs and purchase intention is 0.59 ($p < 0.001$), and the explained

Table 3
Demographic information of respondents (N = 392).

Measure	Items	Frequency	Percent	Measure	Items	Frequency	Percent
Gender	Male	165	42.1	Education	High School & Below	20	5.1
	Female	227	57.9		College	254	64.8
					Graduate school	118	30.1
SNS Experience (in years)	<1	41	10.4	Age	<21	69	17.6
	1–3	54	13.8		21–30	315	80.3
	3–5	96	24.5		31–40	6	1.6
	5–7	116	29.6		>40	2	0.5
	<7	85	21.7				

Table 4
Descriptive statistics of constructs.

Construct	No. of items	Composite reliability	Cronbach's α	AVE
Content Gratification				
Utilitarian Value (UV)	4	0.89	0.83	0.67
Hedonic Value (HV)	4	0.87	0.79	0.62
Social-Relation Gratification				
Tie Strength (TS)	3	0.94	0.90	0.83
Homophily (HO)	2	0.91	0.86	0.78
Trust (TR)	3	0.95	0.92	0.87
Normative Influence (NI)	3	0.86	0.76	0.67
Informational Influence (II)	3	0.82	0.77	0.60
Self-presentation Gratification				
Self-Presentation (SP)	4	0.86	0.79	0.61
Resonance				
Consumer Resonance (CR)	3	0.86	0.76	0.68
Purchase Intention				
Purchase Intention (PI)	3	0.89	0.81	0.72

Table 5
Confirmatory factor analysis and cross-loadings.

	UV	HV	TS	HO	TR	NI	II	SP	CR	PI
UV1	**0.75**	0.28	0.05	0.26	0.04	0.15	0.19	0.16	0.16	0.31
UV2	**0.83**	0.25	0.12	0.19	0.03	0.11	0.20	0.08	0.22	0.28
UV3	**0.88**	0.22	0.14	0.22	0.07	0.13	0.16	0.15	0.25	0.26
UV4	**0.80**	0.25	0.07	0.26	0.08	0.23	0.11	0.16	0.18	0.30
HV1	0.23	**0.80**	0.06	0.08	−0.04	0.11	0.07	0.05	0.14	0.13
HV2	0.21	**0.83**	0.01	0.20	0.05	0.33	0.10	0.12	0.18	0.24
HV3	0.26	**0.81**	0.00	0.17	0.07	0.30	0.09	0.14	0.15	0.25
HV4	0.25	**0.80**	0.02	0.23	0.08	0.38	0.15	0.16	0.16	0.24
TS1	0.12	0.04	**0.91**	0.13	0.64	0.13	0.20	0.25	0.35	0.13
TS2	0.12	0.01	**0.93**	0.11	0.59	0.16	0.16	0.28	0.34	0.07
TS3	0.09	0.03	**0.91**	0.13	0.64	0.18	0.17	0.24	0.31	0.13
HO1	0.20	0.19	0.15	**0.88**	0.19	0.23	0.14	0.29	0.19	0.24
HO2	0.27	0.19	0.13	**0.89**	0.16	0.21	0.11	0.27	0.16	0.26
HO3	0.26	0.21	0.08	**0.88**	0.17	0.29	0.14	0.30	0.18	0.30
TR1	0.03	0.01	0.62	0.14	**0.92**	0.24	0.16	0.21	0.28	0.15
TR2	0.07	0.06	0.66	0.20	**0.94**	0.28	0.18	0.26	0.31	0.20
TR3	0.09	0.08	0.63	0.20	**0.93**	0.36	0.15	0.25	0.32	0.22
NI1	0.16	0.26	0.19	0.19	0.34	**0.81**	0.27	0.28	0.29	0.27
NI2	0.12	0.30	0.14	0.24	0.25	**0.87**	0.19	0.28	0.30	0.26
NI3	0.18	0.35	0.08	0.26	0.16	**0.78**	0.26	0.21	0.20	0.25
II1	0.14	0.09	0.18	0.08	0.15	0.23	**0.81**	0.11	0.21	0.14
II2	0.16	0.08	0.12	0.15	0.11	0.23	**0.77**	0.15	0.15	0.17
II3	0.18	0.14	0.15	0.13	0.15	0.21	**0.75**	0.09	0.19	0.20
SP1	0.14	0.13	0.34	0.30	0.29	0.19	0.11	**0.78**	0.30	0.27
SP2	0.17	0.07	0.16	0.21	0.12	0.19	0.10	**0.78**	0.25	0.22
SP3	0.07	0.07	0.19	0.22	0.19	0.27	0.10	**0.80**	0.25	0.22
SP4	0.14	0.21	0.18	0.27	0.20	0.36	0.14	**0.76**	0.25	0.22
CR1	0.17	0.16	0.34	0.15	0.26	0.13	0.06	0.24	**0.76**	0.29
CR2	0.18	0.12	0.26	0.14	0.27	0.32	0.22	0.28	**0.84**	0.31
CR3	0.26	0.21	0.30	0.20	0.28	0.34	0.28	0.31	**0.87**	0.37
PI1	0.29	0.15	0.17	0.23	0.19	0.20	0.22	0.27	0.32	**0.81**
PI2	0.30	0.27	−0.01	0.23	0.10	0.30	0.13	0.26	0.31	**0.85**
PI3	0.29	0.28	0.13	0.30	0.23	0.30	0.20	0.24	0.37	**0.88**

Note: Bold numbers indicate item loadings on the assigned constructs.

Table 6
Correlation among constructs and the square root of the AVE.

	UV	HV	TS	HO	TR	NI	II	SP	CR	PI
UV	**0.82**									
HV	0.30	**0.79**								
TS	0.12	0.03	**0.91**							
HO	0.28	0.22	0.14	**0.88**						
TR	0.07	0.06	0.68	0.19	**0.93**					
NI	0.18	0.36	0.17	0.28	0.32	**0.82**				
II	0.20	0.13	0.19	0.15	0.18	0.29	**0.78**			
SP	0.17	0.15	0.28	0.33	0.26	0.32	0.15	**0.78**		
CR	0.25	0.20	0.36	0.20	0.33	0.33	0.24	0.34	**0.82**	
PI	0.35	0.28	0.12	0.30	0.21	0.32	0.22	0.30	0.39	**0.85**

Note: Diagonal elements (in bold) are the square root of the average variance extracted (AVE).

K-means clustering to decide the adequate attributes of clusters for further comparison between the cluster groups. Based on a discriminant analysis, the effectiveness and stability of the results were examined. The results revealed that the correct classification rate was 90%, supporting the acceptableness of the two-step cluster analysis. Thus, the best number of clustering is two, and the clustering results are shown in Table 7.

Next, we used the K-means method to partition the input data set into two clusters according to the results of the hierarchical clustering analysis. We further conducted a t-test to identify characteristics of resonance by different consumer resonance dimensions using mean scores in three resonance-behavior dimensions. As shown in Table 8, cluster A was labeled "high resonance" because consumers are more likely to engage in resonance behavior such as "like," "reply," and "share." Consumers in cluster B are less likely to participate in social behavior and thus labeled "low resonance." In sum, the amount in cluster A (N = 207) is more than the amount in cluster B (N = 185).

Finally, the t-test results demonstrate that consumers in social networks have significant differences in relation to content gratification, social-relation gratification, self-presentation gratification, and purchase intention, and the results, shown in Table 9, indicate that consumers with different resonance exhibit different perceptions and behaviors.

variance for purchase intention (R² = 41%) accounted for by consumer resonance on SNSs is acceptable as well. Thus, the fit of the overall model is acceptable.

4.3. Cluster analysis

To further explore the potential effect of consumer resonance on purchase intention, we employed the two-step cluster analysis method to unfold the customer resonance on SNSs and identify the link between resonance and purchase behavior. First, a hierarchical procedure was formed by Ward's method to decide the best number of clusters based on their distance, followed by subsequent

5. Discussions and implications

SNSs are becoming an increasingly popular medium (e.g., Facebook fan pages) to connect businesses and organizations with their target demographics. However, not all sites are effectively
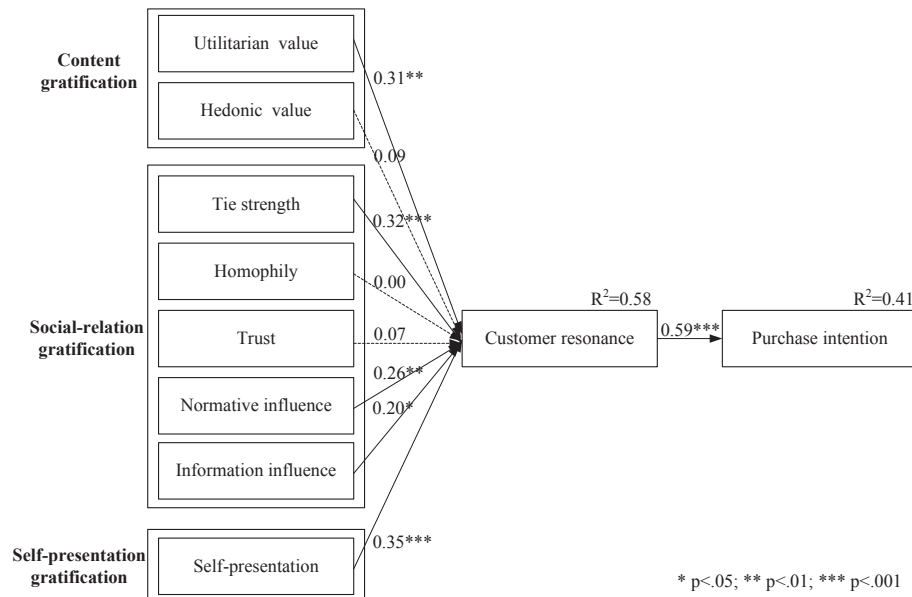
Fig. 2. SEM analysis of the research model.

Table 7
Clustering results by the hierarchical clustering method.

Cluster	1	2	3	4	5
Agglomeration Coefficient	8229.80	7199.15	6768.25	6471.41	6213.42
Change Rate	14.30%	6.36%	4.58%	4.15%	

Table 8
T-test of resonance in dimensions.

Cluster	Factors			Total number
	Like	Reply	Share	
Cluster A	4.2	3.6	4	High Resonance (207)
Cluster B	3.4	2.7	2.9	Low Resonance (185)
T Values	20.8	19.3	23.27	
Difference of Mean	A > B	A > B	A > B	

communicating with their audience. For example, some pages post too much, not enough, or the wrong type of content to engage their fans. Some articulates are posted on social platforms that make users less motivated to respond. Considering these challenges, we can infer multiple implications from the research results for the strategic management of SNSs.

Based on the results shown in Fig. 2 and Table 9, we drew several

findings. First, for content gratification, only utilitarian value ($\beta = 0.31$, $p < 0.01$) positively affects customer resonance (see Fig. 2), supporting H1a. That is, people may spend more time browsing user-generated content for achieving their goals by obtaining useful information (Kim & Park, 2013) and then be more willing to respond to posts and share posts to enrich others' lives. However, the hedonic value of content ($\beta = 0.09$, $p > 0.05$) does not have a significant influence on the resonance moves. The possible explanation is that users' perceived gratifications from articulates on an informational social media sites is to collect information and understand the functionality of the products they go to other sites for hedonic purposes.

With regard to social-relation gratification, tie strength ($\beta = 0.32$, $p < 0.001$), normative influence ($\beta = 0.26$, $p < 0.01$), and information influence ($\beta = 0.20$, $p < 0.05$) positively affect customer resonance, supporting H2a, H2d, and H2e, respectively. As for tie strength, people have more willingness to express resonance behavior such as replying to posts in environments composed of those with strong social ties. With regard to normative influence, it is important to instigate resonance behavior on SNSs because people want to obtain feedback and recommendations from others (Dholakia et al., 2004). Such needs usually dominate our actions, opinions, and decisions. As for informational influence, users often comment on a post in order to obtain more information after resonance has taken place.

However, homophily ($\beta = 0.00$, $p > 0.05$) and trust ($\beta = 0.07$,

Table 9
T-test of two clustered groups on content, social-relation, and self-presentation gratifications and purchase intention.

Cluster	Factors								
	Content gratification		Social-relation gratification					Self-presentation gratification	Purchase intention
	Utilitarian value	Hedonic value	Tie strength	Homophily	Trust	Normative influence	Information influence	Self-presentation	Purchase intention
Cluster A	3.58	4.02	2.19	3.19	3.52	4.09	4.27	3.99	4.10
Cluster B	2.69	3.95	1.23	3.52	3.74	3.58	3.84	3.62	3.42
T values	17	9.3	19.584	−12.05	−11.05	15.516	14.105	13.01	16.006
Difference of Mean	A > B	A > B	A > B	A < B	A < B	A > B	A > B	A > B	A > B

p > 0.05) are not significant influence factors on resonance. These results show that social participants' similar characteristics do not play a key role in motivating the resonance behavior. This kind of behavior was also revealed in Mouw (2006), Riegner (2007), and Sheldon's (2008) study, which indicated that the effect of social capital is "*not much of an improvement over our intuition or anecdotal conviction that it does matter*" (Mouw, 2006). A possible explanation is that individuals are less motivated to show resonance on SNSs with others who are similar because of less peer inspiration and the concern of nonrandom friendship choice, such as competitive relations and privacy issues.

As for trust, although it can create a reliable atmosphere in an online platform, it is not a necessary factor in creating user resonance on an SNS, as it does not involve exchanging benefits between individuals and a post. This is consistent with the finding of Wang and Wei (2011) in which the path coefficient between trust and knowledge sharing is not significant ($\beta = 0.02$, $p > 0.05$). Accordingly, social sellers should foster social ties and leverage social and informational influence through SNSs to enhance higher levels of consumer resonance.

Next, self-presentation gratification ($\beta = 0.35$, $p < 0.001$) positively affects customer resonance, supporting H3. That is, an SNS is another space for users to manage their images. User behavior such as "liking," replying, and sharing may represent their image. For example, people usually show their "likes" to posts related to travel information in order to create an image of themselves as lifestyle connoisseurs. Hence, users on an SNS are not only absorbing useful information about the products they need, but they are also using the platform to build an intended impression about themselves for social value.

Furthermore, customer resonance has a positive effect on purchase intention ($\beta = 0.59$, $p < 0.001$), supporting H4. This is similar with the finding of Jin et al. (2009), which indicates that consumers' purchase decisions could be influenced by posted comments or opinions on an SNS. When people make an effort to resonant in brand communities, they may develop a sense of belonging and engage with the brand (Ouwersloot & Odekerken-Schröder, 2008). According to literature on brand management, consumers on SNSs interact with the brand and experience strong connections with the brand. This, in turn, makes consumers feel emotionally inclined toward the brand, perceiving themselves as part of it and taking further actions of sharing and recommendation (Ouwersloot & Odekerken-Schröder, 2008).

Finally, according to the results in Table 9, we partitioned the data into two clustering groups and found two classifications based on different levels of consumer resonance on SNSs: high and low. That is, these differences appear in the groups' perceptions and consumption behaviors. It appears that "low resonance" consumers with higher homophily ($t = -12.05$, $A < B$) and trust ($t = -11.5$, $A < B$) are more likely to resonate, and "high resonance" consumers are more likely to respond with higher degrees of content gratification and self-presentation gratification. This is aligned with our major findings and social sellers should provide appealing and informative product descriptions and assist users of different kinds of products to manage their self-presentation and image management behaviors, which would lead to improved consumer resonance on SNSs and purchase intention.

6. Research limitations and future recommendations

Although we have tried our best to design and perform this research, several limitations remain. Due to a lack of business resources, we separately explored selected content, respondents, and behavioral-intention measurement to survey the online purchase behavior of consumers. First, the samples of the content were

selected from the SNSs as the basis of this study; however, there are many other different fields of consumer products (e.g., clothing, beverages, automobiles, among others) available in the market. Thus, further research should examine and extend the scope of this study to other distinguished products. Second, the respondents' demographic information should be diverse; however, because of the sampling approach, the respondents are homogeneous. It is important to sample different types of consumers (e.g., rich and poor, young and old). Hence, future research should compare different subject groups to enrich the application of consumer resonance on SNSs. Third, we use consumer resonance on SNSs and purchase intention to measure behavioral intention. Future research should use other measurement methods (e.g., big data analyses) to analyze and predict real consumer behavior, because there are varieties in the resonance results in the real word.

7. Conclusion

Creating consumer resonance on SNSs is a critical task in managing customer relationships and increasing purchase intention. Using a quasi-experimental study method, we explored and examined the antecedents of resonance for the premise of higher purchase intention. The results indicated that the utilitarian value, tie strength, normative influence, information influence, and self-presentation all have significant influence on customer resonance. However, the hedonic value of content, homophily, and trust do not significantly affect customer resonance.

Social media sites have become increasingly important platforms in both business-to-consumer and consumer-to-consumer marketing and have changed user behavior with new ways of interactive communication. It is noted in the study that the level of connectedness a brand can achieve with its customers is characterized by a state of resonance. As consumer resonance on SNSs becomes more important and leads to pre-purchase satisfaction (Chen et al., 2010), social sellers will need to invest in efforts to raise positive social interactions in the community and further leverage the resonance behavior to generate real benefits. This study makes three contributions. First, the study points that consumer resonance on SNSs a critical dependent variable for impression management on on-line businesses. Once the articulated impression stimulated consumer resonance on SNSs and create a reality in customers' perceived view of products users' purchase intention is more likely and can further create iterative enforcement in the virtual community. Second, we extended uses and gratifications theory to the resonance phenomenon to explain that different types of gratification can have different influences on customer resonance on SNSs. The study findings reveal that people with different needs result in different patterns of media usage when resonance occurs. We use the results to reinforce and refine past studies on cognitive and social gratification factors on user behavior on SNSs, which indicate that people take the initiative to resonate more on articulates that provide value to their concerns on platforms of high social influences and enhanced self-presentation functions. Third, the resonance phenomenon observed in this research could affect purchase intention, indicating that increased consumer resonance on SNSs may lead to increased purchase intention. Therefore, a marketer can refer to the research results to organize marketing activities based on different factors to appeal customers' purchase intentions.

Appendix Questionnaire

Scale	Item	Description	Source
Utilitarian Value (UV)	UV1	The content on SNS is useful.	Jahn and Kunz (2012)
	UV2	The content on SNS is beneficial.	
	UV3	The content on SNS is functional.	
	UV4	The content on SNS is practical.	
Hedonic Value (HV)	HV1	The content on SNS is fun.	Jahn and Kunz (2012) and Babin et al. (1994)
	HV2	The content on SNS is exciting.	
	HV3	The content on SNS is pleasant.	
	HV4	The content on SNS is entertaining.	
Tie Strength (TS)	TS1	Approximately how frequently do you communicate with the contacts on your friends list on this SNS? (Never/Very frequently)	Chu and Kim (2011)
	TS2	Overall, how important do you feel about the contacts on your friends list on this SNS? (Not at all important/Very important)	
	TS3	Overall, how close do you feel to the contacts on your friends list on this SNS? (Not at all close/Very close)	
Homophily (HO)		In general, the contacts on my friends list on the SNS:	Chu and Kim (2011)
	HO1	Think like me.	
	HO2	Like me.	
	HO3	Behave like me.	
Trust (TR)	TR1	I trust most contacts on my friends list on the SNS.	Chu and Kim (2011)
	TR2	I have confidence in the contacts on my friends list on the SNS.	
	TR3	I believe in the contacts on my friends list on the SNS.	
Normative Influence (NI)	NI1	When buying products, I generally purchase products that I think others will approve of.	Chu and Kim (2011)
	NI2	I often purchase the products that others buy.	
	NI3	I achieve a sense of belonging by purchasing the same products that others purchase.	
Informational Influence (II)	II1	If I have little experience with a product, I often ask my friends about the product.	Chu and Kim (2011)
	II2	I often consult other people to help choose the best available alternative from a product class.	
	II3	I frequently gather information from a friend or family member about a product before I buy.	
Self-presentation Gratification (SP)	SP1	On this platform, I can make a good impression on others.	Jahn and Kunz (2012)
	SP2	On this platform, I can improve the way I am perceived.	
	SP3	On this platform, I can present who I am to others.	
	SP4	On this platform, I can present who I want to be to others.	
Consumer Resonance (CR)	CR1	After reading the post on SNS, I will press the "like" button to approve it.	Chiu et al. (2006) and this study
	CR2	After reading the post on SNS, I will reply to the article to comment on it.	
	CR3	After reading the post on SNS, I will share the article with my friends.	
Purchase Intention (PI)	PI1	Given the chance, I would consider purchasing products in the future.	Lu et al. (2010)
	PI2	It is likely that I will actually purchase products in the near future.	
	PI3	Given the opportunity, I intend to purchase products.	

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