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**Author(s):** Shaikh, Aijaz A.; Glavee-Geo, Richard; Tudor, Adina-Gabriela; Zheng, Chen; Karjaluoto, Heikki

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## **Social network brand visibility (SNBV): Conceptualization and empirical evidence**

### **Abstract**

Social media has become a new way of life that allows for real-time interaction among businesses (B2B) and consumers (P2P/C2C) as well as between business firms and consumers (B2C). Customers are increasingly accessing and using social networking sites (SNS), making it imperative for businesses and organizations to have a presence on these platforms to enhance visibility. The main purpose of this chapter is to provoke an agenda on the study of social network brand visibility (SNBV). We developed and proposed a definition of SNBV and report findings from a preliminary study. We further discuss implications for theory, research, and practice as well as the limitations and options for future research.

**Keywords:** Social media, branding, visibility, digital marketing, global implications

## **INTRODUCTION**

Recent market trends have suggested that innovative and highly interactive social media platforms are increasingly becoming an integral part of consumer lifestyles. The power of social media resulted in the tremendous success of Pokémon Go in 2016 (Wu, 2017). The time that consumers spend on social media is constantly increasing; therefore, the impact of social media on consumers' lifestyles and businesses cannot be underestimated. Capgemini (2014) revealed that the social media user base is expected to increase from 1.47 billion in 2012 to 2.55 billion in 2017. Popular social media platforms include YouTube, Facebook, Twitter, LinkedIn, Snapchat, Instagram, and the recently introduced Musical.ly. Access to these platforms has become more common due to the advent and proliferation of portable devices, including smartphones and tablets. According to Asano (2017), more than 60% of consumers' social media time is facilitated by a mobile device. Others (e.g., Agnihotri et al., 2016) have argued that the accessibility of products, services and information on social media is higher than ever. As a result, both present and prospective customers are becoming better connected to companies, more knowledgeable about products and/or service selections, and more powerful in buyer-seller relationships (Agnihotri et al., 2016).

Confronted with an increasingly competitive global market and the expanding use of social media in everyday life, global technological firms (hi-tech) now seek to enhance their brands through carefully defined content strategy that includes not only producing quality products but also having an active presence on interactive social media. It is widely believed that this content strategy is primarily geared toward creating a unique image for brands online, with the underlying objective being to stimulate product demand from different consumer segments globally. It is now considered imperative for marketing and digital managers to know what is being said about their services, products, and/or brands in general on social media, which constitutes four major domains: collaborative projects, micro-blogs, content communities, and social networking sites (Reyneke, Pitt, & Berthon, 2011; Duane & O'Reilly, 2012). These important views, comments, and other information that is posted

give brand managers a valuable indication of their brands' "visibility" on social media.

Nonetheless, no previous literature has commented on what social network brand visibility is, its dimensionality, and how it can be measured. Regarding technology-based products, such as smartphones, personal computers, laptops, and tablets, consumers require product knowledge to make informed purchase decisions. Additionally, for brands to achieve high visibility globally, they require an online social media presence/platform (Michaelidou, Siamagka, & Christodoulides, 2011; Kim & Ko, 2012; McCarthy et al., 2014), which will provide a medium in terms of SNS for the exchange of information both within and between the brand and the community of users (Callarisa et al., 2012; Gil de Zúñiga, Jung, & Valenzuela, 2012; Kaplan, 2012; Wang, Yu, & Wei, 2012).

Social media marketing should be focused on entertainment, interactions, and electronic word-of-mouth (eWOM) communication (Hoffman & Fodor, 2010; Kaplan, 2012; Kim & Ko, 2012). Thus, increased interactions on SNS provide opportunities for learning about the brand, understanding product features/attributes, and enhancing brand awareness regarding brand recall and recognition (Brown, Broderick, & Lee, 2007; Chua & Banerjee, 2013). The purpose of this chapter is to synthesize the social network marketing literature, define, develop, and show how SNBV is measured, and offer key insights into SNBV, which is a "shifting paradigm" for global branding and marketing. Moreover, this chapter seeks to conceptualize SNBV and to empirically test its effects. To the best of our knowledge, only a few studies have examined the presence of brands on SNS in terms of their visibility. However, even fewer have stressed the importance of advertising in brand awareness (e.g., Buil, Chernatony, & Martinez, 2013), the influence of eWOM in consumer product judgment (Lee & Youn, 2009), and, quite recently, social media brand building (Cawsey & Rowley, 2016).

Visibility is an important aspect of the communication channel strategy, and it is vital to the development and implementation of brand strategy (Chen, 2011). Our study departs from that of Reyneke, Pitt, and Berthon (2011), where visibility was assessed via third-party online data gathering

platforms by using an algorithm (e.g., howsociable.com). We sought to measure SNBV from the perspective of either individuals or key informants using a psychometric method. The implications of this study will not only contribute to theory development but also be of practical use to social network marketers, search engine optimizers, and user-generated content providers in assessing the impact of SNS. Our explication and exposition of the mechanisms of SNBV and its effects/outcomes will provide increased understanding and knowledge to digital marketers on how best to overcome the challenges posed by social media and how best to conceive, formulate, and implement global brand building and marketing strategies based on the concepts, findings, and suggestions in this chapter.

Next, we provide a review of the literature on social media, branding, and visibility and develop a working definition for the concept SNBV. This is followed by the hypotheses, methods, results, and discussion. We conclude with limitations and further research.

### **The concept and definition of online social network brand visibility**

Social media platforms facilitate interactions, collaborations, and the sharing of content, including images, audio, and videos both between and among users. The attribute of interactivity as reciprocal interpersonal communication (Liu & Shrum, 2009) is one of the key characteristics of social media because it allows individuals to interact with various people, organizations, and online communities, who share their interests and activities across political, socio-economic, and geographical barriers (Kim & Kim, 2017).

A recent study found that 70% of consumers have visited SNS to get information about a certain product or service, with 49% of these consumers having made a purchase decision based on the information they found on social media and 60% reporting that they were very likely to use SNS to share information as well as make referrals to others. In addition, 45% of those who searched for information through SNS engaged in information sharing by word of mouth (Kim & Ko, 2012). In another study, Michaelidou, Siamagka, and Christodoulides (2011) reported that 93% of social media users believed that companies should have a social media presence, while 85% believed that companies

should interact with customers via interactive social media channels. In view of these consumer expectations, most companies have “invaded” SNS and have offered direct links from their corporate websites to Facebook, Twitter, LinkedIn, YouTube, Google+, Pinterest, Tumblr, Flickr, and Instagram. These social websites are now commonly used as promotional tools in support of brand communities (Kaplan & Haenlein, 2010). Therefore, it is quite likely that lacking visibility on social media will lead to serious consequences, and companies will not be able to effectively reach out to existing and potential customers as part of their online marketing communication strategy.

As argued by Mangold and Faulds (2009:360), consumers are turning away from traditional advertising methods, such as radio, television, magazines, and newspapers, and demanding more control over their media consumption. Moreover, consumers require on-demand and immediate access to information. In summary, unlike traditional media platforms, social media provides greater user interactivity. Moreover, brand content (“like,” “shares,” and “comments”) is generally transmitted at a quicker rate and to a much larger, more responsive, and more engaged audience than most traditional media; however, the cost is much lower (Qualman, 2013). Digital marketers are making use of SNS as an indispensable part of their online brand strategy by raising brand awareness, driving engagement, and increasing conversion rates of brands and products (Phua, Jin, & Kim, 2017). Table 1 presents a summary of past literature on social network brand visibility.

[Insert Table 1 here]

High visibility is a necessary condition for maximum impact, and it is an important prerequisite for effective communication and the creation of brand awareness. International and global firms are likely to tailor their marketing communication strategies due to the competitive nature of the global market (Wong & Merrilees, 2008). Additionally, the global market’s changing dynamics dictate an integrated approach to marketing communication; thus, a move to integrated marketing communication represents an adaptation to the changing global market environment (Chen, 2011). Integrated marketing communication requires the integration of online, offline, and traditional channels. Here, social media

marketing, which is an Internet-based communication channel, is an important source that “closes the gap” between the online, offline, and traditional media/channels. Broadly speaking, we define social network visibility as the degree of exposure a brand, product, service, and/or cause receives on SNS, with the purpose of creating awareness, knowledge, information, and value to build meaningful relationships with existing and potential customers, including communities.

In addition to products, services, brands, and/or causes (in the case of not-for-profit organizations), social network visibility can also be applied to political organizations, figures, and politicians. Thus, a product, a service, an individual or an organization that is supplanted in a social networking site, either for exposure in the form of review, viral communication, to establish a relationship, to engage, to communicate, to inform, to elicit support, to provide funding for a cause, or to change social behavior, can be gauged by the extent of its visibility. Naturally, online social network visibility can create either a favorable (positive) or an unfavorable (negative) disposition to either the brand, object, individual, product, or service. However, in the present chapter, we have limited this exploratory study to SNBV regarding the brands of a tangible product (laptop), which has service elements that either are or may be intangible, variable, inseparable, and/or perishable.

We conceptualized social network brand visibility to consist of various dimensions. The first conceptualization (see Appendix 1) of SNBV consist of six dimensions. Table 2 shows both the SNBV dimensions and definitions.

[Insert Table 2 here]

We propose that SNBV can have various dimensions in its assessment, depending on the number of these. Previous studies operationalized brand visibility using only one dimension (e.g. Chen, 2011; Vianna et al., 2016). In the present study, we empirically test the four-dimensional SNBV, as shown in Figure 1.

[Insert Figure 1 here]

Additionally, we propose that SNBV can have either a positive or a negative influence on one or more relationship variables. For example, an increase in SNBV can lead to an increase in trust, commitment, purchase intention, cooperation, and brand image among other relationship variables (see Figure 2); while an increase in SNBV can also lead to a reduction in conflict and unethical behaviors between interacting businesses (B2B), a company and its customers (B2C), and among either individual consumers (C2C) or peers (P2P). Figure 2 shows the SNBV-relationship variables framework.

[Insert Figure 2 here]

### **Country of origin image and product evaluation**

Country of origin (COO) is considered as the country (or home country) with which a manufacturer's product or brand is associated (Wang & Yang, 2008). As a multidimensional construct, COO has been further defined to include country of design, country of assembly, country of brand, country of parts, and country of corporate ownership (Pharr, 2005). More than 20 years ago, many products were "made in Taiwan," which conjured positive perceptions of quality similar to the highly-positive perceptions of "made in Japan" in the technology sector. However, 20 years later, the global outlook has radically changed, making it difficult to predict the nature and pace of societal changes (Futurebrand, 2014). The widespread growth and usage of the Internet as a medium for both buying and selling products has fundamentally affected many products' availability and distribution as well as their manufacturing, labelling, and promotion processes (Pharr, 2005).

COO has been studied extensively as an extrinsic marketing cue since the 1960s, and its effect on consumers' product evaluations has long been established in the literature. However, globalization has made the assessment of COO increasingly complex (Veale & Quester, 2009). In today's globalized markets, a product can be designed in one country and have its components sourced from other countries, while manufacturing can be outsourced to either one or more manufacturers in either one or



more countries anywhere in the world. For example, the iPad and the MacBook are designed in California (US) but manufactured in China (Minasians, 2017). Consumers often use COO stereotypes to evaluate a product's quality. Consumers form opinions of quality through the evaluation of both intrinsic and extrinsic product cues (Bredahl, 2003). Therefore, COO has the power to arouse consumers' beliefs about product attributes and hence affect their evaluation of products (Veale & Quester, 2009).

## **Hypotheses**

### *Social network brand visibility (SNBV) and purchase intention*

Using social media has become a collective social action and a part of daily life for the consumer (Chang & Hsu, 2016). A growing body of evidence suggests that the opinions and reviews posted on social media influence consumers' purchase decisions (Shang et al., 2017). Therefore, a growing number of review and opinion sites allow consumers to make informed decisions based on information provided by other consumers who have had experience with either the product, company, brand, or customer care (Karakaya & Barnes, 2010). Negative online consumer reviews result in negative consumer product attitudes due to the conformity effect (Lee, Park, & Han, 2008; Karakaya & Barnes, 2010). Thus, SNS are considered to have positive and yet also many negative aspects, such as an unhappy customer posting his/her service failure experiences online as revenge (Zhuang et al., 2013).

However, positive social media communication among potential, current, and former customers about either a product or a firm can enhance brand awareness, while negative communication could negatively affect the brand. A brand name provides memory nodes in consumers' minds; a positive brand attitude over time creates a strong emotional association with that brand. For consumers, awareness of a brand implies learning and formation of an attitude about the brand and hence a strong emotional attachment, which leads to brand loyalty. Consumers must be aware of a brand to prefer it, and social media can provide that awareness. Therefore, visibility on social media should stimulate purchase intention. Vianna et al. (2016) found significant positive

associations between brand visibility and purchase intention in the context of viral marketing and online advertising. Hence, we hypothesize the following:

**H1:** SNBV is positively associated with purchase intention.

### **Conceptual model A**

For validation in the present study, SNBV was conceptualized and operationalized as a higher-order, four-dimensional construct that consists of social media presence, brand awareness, value equity (product quality), and product knowledge. SNBV is subsequently hypothesized to be positively associated with purchase intention. Figure 3 shows conceptual model A.

[Insert Figure 3 about here]

#### *Social media presence (SMP) and product knowledge*

Global technology companies are now increasingly initiating product support interactions via proactive chat, click-to-talk, short message service (SMS), and web-based social media. Most of these firms have developed and established multichannel means of contacting current and potential customers via online communities and social media. As argued earlier, in view of the dual nature of social media, most technological companies have deployed resources in the form of social media analytics to both guard and moderate their online content using text analytics. These analytic tools flag abusive language, spam, and derogatory content and identify expert users and/or the most qualified customers to provide the most credible information to others (Genpact, 2014).

The provision of product support-related services on social media to both current and potential customers is expected to enhance product knowledge. Here, product knowledge refers to both general and product specific knowledge that customers have about the functional characteristics of the product and/or brand. Product knowledge can also be defined as product-related information that is stored in the memory, such as information about brands, products, attributes, evaluations, decision heuristics, and usage situations (Marks & Olson, 1981; Selnes & Grønhaug, 1986). Product knowledge involves

either customers' familiarity with the product or having the expertise to process product-related information through learning and understanding. Occasionally, consumers are not able to evaluate all the characteristics of a product before purchase, and sometimes they must manage with limited knowledge. The use of tailor-made video content on YouTube can provide product-related information to customers, such as how to either troubleshoot or fix software-related problems for either a smartphone or laptop/PC; to introduce a new product; to explain product features; and how to either operate or use the product. The streaming of videos on Facebook and Twitter, among other SNS, has recently become a popular and common feature. These videos quickly communicate information and knowledge to online social media users and communities.

However, not all the information provided on these SNS originates from the companies; much of it is user generated, while some also stems from third parties. Thus, SNS have the dual role of providing product information and recommendations (Chatterjee, 2001), which are important for the consumer decision-making process. Lin and Chen (2006) claim that product knowledge enhances consumer purchase decisions under different product involvement. Therefore, we hypothesize the following:

**H2:** SMP is positively associated with product knowledge.

### *Brand awareness, product knowledge, and purchase intention*

Brand awareness is the customer's ability to recognize and recall a brand under different conditions and time pressures (Aaker, 1991). Macdonald and Sharp (2000) argued that when a customer chooses a product, there is a strong tendency to choose a well-known brand instead of an unknown brand. Brand is an important antecedent for a consumer's purchase intention (Wang & Yang, 2008). Consumers are not able to evaluate all characteristics of a product before they purchase; therefore, they often must judge by their pre-purchase evaluation (Rezvani et al., 2012). The term knowledge can best be understood as being created through human interaction with information (Davenport & Prusak, 1998). Nonaka and Takeuchi (1995) suggested that knowledge is a dynamic human process of

justifying a personal belief toward the truth through the two types of knowledge: *tacit* (personal knowledge) and *explicit* (expressed in words, databases, patents, reports, and documents).

Rezvani et al.'s (2012) study suggested that consumers' attitudes would be more persistent and less affected by country of origin cues over time if they had high product knowledge and the motivation to process product-related information to inform their purchase decisions. The lack of product knowledge decreases the consumer's purchasing intention. If the consumer has never used the product before purchasing the item, there is no "familiarity" in terms of product knowledge. Consumers that have greater knowledge of a product/brand are expected to include that product/brand in their consideration set. Product knowledge is therefore expected to increase consumer purchase intention.

In view of the above, we hypothesize the following:

**H3:** Brand awareness is positively associated with product knowledge.

**H4:** Product knowledge is positively associated with purchase intention.

#### *Product quality, brand awareness, and purchase intention*

A product's ability to fulfill a need relates to its distinctive characteristics and/or attributes, which indicate quality. The expectation that a product can fulfill the stated need is a strong motivation for a consumer to purchase that product. Quality attributes include both the functional and psychological benefits that are provided by the product; they represent what the product is perceived to either do or provide to the consumer (Steenkamp, 1990). Expected quality is believed to be one of the most important influencers of consumers' intention to purchase. Based on a study by Papanagiotou et al. (2013), quality expectations relate to intention to buy.

One of the key influencers of the perceived quality of a brand is brand awareness (Aaker, 1996; Keller & Lehman, 2003) because consumers assign high credibility to prestigious brands due to a lower perceived functional risk. One of the elements that most strongly conditions the perception of a product's quality is the brand name. Many consumers relate recognized brand names to high

quality (Rubio, Oubina & Villasenor, 2014). Brand awareness provides a kind of learning advantage for the brand (Keller, 2008), and brands that consumers know are more likely to be included in the consumers' consideration set (Schiffman, Kanuk & Hansen, 2012). Therefore, quality products are more likely to create a strong brand image for the product and enhance brand awareness. Such products are more likely to be considered for purchase. Thus, we developed the following hypotheses:

**H5:** Product quality is positively associated with brand awareness.

**H6:** Product quality is positively associated with purchase intention.

### **Conceptual model B**

We developed a second research model for estimation using the individual sub-constructs of the four-dimensional SNBV based on hypotheses (H2–H6). We hypothesize the following: the SMP of a brand should lead to product knowledge (H2); brand awareness should lead to product knowledge (H3); and product knowledge should be positively related to purchase intention (H4). Value equity, when operationalized as product quality, should lead to brand awareness (H5) and purchase intention (H6). Figure 4 shows conceptual model B.

[Insert Figure 4 about here]

## **METHODS**

### **Procedure for developing the study's measures**

We followed Churchill's (1979) procedure to develop the necessary study measures, with some adaptation. Thus, due to time constraints, we used the 'single-phase data collection approach' (see Appendix 3). Because the concept of SNBV is new, we reviewed the literature using key words such as "visibility," "brand visibility," "social media," "online marketing," "branding," "product evaluation," "product knowledge," "purchase intention," and "online interactions." This first step helped in specifying the domain of the construct of SNBV and the development of a working

definition. Based on the literature review, we generated a sample of items, some of which were validated scales that were adapted for the study. However, most of the survey items were adapted from previous research, and a few new questions were developed (e.g., social media presence measures). The sources and other information about the survey instrument are summarized in Table 3. Country of origin image (COOI) measures were adapted from Martin and Eroglu (1993); purchase intention scales were adapted from Taylor and Baker (1994); value equity-product quality measures were adapted from Lichtenstein, Ridgway, and Netemeyer (1993); brand awareness measures were developed based on Aaker (1996); and product knowledge measures were developed based on Mark and Olson (1981). All items were anchored in a seven-point Likert scale, from one, “strongly disagree” to seven, “strongly agree.”

[Insert Table 3 about here]

### **Data gathering**

The data source consisted of an online survey among former Aalesund University College students who had attended prior to the merger with the Norwegian University of Science and Technology. SNS offer college students the opportunity to connect with friends, family members, and even strangers to engage in social interactions and access information for academic use, such as e-learning. Most users of SNS are young people, with the majority being students of higher education. College students make use of personal computers in their academic work, and hence have some basic requirements in terms of products' attributes and functionality.

The proliferation of several PC brands means that college students, as current and potential customers, have many brands from which to choose. However, not all available brands will be included in the consideration set of college students; therefore, this study presents an interesting context for research. In total, 122 responses out of a targeted 3,000 students—a response rate of 4%—were obtained. Online surveys usually have low response rates, so 4% is not an uncommon result (Fan & Yan, 2010). The sample consisted of 49.1% males and 50.8% females. The majority (84.43%) were

between 19 and 30 years of age. Close to 50% of the respondents earned from 5,000 to 10,000 Norwegian Kroner (NOK) monthly, with 10.7% earning above 20,000 NOK. The demographic characteristics of the sample are presented in Table 4.

[Insert Table 4 about here]

### **Measure validation and data analysis**

As part of the measures purification process (see Appendix 3), we first evaluated the psychometric properties of the measures by performing an exploratory factor analysis with Varimax rotation. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.796 and Bartlett's test of Sphericity was significant at the 0.0001 level, indicating that the data matrix was sufficiently correlated for further analysis. Second, we conducted a confirmatory factor analysis (CFA) using a maximum likelihood estimator in IBM SPSS/AMOS 24 (Arbuckle, 2016). This yielded a relatively adequate fit of the model to the data (Chi-square  $\chi^2 = 447.53$ ,  $df=303$ ,  $p=.000$ ,  $\chi^2/df=1.48$ ; SRMR=0.078, RMSEA=0.063, 90% CI: 0.050, 0.075; CFI=0.924, TLI=0.912). The assessment of the measurement model, where all the items were loaded on the designated factor with no cross-loadings, demonstrated both convergent and discriminant validity.

The average variance extracted (AVE) of all the constructs were above the recommended threshold of 0.50 (Fornell & Larker, 1981; Hair et al., 2009), which indicated good convergent validity. The AVE of both COOI and the value equity-product quality were 0.51 and 0.70, respectively. The correlation between these two constructs, as shown in Table 5, was 0.48. The square of the correlation between these two constructs was 0.23. The AVE of each construct was greater than the squared correlation between the constructs, which further demonstrated discriminant validity. An examination of the AVEs of other pairs of constructs and their squared multiple correlation demonstrated discriminant validity between the constructs. The Cronbach alpha

of all the constructs was above the minimum threshold of 0.70. (Nunnally, 1978; Hair et al., 2009). Table 5 shows the correlation matrix with a reliability estimate (Cronbach's alpha) and the AVE.

[Insert Table 5 about here]

### **Common method variance**

Harman's single factor test was used to assess common method variance (CMV), which is present when either a single factor accounts for the factor analysis or one general factor accounts for the majority (Podsakoff, MacKenzie, & Podsakoff, 2003.). The exploratory factor analysis, which was conducted with an unrotated factor solution, produced six factors, with the largest factor accounting for 27% of the total variance. An alternative analysis of CMV using CFA (Malhotra, Kim, & Patil, 2006), where all observed items were modeled as indicators of a single factor, yielded an unsatisfactory model fit (Chi-square  $\chi^2 = 545.42$ ,  $df=282$ ,  $p=0.000$ ,  $SRMR=0.082$ ,  $RMSEA=0.088$ , 90% CI: 0.077, 0.099;  $CFI=0.852$ ,  $TLI=0.829$ ), which further supported the claim that CMV is not a potential influencing factor.

## **RESULTS**

### **Evaluation of higher-order four-dimensional SNBV and conceptual model A**

SNBV was both conceptualized and operationalized as a higher-order four-dimensional construct (recall Figure 3) that includes social media presence, brand awareness, value equity (product quality), and product knowledge. The validation of higher-order four-dimensional SNBV was conducted via IBM SPSS/AMOS 24 (Arbuckle, 2016). Although the model fit was adequate (Chi-square  $\chi^2= 104.59$ ,  $df=72$ ,  $p=0.000$ , Chi-square  $\chi^2/df=1.45$ ;  $RMR=0.222$ ,  $RMSEA=0.062$ , 90% CI: 0.046, 0.077;  $CFI=0.963$ ,  $TLI=0.953$ ), the sub-construct social media presence was not as highly related to SNBV ( $r=0.02$ ) as expected. The other three sub-constructs were highly related to SNBV [brand awareness ( $r=0.95$ ), value equity ( $r=0.62$ ), and product knowledge ( $r=0.55$ )]. Appendix 2 shows the results of the evaluation of the four-dimensional SNBV, which was re-specified as a three-dimensional SNBV and



estimated. Table 6 shows the results of the three-dimensional SNBV with first- and second-order loadings.

[Insert Table 6 about here]

Subsequently, conceptual model A with respecification as a three-dimensional SNBV with nomological structural relations with both COOI and purchase intention was estimated to test H1. That estimation yielded a more adequate fit (Chi-square  $\chi^2= 288.99$ ,  $df=197$ ,  $p=0.000$ , Chi-square  $\chi^2/df=1.47$ ;  $RMR=0.178$ ,  $RMSEA=0.062$ , 90% CI: 0.046, 0.077;  $CFI=0.942$ ,  $TLI=0.933$ ). Figure 5 shows the results of the structural model with second-order loadings, while Table 7 shows the results of testing H1.

[Insert Figure 5 about here]

[Insert Table 7 about here]

H1, which hypothesizes a positive association between SNBV and purchase intention, is supported ( $\beta=0.86$ ,  $p<0.001$ ,  $t=3.89$ ) with the  $R^2$  of purchase intention 0.71. Thus, SNBV has a very strong impact on purchase intention. SNBV was also found to have a significant positive effect on COOI ( $\beta=0.50$ ,  $p<0.01$ ,  $t=3.10$ ). No support was found for the effect of country of origin on purchase intention ( $\beta=-0.05$ ,  $p>0.05$ ).

### **Evaluation of conceptual model B**

To test the hypotheses that are based on conceptual model B (recall Figure 4), we estimated the structural model using a maximum likelihood estimator in IBM SPSS/AMOS 24 (Arbuckle, 2016). Results yielded a relatively adequate fit of the model to the data (Chi-square  $\chi^2= 449.57$ ,  $df=308$ ,  $p=0.000$ ,  $\chi^2/df=1.46$ ;  $SRMR=0.083$ ,  $RMSEA=0.062$ , 90% CI: 0.049, 0.074;  $CFI=0.925$ ,  $TLI=0.915$ ). An examination of the fit indices, including the ratio of chi-square to degree of freedom, yielded 1.46; a recommended ratio of chi-square to degree of freedom of less than three is considered

acceptable (Schreiber et al., 2006). Standardized root mean square residual (SRMR) and root mean square error of approximation (RMSEA) were 0.083 and 0.062, respectively. Comparative fit index (CFI) and Tucker-Lewis index (TLI) were 0.925 and 0.915, respectively. Values of CFI and TLI that were close to 0.95 or greater were considered indicative of a well-fitting model (Iacobucci, 2010; Kline 2016). Figure 6 and Table 8 show the results of the structural model and the testing of the hypotheses.

[Insert Figure 6 about here]

[Insert Table 8 about here]

The data support H2 and H4 at a 0.05 significance level. Hence, SMP has a significant effect on product knowledge ( $\beta=0.23$ ,  $p<0.05$ ,  $t=2.27$ ), while product knowledge has a significant influence on purchase intention ( $\beta=0.26$ ,  $p<0.05$ ,  $t=2.50$ ). We found support for hypotheses H3, H5, and H6 at a 0.001 significance level. Brand awareness has a significant influence on product knowledge ( $\beta=0.54$ ,  $p<0.001$ ,  $t=3.41$ ), while value equity in terms of product quality has a significant effect on brand awareness ( $\beta=0.60$ ,  $p<0.001$ ,  $t=5.56$ ). The hypothesized relationship between value equity-product quality and purchase intention ( $\beta= 0.61$ ,  $p<0.001$ ,  $t=4.96$ ) was also supported by this study.

The squared multiple correlation  $R^2$ , which indicates the explanatory power of the model, showed that 55% of the variation in consumer purchase intention was explained by product knowledge, value equity-product quality, social media presence, and COOI. The extent to which COOI serves as an extrinsic cue of value equity-product quality was 23% while variation in the endogenous variable brand awareness was as much as 37% of value equity-product quality and social media presence.

## **DISCUSSION**

In this chapter, we sought to provoke an agenda on the study of SNBV by reviewing the literature

extensively on social media, proposing a definition of SNBV, and reporting findings of a preliminary study. We conceptualized SNBV as related to six key dimensions: social media presence, brand awareness, value equity, knowledge, social media marketing, and information exchange. We operationalized as well as examined a four-dimensional SNBV, and the results showed validity for a three-dimensional SNBV. Through an empirical demonstration, we showed that SNBV can be measured psychometrically, and we found that it is a significant driver of purchase intention. Additionally, we evaluated how the individual dimensions of SNBV can influence each other in a more “rich” nomological structure and found that COOI (an extrinsic cue for product evaluation) predicts value equity (in terms of product quality), which in turn predicts brand awareness.

Brand awareness was found to be a significant predictor of product knowledge, while product knowledge was also shown to be a significant predictor of purchase intention. The presence of a brand on social media is key in knowledge creation. This study was carried out using a hi-tech product (a personal computer); therefore, we propose that for technological firms to stay competitive in today’s turbulent PC market, in view of short product lifecycles, increasing changes in preferences of consumers, and the globalization of the PC markets, those firms should engage consumers and potential customers through digital marketing by using social networking. E-commerce has created a paradigm shift in the way business is conducted and has been responsible for blurring national borders through the expansion of businesses into far-flung areas of the globe without the associated costs (Agarwal & Wu, 2015).

The authors contend that social media has an important role to play in E-commerce. The E-commerce revolution has occurred not only in developed countries but has spread to emerging economies, such as Brazil, Russia, India, and China, and presents new opportunities to companies to do business on a global scale. Therefore, social networks provide important opportunities for businesses to interact and engage with their customers anywhere in the world. China’s entry into the WTO and its impact on trade and global marketing has been the focus of previous studies (e.g., Agarwal & Wu, 2004). China, with an Internet user population of approximately 650 million and censorship laws prohibiting its

citizens from participating in the dominant SNS (e.g., Facebook), led to the creation of the country's own social platforms and networks (Spencer, 2017), such as Tencent Weibo, QZone, Sina Weibo, and Wechat, which each have a user base that exceeds half a billion.

International and global brands have focused large shares of their digital marketing budgets on ads, content, and promotions across the “major” social networks, such as Facebook and Twitter. However, there is still a valuable opportunity to connect with Chinese consumers through Chinese SNS platforms. Internet users in China spend five to six more hours on average online per week than Americans and almost 90 minutes per day on social networks. It is estimated that 38% of Chinese consumers make product purchase decisions based on recommendations that they read on social networks. Therefore, businesses must engage these users wherever possible (Spencer, 2017). Social media tools are critical in generating viral effects, consumer evangelism, and positive WOM advocacy (Järvinen et al., 2012). Thus, social media is an indispensable tool that companies must implement, especially if they want to stay competitive in today's global marketplace.

In line with these predictions, previous research (e.g., Shang, Wu, & Sie, 2017) has suggested that Internet-based opinions that are generated and posted on social media channels influence consumers' purchasing decisions. Most authors (e.g., Karakaya & Barnes, 2010) are of the view that reviews and opinion sites online lead consumers to make informed decisions based on other consumers' experiences with either the product, company, brand, or a customer service department. Although it is debatable whether the mere presence of brands on social media gives some level of awareness, this chapter has shown the positive role of awareness in enhancing product knowledge. The streaming of videos on YouTube, the use of online chats, and the pursuit of “likes” on Facebook, among other social networking and online activities, create the opportunity for both current and potential customers to learn about a brand as well as interact with it.

Social media provides product information and recommendations that enhance the consumer decision-making process and thus influence consumer purchase intentions. The causal relationship between

COOI and product quality has been established by past research (e.g., Zeugner-Roth & Diamantopoulos, 2010), while its link with purchase intention has also been studied extensively (Zeugner-Roth & Diamantopoulos, 2010). This study provides further support for the role that COOI plays in product evaluation; it is a sign of quality perception that helps consumers make purchase decisions. Consumers' willingness to purchase a product depends not only on how they feel about the product but also on how much they know about it. Thus, quality products enhance brand awareness, which explains the saying "a quality product sells itself." Value, in terms of quality products, creates strong brand recognition and recall; thus, it helps in the processing of product-related information and knowledge.

## **CONCLUSION**

### **Implications for theory, research, and practice**

One of our key contributions is the agenda for research on social network brand visibility. Specifically, we have developed a working definition for SNBV as well as conceptualized and operationalized the construct, although at an exploratory level. Therefore, this calls for more research on how visibility can be measured psychometrically. We have provided some direction to that effect in this chapter, which is available to scholars. Secondly, consumers' perceptions of the importance of either a product, brand, or an organization on SNS and how they process information from these sites can influence their attitudes regarding their willingness to purchase. The willingness to purchase a technological product, such as a PC, is strongly influenced by how much consumers know about the product and what they feel are important product quality features and/or attributes from where the product originates.

Hence, international and global firms must look beyond their borders and develop marketing and promotional programs for global markets. The optimal avenue for that is social media marketing and promotion due to its advantages over traditional offline media. The popularity of Pokémon Go provided an excellent opportunity to marketers (Wu, 2017). Indeed some digital content and social-media marketing connoisseurs argue that Pokémon Go is a social network in disguise with its origin

as the first mobile augmented reality (AR) social media platform. It is a viable channel as a social media platform, which provides additional opportunity for marketers to monetize and drive their businesses through the ever popular (if somewhat ailing) mobile phenomenon (Simpson, 2016).

Another important managerial implication of this study is that, although much has been said about the negative impact of the presence of firms on the Internet and social media, there are also numerous opportunities for building brand awareness. The visibility of products and services on SNS by organizations and firms is an effective means of reaching out to current and potential customers on a global scale. As a paradigm shift, firms need to plan, develop, and implement either a proactive social media strategy or digital marketing strategy to fully benefit from such media. Both the tracking of social media to determine how a formulated strategy is working vis-à-vis the competition and monitoring competitor brands are critical to global competitiveness (Reyneke et al., 2011). Regarding branding, social media provides an excellent opportunity to interact with and engage customers, and it provides opportunities for marketers and brand managers to cooperate with consumers to increase brand visibility (Smith, Fischer, & Yongjian, 2012).

Thus, in the formulation of marketing strategies for innovative and techno-oriented products, the use of SNS to reach out to market segments and to provide product-related information is key in today's highly competitive global market. Global technological companies involved in the manufacture, sale, and promotion of personal computers (PCs), including laptops, can enhance their brand awareness by focusing on innovative products of high quality. As the old saying goes, "Great products sell themselves." The competitive nature of the PC market means that competitiveness and profitability can only be sustained through value creation and consumer engagement. Social media is an important medium for delivering value, engaging consumers, and providing product/service related knowledge. Consumers with a significant amount of product knowledge are more likely to make purchase decisions based on this knowledge rather than from where a product originates; hence, a combination of high online social network brand visibility and a favorable COOI of a brand can enhance purchase intentions.

### **Limitations and future research**

This study is not without limitations. Firstly, it used data from a cross-sectional survey that was limited to electronic products, such as personal computers. Therefore, the results cannot be generalized, and it is suggested that further research involving multiple products, contexts, and consumer segments should be used. Secondly, this study solicited feedback from college students (mostly millennials) who are not usually representative of the population in terms of demographics, such as age and income; therefore, we advise that further studies use a more representative sample (including generations x and y and baby boomers). Thirdly, longitudinal studies that aim to capture consumers' changing attitudes, perceptions, and buying intentions over a period may provide valuable findings for the industry and scholars and are thus recommended. Fourthly, the scope of our study is limited to only one type of social media: SNS. According to Duane and O'Reilly (2012), social media are divided among four major domains: content communities, collaborative projects, micro-blogs, and SNS. As such, future research should consider other social media domains when investigating social network brand visibility.

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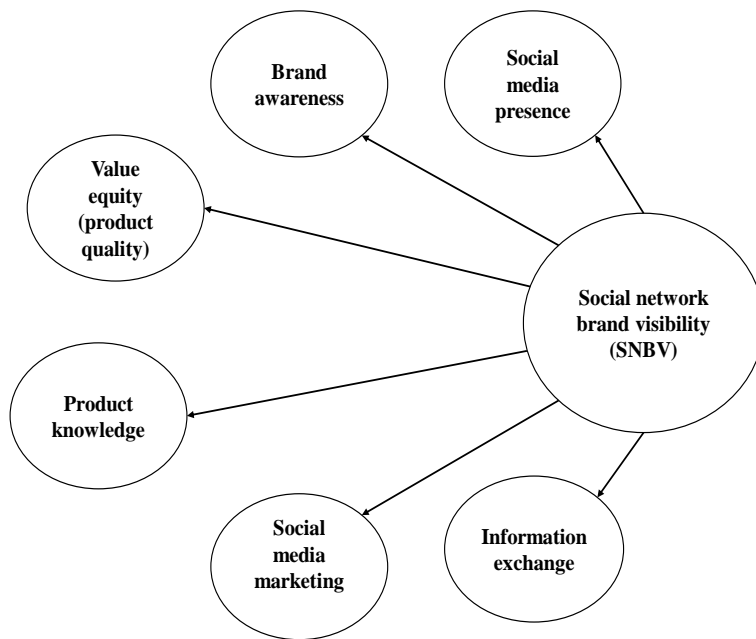
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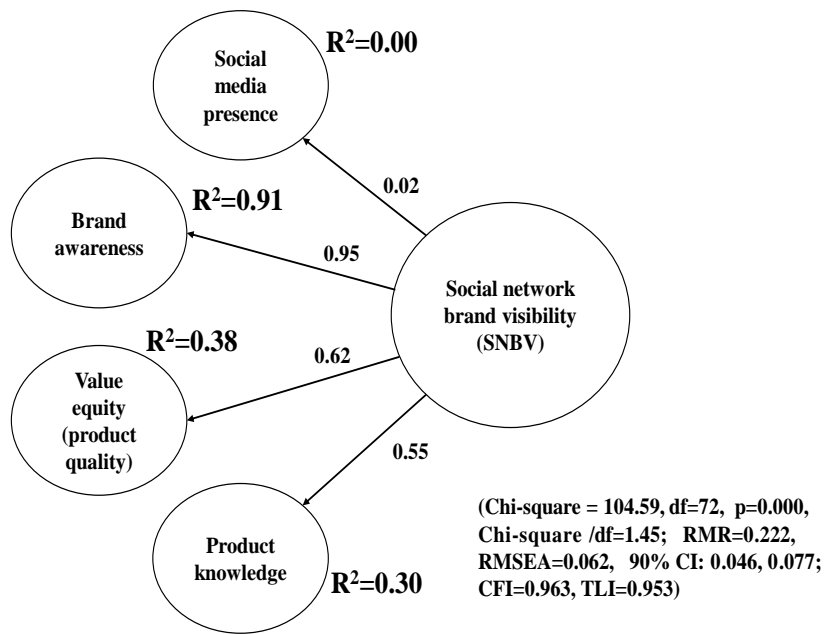
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**FIGURES AND TABLES**

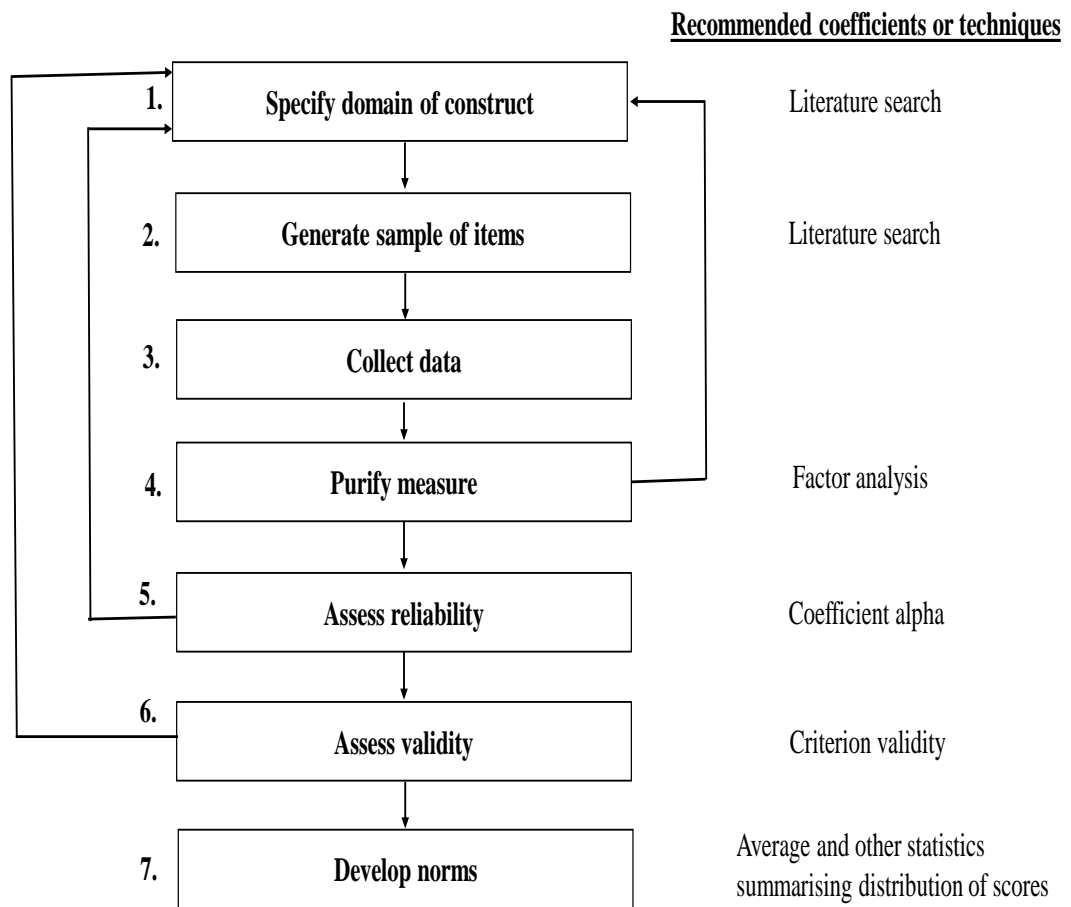


**Appendix 1** Six-dimensional conceptualization of SNBV

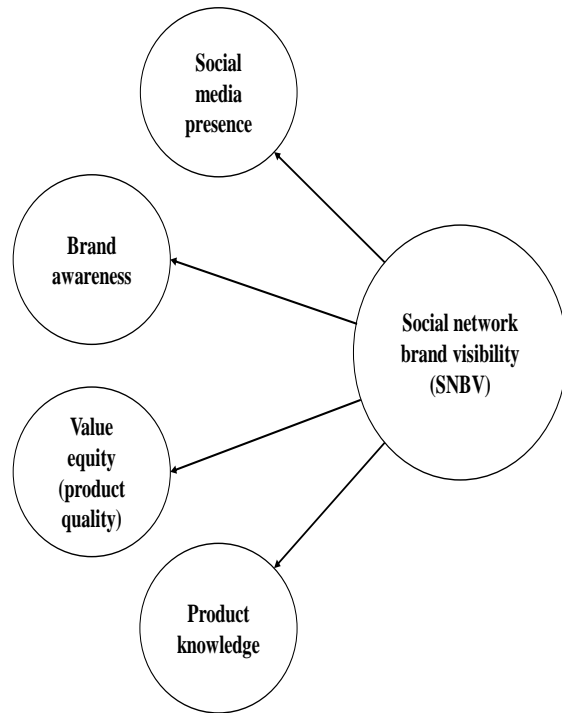




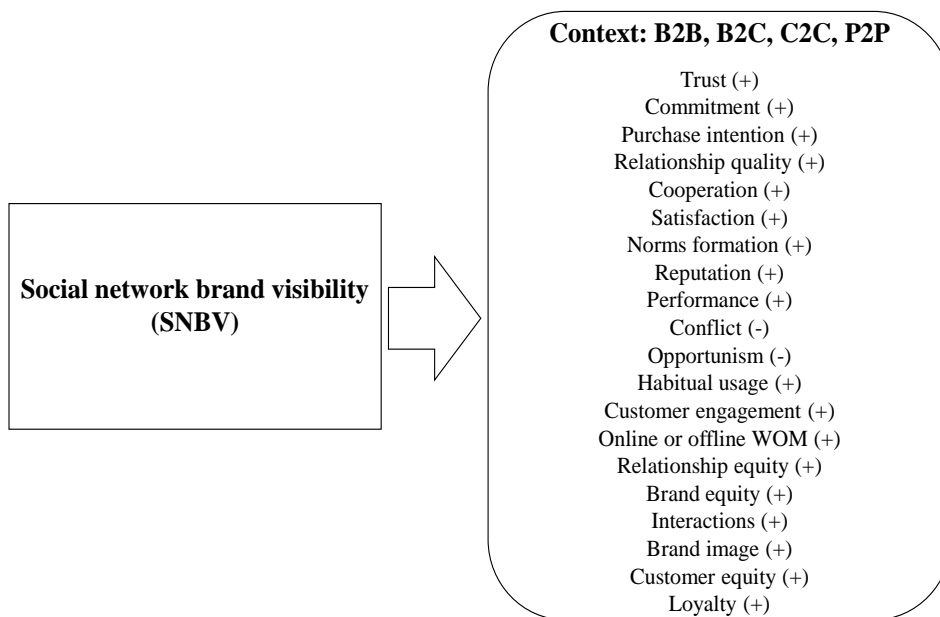
**Appendix 2** Standardized parameter estimates (second-order loadings)



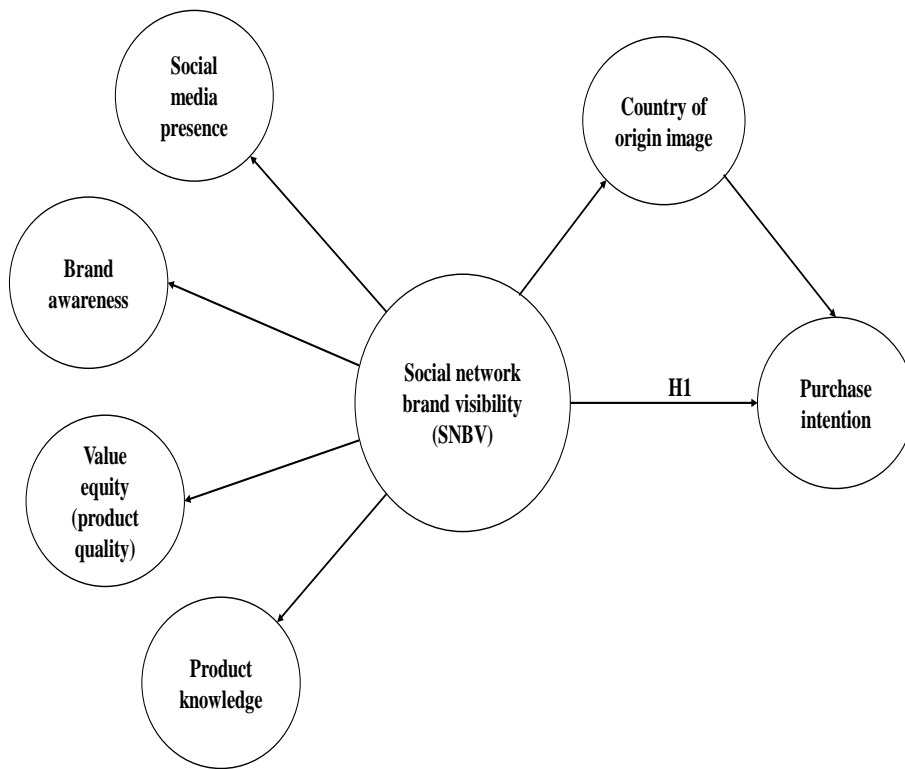
**Appendix 3** Single-phase data collection procedure for developing measures  
 (Source: Adapted from Churchill, 1979:66)



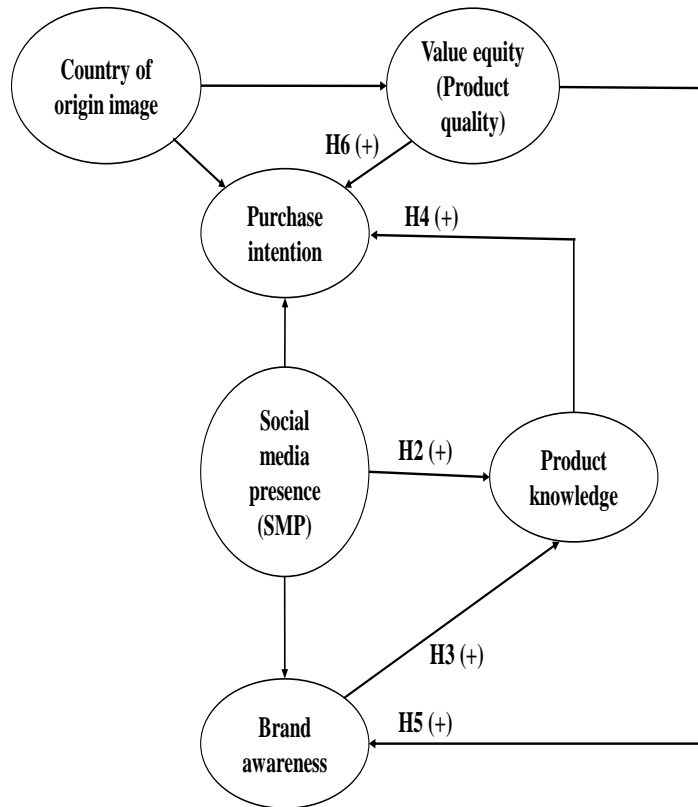
**Figure 1** Four-dimensional conceptualization of SNBV



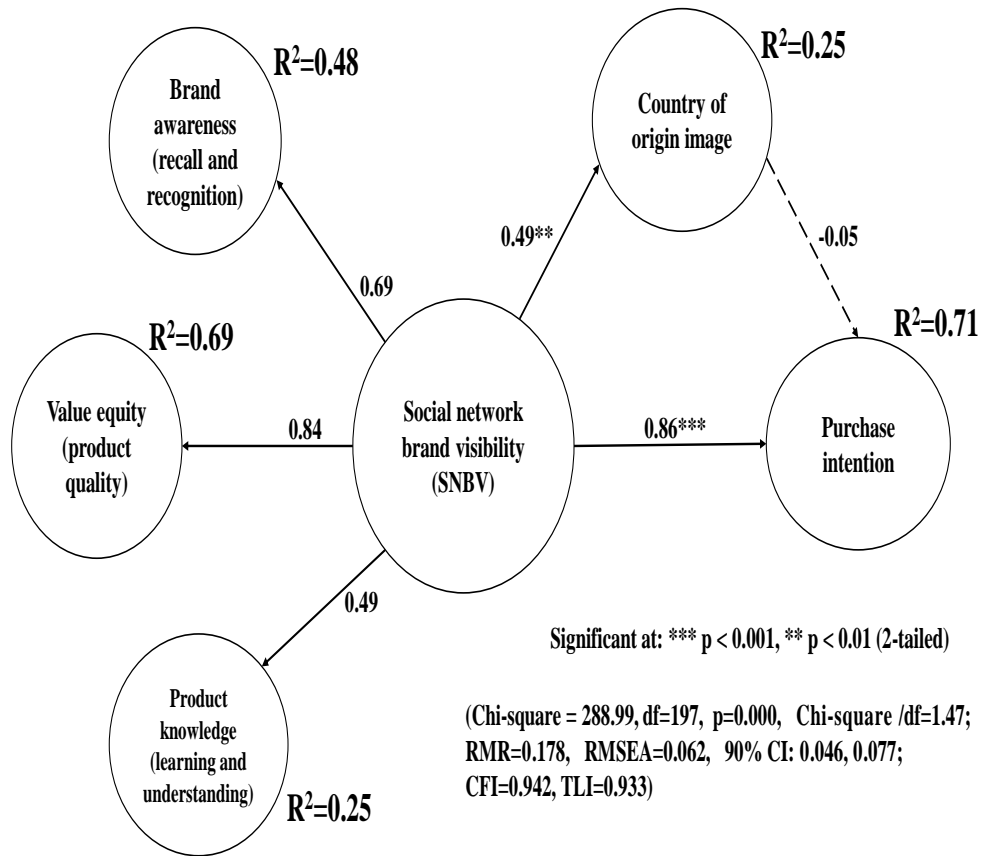
**Figure 2** SNBV-Relationship variables framework



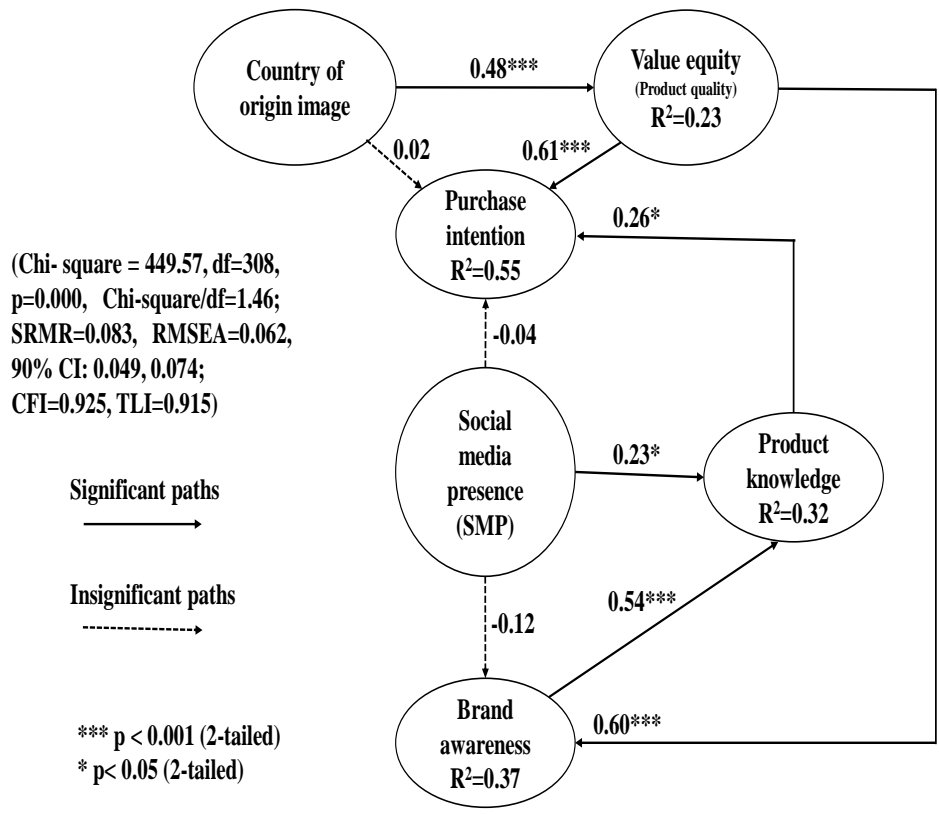
**Figure 3** Conceptual model (A)



**Figure 4** Conceptual model (B)



**Figure 5** Results of structural model with second-order loadings (model A)



**Figure 6** Results of path analysis (structural model B)



**Table 1**      **Summary of past literature on SNBV**

<b>Citation</b>	<b>Purpose of study</b>	<b>Major findings</b>
Reyneke et al. (2011)	This study addresses the visibility of luxury wine brands on social media.	Some of the brands studied did not have a clearly defined social media strategy. Nonetheless, there are opportunities for luxury wine brand managers to use social media as a tool in their marketing strategies. In addition, some threats may exist should these brands take a laissez faire approach to social media, particularly when it is becoming at least as influential, if not more so, as conventional media.
Botha et al. (2011)	This study describes a tool for collecting brand visibility information by looking at the visibility of various South African university brands and their relative positioning from a social media perspective.	The findings indicate that South African university brands are not distinctly positioned in social media, and none of them appears to have a strategy for engaging stakeholders via a particular social media platform. Therefore, there are both opportunities for enthusiastic managers as well as possible threats against those who ignore social media during a time when it is dominating both the Internet and the media.
Capitello et al. (2014)	This study analyzes the relationships between the orientation, communication strategies, and Web 2.0 tactics of businesses as well as the social media effect on brand visibility.	The results propose a conceptual, three-dimensional approach that integrates a business's strategic orientation with its digital-marketing strategy and its social media tactics. This approach also includes specific evaluation criteria to measure the impact on the business's strategic objectives.
Yang and Kent (2014)	This study explores the factors that drive organizational social media visibility.	The findings reveal that mainstream media coverage significantly affects social media visibility, whereas organizations' social media use patterns have a limited impact on overall organizational visibility.
Goswami et al. (2013)	A significant amount of research has been conducted on both social media usability and user engagement. The uniqueness of this research paper is its identification of synergies between the features of social media and user engagement to enhance online brand visibility. In this paper, a conceptual model is explained by developing a social media-user engagement matrix to explain the synergies.	The matrix integrates four parameters of user engagement—involvement, interaction, intimacy, and influence—with four social media characteristics—content, relationship, value, and structure—to bring out the essence of interoperability. This paper has identified and listed certain metrics for measuring online brand visibility. The authors believe that the outcome of this paper will make a significant contribution to the existing body of knowledge by uniquely identifying and explaining “social media-user engagement synergy” and listing appropriate metrics for measuring online brand visibility.
Davis et al. (2014)	This research explores the consumers' specific motivations for the purpose and structure of the consumption of brands in the social media community. Considering the evolving economic relevance of social consumption, the resulting conceptual model was designed to give a better understanding of the unique branding opportunities and relationships that social media present to brand managers.	The findings suggest that consumers expect specific two-way interactions with brands, and social media may be the only way to deliver these demands effectively. This study identifies five core drivers of brand consumption (functional, emotional, self-oriented, social, and relational) in a social media community via the Five Sources Model. These core drivers represent unique opportunities for brands to enhance their relationships with their customers and to increase the likelihood of an active and beneficial online community that is built around their brands.

**Table 2** Six-dimensional social network brand visibility conceptualization

<b>Dimension</b>	<b>Definition /explanation</b>	<b>Citation</b>
<i>Social media presence (SMP)</i>	The importance of either a brand, product, or service on social media, as perceived by individuals, social networkers, communities, and/or businesses.	Kim & Ko, 2012; McCarthy et al., 2014; Cawsey & Rowley, 2016
<i>Brand awareness</i>	The ability to recognize and recall the brand.	Aaker, 1991; Kaplan, 2012; Kim & Ko, 2012
<i>Value equity</i>	Benefits derived from using the product/service; value derived from interacting with either the brand, other community members, potential users, or customers. Value can be in the form of either the quality of the product/service or in social terms, such as social capital and social values.	Callarisa et al., 2012; Gil de Zúñiga, Jung, & Valenzuela, 2012; Kim & Ko, 2012.
<i>Knowledge</i>	Learning about the product/service and understanding product use, features, etc.	Brown, Broderick, & Lee, 2007; Chua & Banerjee, 2013
<i>Social media marketing</i>	Online marketing activities in terms of entertainment, interactivity, and eWOM.	Hoffman & Fodor, 2010; Kaplan, 2012; Kim & Ko, 2012
<i>Information exchange</i>	Social media as a medium for communicating with current and/or potential customers or among peers.	Brown, Broderick, & Lee, 2007; Kaplan, 2012; Wang, Yu, & Wei, 2012

**Table 3** Measures and items

Measures and items	Standardized loadings	t-value
<i>Social media presence (SMP)</i>		
The importance of the presence of my favorite personal (laptop) computer brand on social networking sites:	0.818 <sup>a</sup>	
Facebook	0.409	4.60
Twitter	0.976	10.20
YouTube	0.592	7.02
Google+		
<i>Country of origin, adapted from Martin and Eroglu (1993)</i>		
The level of economic development of this country is high	0.497 <sup>a</sup>	
The level of democratic politics of this country is high	0.535	5.85
The level of industrialization of the country where my laptop originates is high	0.632	5.88
The level of technology of this country is high	0.915	5.76
The product quality of this country is high	0.880	5.70
Personal computers (laptops) from this country are reliable	0.711	5.22
<i>Value equity (product quality), adapted from Lichtenstein et al. (1993)</i>		
This personal (laptop) computer brand is of high technological quality	0.920 <sup>a</sup>	
This computer brand manufacturer is very innovative	0.872	12.35
This personal (laptop) computer brand is highly reliable	0.719	11.51
This personal (laptop) computer brand is of high quality	0.821	12.29
<i>Product knowledge developed, based on Mark and Olson (1981)</i>		
The level of my knowledge of this personal computer brand	0.396 <sup>a</sup>	
I am willing to know more about this personal (laptop) computer brand	0.841	4.36
After purchase and use of this personal (laptop) computer brand, the accumulated level of what I know about this brand is high	0.597	5.29
I am willing to understand more about this laptop brand	0.944	4.37
<i>Brand awareness, adapted from Aaker (1996)</i>		
I know this brand	0.785 <sup>a</sup>	
Regarding laptops, I can immediately recall the brand	0.760	7.14
The name of the manufacturer of my favorite laptop is a well-known computer brand	0.537	5.32
<i>Consumer purchase intention, adapted from Taylor and Baker (1994)</i>		
I would always consider buying this personal computer (laptop) brand	0.602 <sup>a</sup>	
It is possible that I will always buy this laptop brand	0.659	7.54
If I was going to buy this laptop/computer, I would buy any model of this brand	0.506	4.85
The possibility that I would consider buying this product is high	0.825	6.98
My willingness to buy this product is high	0.897	7.32
The likelihood of me purchasing this product is high	0.839	7.06

<sup>a</sup> Unstandardized factor loadings fixed

**Table 4** Demographic characteristics of respondents

Demographic characteristics	Category	Frequency	Percent
Gender	Male	60	49.20
	Female	62	50.80
Age	19-24	62	50.82
	25-30	41	33.61
	31-36	14	11.47
	37-42	3	2.46
	43-48	2	1.64
Monthly income (NOK)	Below 5,000	29	23.80
	5,000 – 10,000	58	47.50
	10,000 – 20,000	22	18.00
	Above 20,000	13	10.70

NOK=Norwegian kroner

**Table 5** Correlation matrix

	1	2	3	4	5	6
SMP (1)	1	0.043	0.130	-0.040	0.117	0.121
Country of origin (2)		1	0.480**	0.206*	0.202*	0.381**
Value equity-product quality (3)			1	0.485**	0.354**	0.573**
Brand awareness (4)				1	0.482**	0.419**
Product knowledge (5)					1	0.418**
Purchase intention (6)						1
AVE	0.53	0.51	0.70	0.50	0.53	0.54
Cronbach $\alpha$	0.79	0.86	0.91	0.73	0.91	0.87

\*\* p<0.01 (2-tailed)    \* p<0.05 (2-tailed)    SMP=Social media presence

**Table 6** Three-dimensional SNBV, with first- and second-order loadings

Measures and items	Loadings#	t-values	(R <sup>2</sup> )
<i>Brand awareness (0.96<sup>b</sup>)</i>			<i>0.93</i>
The name of the manufacturer of my favorite laptop is a well-known computer brand	0.537 <sup>a</sup>		0.29
Regarding laptops, I can immediately recall the brand	0.746***	5.21	0.56
I know this brand	0.797***	5.29	0.65
<i>Value equity-product quality (0.61<sup>b</sup>)</i>			<i>0.37</i>
This personal (laptop) computer brand is of high quality	0.804 <sup>a</sup>		0.65
This personal (laptop) computer brand is highly reliable	0.709***	12.22	0.50
This computer brand manufacturer is very innovative	0.860***	10.95	0.74
This personal (laptop) computer brand is of high technological quality	0.942***	11.80	0.89
<i>Product knowledge (0.55<sup>b</sup>)</i>			<i>0.30</i>
I am willing to understand more about this laptop brand			
After purchase and use of this personal (laptop) computer brand, the accumulated level of what I know about this brand is high	0.936 <sup>a</sup>		0.88
I am willing to know more about this personal (laptop) computer brand	0.597***	6.96	0.34
	0.848***	10.28	0.72
Chi-square $\chi^2=44.97$ , $df=31$ , $p=0.000$ , $RMR=0.112$ , $RMSEA=0.061$ , 90% CI: 0.000, 0.098; CFI=0.979, TLI=0.970			

<sup>a</sup>Unstandardized factor loadings fixed

R<sup>2</sup>Squared multiple correlations

#Standardized first-order loadings,

<sup>b</sup>Standardized second-order loadings in brackets

\*\*\*  $p < 0.001$  (two-tailed)

**Table 7** Results of hypothesis testing (model A)

Hypothesis	Hypothesized effect	Standardized estimate	t-value
H1	SNBV → Purchase intention	0.863***	3.89
	SNBV → Country of origin image	0.497**	3.10
	Country of origin image → Purchase intention	-0.047	0.44

\*\*\* p < 0.001 (2-tailed)      \*\* p < 0.01 (2-tailed)      \* p < 0.05 (2-tailed)

**Table 8** Results of hypothesis testing (model B)

Hypothesis	Hypothesized effect	Standardized estimate	t-value
	SMP → Brand awareness	-0.117	1.28
	SMP → Purchase intention	-0.036	0.49
H2	SMP → Product knowledge	0.229*	2.27
H3	Brand awareness → Product knowledge	0.541***	3.41
H4	Product knowledge → Purchase intention	0.255*	2.50
H5	Value equity-product quality → Brand awareness	0.598***	5.56
H6	Value equity-product quality → Purchase intention	0.612***	4.96
	Country of origin → Value equity-product quality	0.484***	3.94
	Country of origin → Purchase intention	0.021	0.25

\*\*\* p < 0.001 (2-tailed)      \*\* p < 0.01 (2-tailed)      \* p < 0.05 (2-tailed)

SMP=Social media presence