



Exploring the drivers of customer engagement behaviours in social network brand communities: towards a customer-learning model

Chang-Tang Chiang^a, Chiou-Fong Wei^b, Kevin R. Parker^c and Bill Davey^d

^aDepartment of Accounting, Shih Chien University, Taipei, Taiwan; ^bBusiness School, Nan-fang College of Sun Yat-Sen University, Guangzhou, China; ^cDepartment of Informatics and Computer Science, Idaho State University, Pocatello, ID, USA; ^dDepartment of Business IT and Logistics, RMIT University, Melbourne, Australia

ABSTRACT

Customer learning is regarded as a process that alters either individual cognition or the outcomes of socialisation. Understanding how the learning process works enables a brand firm to identify a customer's latent needs. Prior studies have primarily focused on effectively positioning brand knowledge in the minds of customers, but that linear learning process does not apply to the interactive and proactive social media setting. Based on the uses and gratifications perspective, this study proposes a customer-learning model and analyses 373 online questionnaires using partial least squares structural equation modelling. The empirical results confirm that learning motivation and collaborative learning are two core components of customer learning that have positive influences on satisfaction, which in turn has a positive influence on customer engagement behaviours (CEBs) and loyalty. In addition, learning motivation is the driver of collaborative learning. Finally, CEBs also have a positive influence on loyalty. This study also concludes that the social network brand community is an informative customer-learning platform that is characterised by *interactivity*, *collaborative learning* and *co-creation*. Theoretical and managerial implications are also discussed.

ARTICLE HISTORY

Received 22 January 2017
Accepted 29 October 2017

KEYWORDS

Customer learning; social network brand community (SNBC); customer engagement behaviours (CEBs)

Introduction

Customer engagement (CE) is a concept that focuses primarily on customer behaviours beyond transactions. Customer engagement behaviours (CEBs) directly and indirectly not only strengthen consumer–brand relationships but also enhance corporate performance outcomes (Brodie, Hollebeek, Jurić, & Ilić, 2011; Hollebeek, 2011). The interactive properties of social media are especially relevant for the establishment of CEBs both before and after purchase (Verleye, Gemmel, & Rangarajan, 2014). The use of social media has transformed consumers from passive information recipients to active content generators (Dolan, Conduit, Fahy, & Goodman, 2016). This study focuses primarily on social networking services hosted and supported by brand companies to maintain

CONTACT Chiou-Fong Wei  joefon@foxmail.com  Business School, Nan-fang College of Sun Yat-Sen University, Guangzhou, China

customer relationships and enhance brand equity; such a service is referred to as a social network brand community (SNBC). SNBCs are highly relevant to the study of CEBs not only because of their interactive and dynamic nature (Kaplan & Haenlein, 2010) but also because they make it possible for online customers to interact with both the brand company as well as with other customers (Habibi, Laroche, & Richard, 2014).

The purpose of this study is to present a new perspective on the online customer-learning model to explain the formation of CEBs through the theoretical lens of the uses and gratifications (U&G) perspective. Our study extends the body of research exploring the antecedent factors of CEBs and also develops a model to link customer learning and CEBs moderated by satisfaction. This model explains not only why and how customers participate in an SNBC but also how CEBs are formed to benefit both customers and brand companies.

Literature review

The U&Gs perspective

Originating from mass communications, the U&G perspective is a media-use paradigm that attempts to explain why and how people seek to use media to fulfil their needs and motivations (Rubin, 1984). The approach asserts that an individual's media use is purposeful and that users actively seek to satisfy their various information needs. This perspective assumes that users are both goal-directed in their behaviour and aware of their own needs (Katz, Blumler, & Gurevitch, 1974). U&G aims to link the individual psychological motivations and the social factors that create needs with user behaviours.

The U&G perspective has been applied to a wide range of media and communication technologies, such as video cassette recorders, cable television, pagers and computer-based voice-over-IP phones, while the emergence of the Internet has extended U&G to online settings, such as the World Wide Web, mobile phones and mobile Internet (Joo & Sang, 2013). However, despite the insights gained from U&G, little research has applied this perspective to customer learning in an SNBC setting. SNBCs represent excellent research settings for the study of CEBs with multiple foci (Brodie, Ilic, Juric, & Hollebeek, 2013; Dessart, Veloutsou, & Morgan-Thomas, 2016). Given both the interactivity and the media hosted by a brand company, this study aims to provide a critical understanding of the components and outcomes of customer learning in an SNBC.

U&G explains how an individual uses media to satisfy his or her personal needs, allowing him or her to gain knowledge or engage in social interaction (Ko, Cho, & Roberts, 2005). Applying U&G to customer learning in the SNBC context, this study argues that learning motivation and collaborative learning are the drivers of the customer-learning model because learning motivation reflects an individual's need for knowledge, and collaborative learning reflects the social interaction characteristics of social media. To assess learning performance from the perspective of the learner, the model proposed in this study extends prior self-learning and computer-learning studies (Sun, Tsai, Finger, Chen, & Yeh, 2008) by including satisfaction in the proposed model. Because CEBs are inherently equipped with co-creation and reciprocity characteristics for both customers and brand companies (Brodie et al., 2011) and because loyalty is the core concept in relationship marketing, this study uses these two constructs, learning motivation and collaborative learning, to measure the outcomes of learning performance.

The U&G perspective offers a highly relevant and sound theoretical lens for studying the customer-learning model. First, the U&G perspective's origin in the field of mass communications appropriately accounts for consumers' information acquisition and learning behaviours. Second, the U&G perspective is also suitable to explain user behaviours related to new media and information technology (Dolan et al., 2016; Joo & Sang, 2013). Third, the U&G perspective emphasises the individual (not the organisational) level of analysis.

Customer learning

Learning is a process in which an individual changes his or her cognition and behaviour (Churchill & Moschis, 1979; Gatignon & Robertson, 1985; Hutchinson & Alba, 1991). This study defines customer learning as a transformative process of a customer's psychological state that is triggered by the need for knowledge, skills or experiences, which in turn might influence customer behaviours. A better understanding of how a customer learns enables a brand company both to discover his or her hidden or latent needs (Jussila, Kärkkäinen, & Leino, 2012) and to develop business processes that support and improve the customer's ability to co-create (Payne, Storbacka, Frow, & Knox, 2009). Moreover, the literature indicates that customer learning can reduce customer service costs. Anderson and Simester (2013), for example, have empirically confirmed that customer learning from past purchase experiences leads to a decrease in return rates. With their large number of online users, SNBCs enable brand managers to integrate the distributed knowledge of customers from outside the company's borders to create collaborative knowledge within an SNBC. Customers obtain information, maintain connections, develop relationships, contribute knowledge, share experiences and eventually make purchase decision in the SNBC. Reciprocal co-creation value and customer peer learning concurrently occur through social interaction.

Traditionally, the study of customer learning has primarily focused on the level of knowledge transferred into a customer's cognition or memory via advertising, word of mouth (WOM) or product experiences (Churchill & Moschis, 1979; Gatignon & Robertson, 1985). The ability to successfully transfer brand or product knowledge to customers has long been considered the preferred approach for measuring advertising effectiveness. Customer learning is the result of the effectiveness of new product diffusion via both advertising and WOM (Hutchinson & Alba, 1991). Some researchers have focused explicitly on the importance of controlling consumer learning from a brand firm perspective rather than from a customer's viewpoint by emphasising that to formulate an effective marketing strategy, a brand company should understand how a customer accepts the information that it delivers (Park, Jaworski, & MacInnis, 1986).

The view of customer learning as a social process in which social norms, motivations, attitudes and referent groups are integral elements (Churchill & Moschis, 1979) constitutes another research stream that conflicts with the view of knowledge transfer. Churchill and Moschis (1979, p. 25) assert that the learning process is 'the process by which the learner acquires specific values and behaviors from the socialization agents, while interacting with them'. From this perspective, mass media have been treated as agents of customer socialisation instead of as conveyors of product/service information (Ward & Wackman, 1971). The common features of these processes are firm-generated

communication and movement in a linear, one-way direction. Product attribute identification and category comparisons based on expected prices are the main methods through which a brand company can understand customer learning. Leading brands primarily focus on the superiority of a specific product, whereas follower brands emphasise the cost-to-performance ratio to differentiate their market segment (Campbell-Hunt, 2000; Porter, 1985). This approach is especially critical for a new product launch in the beginning of its lifecycle (Hutchinson & Alba, 1991).

The view that customers are passively trained or educated through mass media manipulated by the brand company did not change until the emergence of the Internet (Peterson & Merino, 2003). By aggregating information from all over the world, search engines were pioneering media that changed the manner of customer learning from passively receiving information from a brand company to actively searching for information to make purchase decisions (Xiang & Pan, 2011). The emergence of social media has not only received considerable attention from marketing researchers but has also reshaped how customers search for information, as these tools allow customers to collaborate, communicate, share and connect with each other (Kaplan & Haenlein, 2010; Liang, Ho, Li, & Turban, 2011). The learning and influence effects of social media are more intensive and persuasive among members who either have pre-existing social relationships with one another or have a shared interest in the brand community (Chu & Sung, 2015). The advances in Internet applications and technology have driven the manner of customer learning to evolve from self-directed individual cognition or transfer of knowledge to collective interaction and collaborative learning. Attitudes and behaviour surrounding information searches are the major variables used to measure customer learning. When a customer engages with an SNBC to gain information, customer learning occurs as the brand company's knowledge is transferred and embedded in the customer's cognition and memory. The distinctive interactive and networking features of social media and online communities broaden the manner of customer learning from individual learning to collective and collaborative learning. Hibbert, Winklhofer and Temerak (2012) argue that contextual factors determine how a customer learns.

Customer engagement behavior

CE has gained considerable attention from scholars (Brodie et al., 2011, 2013; Calder, Malthouse, & Schaedel, 2009; Habibi et al., 2014; Hollebeek, Conduit, & Brodie, 2016; Hollebeek, Glynn, & Brodie, 2014). Overlooking CE might result in lost opportunities to develop new products/services through co-creation with customers (Verhoef, Reinartz, & Krafft, 2010). Failing to notice CE may also lead to the misallocation of resources across customers because when CE values are not taken into account, customers will not be valued appropriately (Kumar et al., 2010). Pansari and Kumar (2017, p. 2) define CE as 'the mechanics of a customer's value addition to the firm, either through direct or/and indirect contribution', whereas van Doorn et al. (2010, p. 253) argue that CE is 'a customer's behavioral manifestation toward a brand or firm, beyond purchases, resulting from motivational drivers'. CE is the psychological state of being occupied, fully absorbed or engrossed, thus generating a level of attraction to or repulsion from a focal engagement object (Higgins & Scholer, 2009). CE transforms the customer relationship from a short-term, distant relationship to a long-term, intimate relationship. CEB

bridges a brand firm's short-term profits and long-term customer relationships, and it is inherent to value co-creation (Sawhney, Verona, & Prandelli, 2005). In other words, engaged customers are not only satisfied or loyal to a brand's offerings but also emotionally attached to the organisation's brands or services (Sashi, 2012).

These analyses indicate that CE is a multi-dimensional construct composed of both psychological (i.e. affect, cognition) and behavioural dimensions (Brodie et al., 2011). To measure the explicit behaviour of customer-learning performance, this study focuses on behavioural manifestations of CE. In this study, CEBs are defined as 'an online user's ongoing and voluntary behaviors that are valuable to a brand company beyond the transaction and that originate from psychologically intrinsic motivation of affect or cognition stimulated by external factors' (Brodie et al., 2011, 2013; van Doorn et al., 2010). Proactive and voluntary behaviours have implications for value creation, which integrates resources through interactions within a service system (Brodie et al., 2013). In other words, CEB is a value co-creation process because the customer contributes resources during different stages of value formation with the actors in the value network system (Brodie et al., 2013; Vargo & Lusch, 2008; Vargo, Maglio, & Akaka, 2008). By virtue of interactive, co-creative customer experiences with a focal brand in focal service relationships (Brodie et al., 2011), the highly interactive and social inherence of CEBs increasingly transform firm performance (Dessart et al., 2016).

To a marketing manager, CEBs are viewed as strategic marketing measures that create deeper experiences and more meaningful and sustainable interactions between the brand company and its customers (van Doorn et al., 2010). Advances in Internet technology have helped social media break the interaction barriers between customers and firms. Practitioners seek to understand how to use these technologies and platforms to develop and maintain customer relationships. In an SNBC, engaged customers become partners who collaborate with the brand company in the value co-creation process to better satisfy their personal informational needs, and this engagement helps the brand company maintain long-term relationships with its customers (Verhoef et al., 2010).

Social network brand community

In addition to search engines, customers search for information on social media before making purchase decisions because social media provides both official information and an interactively dyadic communication environment that encourages customers to use it (Dessart et al., 2016). The more customer research is undertaken on a brand company's products/service and more information is gathered, the better customer needs can be met and served (Buhalis & Law, 2008). On the other hand, clear and transparent information reduces customers' perceptions of uncertainty and risk when making purchase decisions and improves the buyer-seller relationship (Sashi, 2012).

A brand community, which is defined as a 'specialized, non-geographically bound community, based on a structured set of social relations among admirers of a brand' (Muniz & O'Guinn, 2001, p. 421), exhibits three traditional markers of a community: a shared consciousness, rituals and traditions, and a sense of moral responsibility (Muniz & O'Guinn, 2001). According to this definition, a brand community fosters customer-to-brand, customer-to-community and customer-to-customer relationships. However, McAlexander, Schouten and Koenig (2002) assert that a brand community should be

customer-centric, and they further broaden the concept to include customer-to-customer, customer-to-company, customer-to-brand and customer-to-offering (product/service) relationships. Brand communities take many forms. Some are developed/managed by brand companies primarily for support purposes, whereas others are governed by a group of enthusiasts with shared interests (Wirtz et al., 2013).

Kaplan and Haenlein (2010, p. 61) define social media as 'a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, which allows the creation and exchange of user-generated content'. Previous studies have suggested that an SNBC is suitable for a brand company that manages customer and brand relationships. For example, Liang et al. (2011) show that social support (information and emotional support) through social media has a positive influence on relationship quality, which is a mediator of social networking site usage and social commerce intentions. Pentina, Gammoh, Zhang and Mallin (2013) have found that individuals develop stronger ties with social network members who have similar personality traits.

The proliferation of online platforms such as social media, forums and brand communities allows customers to access various types of content from different perspectives (other customers, opinion leaders and SNBC managers). The search for quality content is an important factor that drives customers to use social networking sites (Lin & Lu, 2011). Information seeking implies a customer's active learning in an effort to solve a problem or reach a goal. These platforms also provide opportunities for online customers to exchange information and cultivate peer learning. The manner of customer learning transforms users from 'passive subjects' into 'active actors'. The brand company does not monopolise the learning goal through which brand equity is shared by other actors in the network (Wirtz et al., 2013). Unlike the linear, firm-controlled, passive and one-way direction of customer learning that occurs in classic mass media, customer learning in an SNBC is networked, active and interactive.

Research model

Several factors are taken into consideration in this research because the present paper aims to explore the drivers of CEBs based on the U&G perspective in an SNBC setting. First, learning motivation was added to the model as an antecedent because customer learning is constructed to interpret the phenomenon in SNBCs. Second, social interaction is one of the main features of social media (Kaplan & Haenlein, 2010; Liang et al., 2011); therefore, this study conceptualises social interaction and collective learning as collaborative learning in the proposed model. Third, as the study focuses on CEBs and loyalty, which are reciprocal between customers and focal companies, satisfaction is the mediator linking customer-learning motivation and collaborative learning to CEBs and loyalty based on the U&G perspective.

Relationship between customer-learning motivation and satisfaction

Several studies in various academic fields have confirmed that motivation is a determinant of satisfaction. In applied psychology, a meta-analysis has confirmed that motivation to learn, which is defined as the direction, intensity and persistence of learning-directed behaviour, is positively related to learning performance (Colquitt, LePine, &

Noe, 2000). In the field of organisations, the relationship between motivation and job satisfaction is supported by Hackman and Oldham (1976) job characteristics model, which holds that the degree of job satisfaction enjoyed by workers with high achievement motivation exceeds that of workers with low achievement motivation. In addition, workers with high achievement motivation perform their work better than those with low achievement motivation (Hackman & Oldham, 1976).

Learning motivation plays a direct role in the informal and voluntary learning context. A customer with high learning motivation tends to have the intention to engage in a learning activity, leading to higher learning satisfaction (Bolliger, Supanakorn, & Boggs, 2010; Krapp, 1999). Additionally, in an SNBC setting, learning motivation mainly pertains to information searches to experience pleasure and satisfaction, such as the joy of solving problems, learning something new, or satisfying one's curiosity. If a learner's motivation is met in an informal learning environment, he/she will be satisfied with that environment. Therefore, this study hypothesises that customer-learning motivation has a positive impact on satisfaction in an SNBC.

H1: Customer-learning motivation has a positive impact on satisfaction in an SNBC.

Relationship between customer-learning motivation and customer collaborative learning

Educational scholars argue that motivation is one of the key psychological concepts that drives a person to learn and to complete learning activities in education and learning fields (Bolliger et al., 2010). Learners with higher levels of learning motivation tend to engage in higher levels of collaborative learning (Yang & Chang, 2012). The results of this research indicate that both groups show a remarkable motivation to learn from peer interactions through blogs. That is, if social interaction is difficult to achieve and maintain in online learning settings, it might have a negative impact on the learners' motivation.

The need for information is one of the main factors that drives a customer to use online services (Dholakia, Blazevic, Wiertz, & Algesheimer, 2009) because the Internet offers various sources of information that can help consumers make purchase decisions (Xiang & Pan, 2011). To reduce uncertainty and/or risk, a consumer searches, compares and evaluates information that is tailored to his or her needs in an SNBC. These forms of online behaviours are typically illustrations of online learning. Tan and Goh (2015) recently conducted a diary study of the collaborative information-seeking practices of tourists to discover when and how social interaction occurs during information seeking. The authors demonstrate that a set of triggers leads to collaboration in the information-seeking process. Their findings suggest that mobile customers engage and participate in a social activity because they lack subject knowledge, have an interest in knowing more and rely on others' experiences and background knowledge to confirm or finalise decisions when they have multiple choices.

These studies demonstrate that a lack of elaboration, environmental support and motivation might strongly inhibit customer learning. It seems reasonable to expect that online customers who have a high degree of learning motivation are more likely to actively interact with other online customers to satisfy their goal-oriented

motivation. Based on this assumption, this study generates the following hypothesis:

H2: Customer-learning motivation has a positive impact on customer collaborative learning in an SNBC.

Relationship between customer collaborative learning and satisfaction

Researchers have found that collaborative learning positively impacts the learning process and performance. For instance, Zhu (2012) suggests that social interactions (e.g. group discussions) are a key collaborative learning activity that helps individuals develop an effective cognitive learning strategy. Recently, an increasing number of scholars have confirmed that computer-supported collaborative learning environments can fulfil expectations related to supporting interactive group learning and shared knowledge, which themselves result from learning satisfaction (Liao, Huang, Chen, & Huang, 2015; Zhu, 2012).

An SNBC is an arena in which brand community members share product experiences and opinions, express their thoughts without restraint and ask questions when necessary. An online brand community member posts, receives and disseminates content to interact and develop social relationships with other users by expressing his or her opinions and experiences (Habibi et al., 2014). During these interactions among online users, a member's questions can be answered by the community. In addition, experienced members are willing to answer questions posted by other members to gain a community reputation and maintain their network status (Lee & Ma, 2012). This reciprocal interaction enhances members' satisfaction with the SNBC. Prior research also confirms that the more interactions learners perceive with others, the higher their satisfaction in an eLearning environment (Sun et al., 2008). Therefore, the following hypothesis is proposed:

H3: Customer collaborative learning has a positive impact on satisfaction in an SNBC.

Relationship between satisfaction and CEBs

A satisfied customer will purchase a product or service again, whereas an engaged customer will go beyond purchases and engage in CEBs through various means such as recommending, referring and discussing the brand on social media as well as providing feedback to the company (Pansari & Kumar, 2017). Satisfaction is an important antecedent for CEBs (van Doorn et al., 2010). When information needs can be met, new knowledge gained or problems solved in an SNBC, a community member's emotional state will improve. When this enjoyment lasts and positive psychological states continuously accumulate, the customer might become sufficiently satisfied with the community to recommend it or will forward information to his or her friends. Behaviours such as recommendations, sharing, WOM, eWOM and suggestions are all instances of CEBs (van Doorn et al., 2010). When an SNBC meets or exceeds members' expectations in achieving their goals, they are likely to be satisfied with the SNBC (Pansari & Kumar, 2017). Based on these arguments, the following hypothesis is proposed:

H4: Satisfaction has a positive impact on CEBs in an SNBC.

Relationship between satisfaction and loyalty

According to the expectation and disconfirmation paradigm, satisfaction refers to a customer’s subjective assessment of the difference between pre-consumption expectations and perceived performance after consumption (Oliver, 1980). Satisfaction is an antecedent of loyalty (Liang et al., 2011). Research has found that customer satisfaction has a measurable impact on purchase intentions, customer retention and financial performance (Pansari & Kumar, 2017). In other words, satisfaction is an indicator that measures a firm’s long-term relationship with customers. Accordingly, a satisfied customer will continue to revisit the brand community. A member’s enjoyment of fulfilling experiences conveyed through interpersonal interactions with other community members might influence his or her satisfaction. Social interactions with other members are strong drivers that encourage user visits to SNBCs, resulting in loyalty to the brand community (Shen, Huang, Chu, & Liao, 2010). Based on these arguments, this study hypothesises that satisfaction has a positive impact on loyalty in an SNBC.

H5: Satisfaction has a positive impact on loyalty in an SNBC.

Combining the hypotheses described above, the proposed model for customer learning in an SNBC is depicted in Figure 1.

Method

Measures and analysis approach

In this model, learning motivation is defined as the extent to which an individual engages in an activity either to obtain knowledge, skills or experience or to solve a problem, whereas collaborative learning is defined as the level of a customer’s social interaction related to answering questions in an SNBC. Because previous studies have not provided indicators for these two constructs, a method by which learning

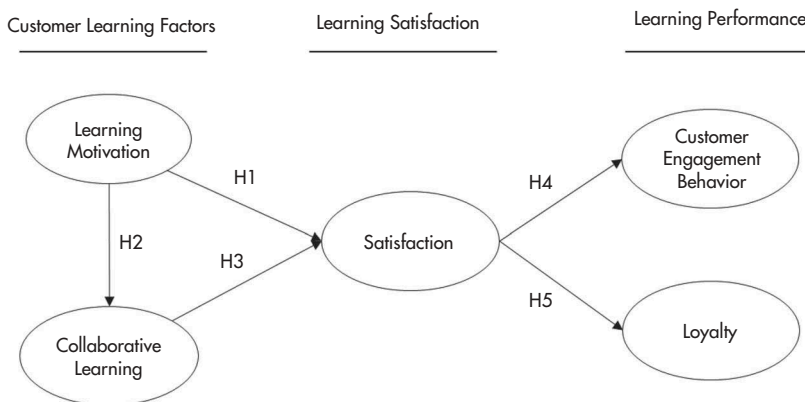


Figure 1. Customer-learning model.

motivation and collaborative learning could be assessed had to be developed. To do so, the study used Hinkin's scale development process as the basis. The process includes three stages: item development, scale development and scale evaluation (Hinkin, 1995). Hinkin evaluates each corresponding stage using content validity, internal consistency reliability, and discriminant and convergent validity as the assessment criteria.

With regard to maintaining content validity, the authors examined the literature on social media characteristics (Lee & Ma, 2012; Tan & Goh, 2015; Turban, Bolloju, & Liang, 2011) and eLearning (Bolliger et al., 2010; Sun et al., 2008) and found a basis for the development of scales for learning motivation and collaborative learning. A pilot study was performed to collect data from Sony Mobile and Samsung Mobile fan groups in Taiwan to infer customers' online learning motivation and collaborative learning in social media. Mobile phones were selected as the target SNBCs because they are highly competitive 3C industries with a relatively short product life cycle, which may prompt online users to seek the latest information. Facebook is selected because it is one of the world's leading social media platforms. Using the API provided by Facebook, the pilot study collected 4475 topics and 102,947 replies from Samsung Mobile and 9907 topics and 105,788 replies from Sony Mobile in Taiwan. Based on the literature and the data, four items (inspired by SNBC, learned from SNBC, informed by SNBC and empowered by SNBC to solve problems) were initially generalised to capture the level of learning motivation, whereas another three items (willingness to share, willingness to question and willingness to respond) were developed to capture the level of collaborative learning. Finally, scales for these two constructs emerged after an expert review meeting with three marketing and business scholars to re-evaluate the constructs' content validity.

Additional measures used in previous studies were adapted and modified to fit our research setting (Vock, van Dolen, & Ruyter, 2013). CEBs (four items) were adapted from Kim (2013) and Verleye et al. (2014). Satisfaction (three items) and loyalty (four items) were based on Liang et al. (2011). As shown in Table 4 in the 'Results' section, all items used 5-point Likert scales, which were anchored by 'strongly disagree' (0) and 'strongly agree' (5).

The results were analysed using partial least squares structural equation modelling (PLS-SEM), which is a causal modelling approach used to maximise the explained variance of the dependent variables (Hair, Ringle, & Sarstedt, 2011). It is suitable not only for prediction and theory development (Henseler, Ringle, & Sinkovics, 2009) but also for confirmation when relationships between the latent variables might or might not exist (Fornell & Larcker, 1981). Other key advantages of employing PLS-SEM are that it readily handles small-sample sizes, it is applicable for formative constructs and it can be used for non-normal data (Hair, Hollingsworth, Randolph, & Chong, 2017; Hair et al., 2011). Avant-garde scholars in different disciplines such as marketing, strategic management, international management, operations management, tourism, accounting and group and organisation research (Hair et al., 2017) have applied this tool to advanced topics such as moderation, mediation, hierarchical component models, multigroup analysis and latent class techniques (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). This approach is especially suitable for exploratory and predictive research (Hair et al., 2017) and therefore for this study, whose purpose is to explore the drivers of CEBs. In this study, SmartPLS 2.0 was adapted to the analysis of the proposed model, and a two-step procedure (i.e. a structural model and a measurement model) was followed first to evaluate the measurement model and then to estimate the structural model.

Data collection and samples

The research model was examined using data collected from users in Taiwan. Taiwan was chosen because social networks have highly penetrated that country. Statista.com (2016) notes that as of the fourth quarter of 2014, 71% of the population had an active account with a social network. The most popular social network was Facebook, with a 41% penetration rate. In addition, 75% of Internet users in Taiwan accessed Facebook on a daily basis as of July 2015. An online survey was conducted to collect the data using a Google form. Online users with SNBC experience were invited to participate in the survey. The respondents were asked to answer the questions based on their experience with their most used SNBC. Four hundred and twenty-seven respondents were invited to complete the questionnaire. After 54 invalid questionnaires were deleted because the respondents failed to use an SNBC, submitted incomplete forms or assured that all participants were adults. A total of 373 valid questionnaires yielded an 87.3% response rate. In terms of the sample's demographics, 38% of the respondents were female and 62% were male, 55% were married and 45% were single, 35% were between 30 and 39 years old and 58% had a 4-year college degree. Of the total sample population, 24% reported occupations in the service industry. The sample's demographics are shown in Table 1.

Results

Common method variance and non-response bias

We performed Harman's single-factor test (Malhotra, Kim, & Patil, 2006) to test for common method variance in a self-administered questionnaire survey. Six factors with eigenvalues greater than one were chosen. The explained variance of the first factor was 37.48%, which is below the threshold value of 50%, indicating that common method bias was not a significant problem in this study.

Non-response bias was examined by following Armstrong and Overton's (1977) procedure. Separating the ordered samples into two groups, we performed a Chi-square test (Thompson & Phua, 2005) to compare the early responses with the late responses

Table 1. Sample demographics.

Characteristics	No. of participants	Percentage	Characteristics	No. of participants	Percentage
Gender			Occupation		
Male	232	62	Service	91	24
Female	141	38	Student	62	17
Marriage			IT	62	17
Single	168	45	Finance	37	10
Married	205	55	Public service	27	7
Age			Manufacturing	22	6
20–29	99	27	SOHO	18	5
30–39	131	35	Housewife	13	3
40–49	114	31	Communication	3	1
50–59	23	6	Other	38	10
Over 59	6	2	Education		
			High school	30	8
			Junior college	49	13
			College	217	58
			Graduate	77	21

N = 373.

based on the dependent variables (i.e. CEBs and loyalty). The results showed no statistical significance, indicating that non-response bias was not an issue in this study.

Measurement model

To verify the reliability and validity of the proposed measurement model, this study used Cronbach's α (Cronbach & Meehl, 1955) and composite reliability (CR) to test the measures' internal consistency reliability. Convergent validity and discriminant validity were examined (Hair et al., 2014). Three requirements must be fulfilled to evaluate convergent validity. First, the factor loadings should be both greater than the cut-off value (0.50) and significant (Kline, 2005). Second, each construct's average variance extracted (AVE) should be 0.50 or higher. Third, the CR should exceed the threshold value (0.70; Nunally & Bernstein, 1994). The AVE is the overall mean value of the squared loadings of a set of indicators (Hair et al., 2014). Discriminant validity refers to the degree to which the construct is empirically distinct from the other constructs that it is intended to measure. The Fornell and Larcker (1981) criterion, a common method for assessing discriminant validity, requires each construct's AVE to be higher than the highest squared correlation with any other construct. Discriminant validity was further evaluated by extracting the factors and cross loadings of the respective constructs' indicators.

The data displayed in Table 2 indicate that the minimum factor loading is 0.710 and is significant. The minimum AVE is 0.636 (collaborative learning), and the minimum consistency reliability is 0.882 (learning motivation). The Fornell and Larcker criterion is also met, as shown in Table 3. Each item loading is above 0.7. These data support the measurement model's reliability and validity. Table 3 also reports that the correlation coefficient (between satisfaction and loyalty) with the greatest value is 0.752, which is below the cut-off value of 0.90 (Hair, Black, Babin, & Anderson, 2010). Therefore, no multicollinearity problem exists. Finally, Table 4 demonstrates that all indicators load strongly with their construct and do not have stronger connections with other constructs. In conclusion, the statistical analyses confirmed that the reliability and convergent and discriminant validity of the measurement model are satisfactory.

Structure model

The assessment of the model's quality is based on its ability to predict endogenous constructs (Hair et al., 2014). The coefficient of determination (R^2), the path coefficients, and their respective t -values are three assessments used to evaluate the proposed model. R^2 , which represents the percentage of the variance explained for the dependent variables, is usually employed to measure a model's predictive accuracy. Path coefficients and their t -values represent the hypothesised relationships between the constructs. By specifying a structural model in PLS and running the PLS algorithm along with the bootstrapping procedure with 5000 bootstrap samples in SmartPLS 2.0, this study obtained the path coefficients, their respective t -values and the R^2 coefficients of the endogenous constructs.

The results shown in Figure 2 indicate that all of the path coefficients of the hypotheses appear to be significant at the $p < 0.05$ level, with t -values ranging from 2.283 to 29.630. H1 is supported, since satisfaction is found to be significantly influenced by learning motivation ($\beta = 0.406$, $p < 0.001$). H2 is supported, since

Table 2. Loadings/Weights and reliability.

Construct	Indicators	Loadings	AVE	CR	Alpha	t-Statistics
Learning motivation	LM1	0.782	0.644	0.879	0.816	33.025*
	LM2	0.853				49.945*
	LM3	0.753				23.099*
	LM4	0.820				34.206*
Collaborative learning	CL1	0.769	0.633	0.838	0.729	30.927*
	CL2	0.801				20.590*
	CL3	0.817				27.167*
Satisfaction	ST1	0.932	0.915	0.970	0.953	101.920*
	ST2	0.972				236.459*
	ST3	0.966				182.010*
CEB	EB1	0.742	0.650	0.881	0.820	22.510*
	EB2	0.834				47.691*
	EB3	0.804				32.079*
	EB4	0.840				45.612*
Loyalty	LT1	0.950	0.913	0.977	0.968	119.103*
	LT2	0.967				192.634*
	LT3	0.963				160.011*
	LT4	0.942				99.243*

AVE: average variance extracted; CR: composite reliability; CEB: customer engagement behaviour. * $p < 0.001$. ** $p < 0.001$.

Table 3. Discriminant validity.

	CEB	Collaborative learning	Learning motivation	Loyalty	Satisfaction
CEB	0.806				
Collaborative learning	0.716	0.796			
Learning motivation	0.702	0.614	0.803		
Loyalty	0.699	0.557	0.595	0.956	
Satisfaction	0.742	0.595	0.619	0.751	0.957

The bold numbers on the diagonal are the square roots of the AVEs. The off-diagonal elements are correlations between constructs. CEB: Customer engagement behaviour.

collaborative learning is found to be significantly influenced by learning motivation ($\beta = 0.614$, $p < 0.001$). Learning motivation alone can account for approximately 37.7% of the variance in collaborative learning. H3 is supported, since satisfaction is found to be significantly influenced by collaborative learning ($\beta = 0.346$, $p < 0.001$). Satisfaction alone can account for approximately 45.7% of the variance (R^2 coefficient) in learning motivation and collaborative learning. H4 is supported, with the path coefficient between satisfaction and CEBs at 0.742 ($p < 0.001$). Finally, H5 is also supported, with the path coefficient between satisfaction and loyalty at 0.751 ($p < 0.001$). The R^2 of CEBs is 55.0% and that of loyalty is 56.4%. The results of testing the structural model are shown in [Figure 2](#).

Discussion

This study has both theoretical and practical implications. Not only does it broaden the focus of U&G, it also presents various findings about customer learning and identifies several distinct characteristics of customer learning in an SNBC.

Table 4. Item cross loadings and sources.

Item	CEB	Collaborative learning	Learning motivation	Loyalty	Satisfaction	Source
CL1: I participated in this SNBC for the same reason that other community members participate	0.621	0.769	0.585	0.577	0.623	Self-developed
CL2: Community members and I ask questions in this SNBC	0.525	0.801	0.405	0.322	0.352	
CL3: Community members (myself included) discuss and reply to posted questions in this SNBC	0.521	0.817	0.409	0.341	0.348	
EB1: I spend a lot of time here	0.742	0.563	0.507	0.534	0.561	Kim (2013), Verleye et al. (2014)
EB2: I tell my friends about the information I obtain here	0.834	0.588	0.591	0.634	0.658	
EB3: I tell the firm what I need	0.804	0.618	0.571	0.463	0.562	
EB4: I recommend this firm's brand to my friends	0.840	0.588	0.591	0.634	0.658	
LT1: I intend to continue using this SNBC, not to discontinue its use	0.672	0.538	0.564	0.950	0.732	Liang et al. (2011)
LT2: I plan to keep using this SNBC in the future	0.690	0.530	0.573	0.967	0.733	
LT3: My intention is to continue using this SNBC in the future	0.648	0.524	0.567	0.963	0.967	
LT4: I intend to continue using this SNBC in the future	0.660	0.537	0.572	0.942	0.707	
LM1: This SNBC can inspire me	0.621	0.599	0.782	0.457	0.472	Self-developed
LM2: I can learn something new in this SNBC	0.560	0.497	0.853	0.503	0.508	
LM3: I can get new information from in this SNBC	0.485	0.363	0.753	0.470	0.499	
LM4: I can solve problems in this SNBC	0.574	0.489	0.820	0.482	0.510	
ST1: I am satisfied with using this SNBC	0.692	0.569	0.623	0.728	0.932	Liang et al. (2011)
ST2: I am pleased with using this SNBC	0.718	0.566	0.589	0.709	0.972	
ST3: I am happy with this SNBC	0.719	0.573	0.563	0.716	0.966	

CEB: Customer engagement behaviour; SNBC: social network brand community. Bold text indicates discriminant validity if all items demonstrated higher loadings on their associated factors in comparison to their cross-loadings.

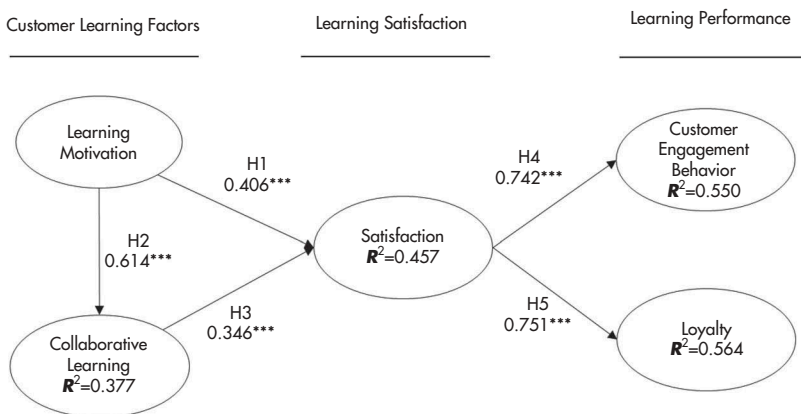


Figure 2. Result of the customer-learning model.

Theoretical implications

The cohesive model extends the U&G perspective to consider the social exchanges around consumer interactions in an SNBC setting. Originally, U&G specifically addressed the information-seeking aspect observed when consumers used media to satisfy their needs (Rubin, 1984). While U&G may imply that information seeking can lead to consumer learning from media, this was not an explicit focus of the research. To expand the potential contribution to the research area, this study broadens and deepens the focus beyond information seeking to encompass customer-learning aspects. Information seeking is viewed as a subset of learning, and expanding the analysis of the research to learning can lead to more useful insights. Hence, one theoretical contribution of this study is that it broadens and intensifies the focus of U&G beyond information seeking into the broader and more meaningful realm of customer learning.

In addition, this study extends the U&G perspective into social interactions. Here, the interaction boundary expands from a dyad to a network. The involved stakeholders in U&G are not limited to the focal companies and customers, as potential customers are also included in an SNBC setting.

Findings on customer learning

Another important result of this study is that customers demonstrate that self-interest motivations can shift into altruistic behaviours. Specifically, our data support the notion that customer-learning motivation and collaborative learning aim to solve a customer's information needs; however, these self-interest motivations could lead to CEBs and revisits to the SNBC under the mediating factor of satisfaction. Conceptually, a positive attitudinal change – in this study, satisfaction – bridges the self-interest motivation and altruistic behaviours. These findings can guide a brand company in how to foster customers' co-creative behaviours more effectively.

The data show that customer learning is critical to explaining both customers' online behaviour and the formation of CEBs. Conceptually, the framework suggests that customer-learning motivation and collaborative learning are drivers of customer-learning satisfaction, resulting in learning performance. Specifically, the model indicates that a customer with a learning motivation enhances his or her learning satisfaction in an SNBC. The more extensive that learners perceive their interactions with other members in an SNBC to be, the higher their learning satisfaction (Sun et al., 2008). Both learning motivation and collaborative learning are drivers of learning satisfaction. Learning motivation is also an antecedent of collaborative learning. In addition, satisfaction is a mediator of both customer-learning factors (i.e. learning motivation and collaborative learning) and learning performance (i.e. CEBs and loyalty). A satisfied customer not only demonstrates CEBs but also shows loyalty to an SNBC. When the customer's learning goal is achieved, he/she will be satisfied with the SNBC, leading him/her not only to revisit the SNBC but also to co-create value based on the customer's CEBs for the brand company.

Characteristics of customer learning in an SNBC

Our findings reveal that customer learning in an SNBC is *collaborative*, *co-creative* and *interactive*. The *collaborative* learning effect occurs when a customer posts a question and other community members discuss the issue and reply with solutions. Customer learning in an

SNBC is *co-creative* because it is reciprocal for both the brand company and the customer. In addition to the altruistic motivation to reply to and answer questions in an SNBC, an online member's interactions extend to potential customers outside the community through either eWOM/WOM or sharing mechanisms. Therefore, customer learning in an SNBC is *co-creative* because it is reciprocal for both the brand company and the customer. Our findings indicate that customer learning is *interactive* in an SNBC because customers not only interact with other members to solve problems but also interact with SNBC brand managers to express what they need. This differs from the traditional understanding of customer learning in the advertising realm, which treats customer learning as a process in which a brand company transfers knowledge of brands and offerings to customers in one direction via various media (Ward & Wackman, 1971).

Managerial implications

The data indicate both that customers with higher learning motivation are likely to interact with other members in an SNBC and that these customers are likely to be satisfied with the SNBC. Moreover, satisfied customers tend to demonstrate CEBs and co-create value with the brand company. Shifting our focus away from information seeking and towards the customer-learning perspective, our study suggests several important practical considerations.

First, this study interprets the process of information acquisition as a method of customer learning rather than limiting information acquisition to serving as a channel to understand customer needs (Hwang, Jani, & Jeong, 2013). The need for different forms of brand information leads to different learning behaviours. Novices, for example, search for general information because they lack product experience or brand information (Tan & Goh, 2015), while experts or experienced users seek detailed information about particular product specifications because they are more immersed in the product's features (Rohm & Swaminathan, 2004). Because learning in an SNBC pushes customers to connect with the brand community, this study indicates that brand managers could explore customers' latent needs and requirements using the content generated from customer interactions in the SNBC. In addition, our findings should motivate brand managers to release new product or service launch information in advance to its SNBC to determine the level of customer acceptance.

Second, learning motivation implies that customers recognise the insufficiency of their knowledge to satisfy the goal at hand. To bridge this gap, this study recommends that brand managers release the latest official news to its hosted SNBC to satisfy customers' learning motivation. An SNBC is a brand communication platform for the interflow of brand knowledge and information. Distributing brand or product information might foster customer-learning motivation.

Third, because customers are capable of answering and replying to other members' questions posted in an SNBC, another implication is that customers possess a certain level of knowledge or brand experience, which should make it possible for brand managers to leverage community members' knowledge or experience to answer other SNBC members' questions via marketing campaigns designed to encourage community member interactions and collaborative learning.

Fourth, customer collaborative learning also implies that brand community members have altruistic motivations. It might be unnecessary for brand companies to invest

considerable financial and human resources in SNBC initiatives (Nambisan & Baron, 2007) because our results show that brand managers can alleviate the workload associated with SNBC management by fostering customer interaction. Social support in an SNBC not only leads to answers to peer questions but also leads to higher customer satisfaction. Our findings suggest that a satisfied customer not only engages in eWOM and brand recommendations but also revisits the SNBC to maintain long-term relationships. Satisfaction results from processing (i.e. evaluating) the effect of a consumption experience (Mano & Oliver, 1993). To capture the co-creation of value (i.e. CEBs) with a customer, an online brand manager should focus on creating an experiential and satisfying process for customer learning instead of deploying a supportive information system for customer value co-creation.

Finally, the customer, who is usually viewed as an exogenous variable to organisations and a passive recipient of marketing efforts (Deshpande, 1983), is becoming a 'partial employee' through the recognition of his or her effort in value co-creation activities (Sweeney, Danaher, & McColl-Kennedy, 2015). The recent literature has increasingly highlighted the efficient management of knowledge and information embedded not only within an organisation but also outside the organisation, among customers (Trainor, Andzulis, Rapp, & Agnihotri, 2014). The underlying rationale stems from the resource-based view, which contends that a brand company generates competitive advantage by developing resources that are difficult to imitate (Barney, Ketchen, & Wright, 2011). Customer learning in an SNBC is a socialisation process that is specific, intangible, and difficult to develop. These distinctive assets are difficult for other companies to imitate, and properly leveraging these co-creation resources can enable a brand company to maintain long-term relationships (Wernerfelt, 2014) and co-create value with customers.

Future directions and conclusion

Given that this area of research is novel in both the marketing and service literature, various future directions for research seem particularly pertinent. First, because this study confirms that customer learning enhances CEBs, different customer-learning roles in an SNBC inspire different behaviours. Identifying customer-learning roles in an SNBC can aid a brand company in formulating customer segmenting programmes to achieve effective marketing strategies. Second, because customer learning leads to the co-creation of value, extending customer learning to the co-creation of innovation is another possible direction for crowd-sourcing investigations. The linkage between customer learning and crowd sourcing or organisational innovation is promising. Third, because social media also have an entertainment factor (Kohler, Fueller, Matzler, & Stieger, 2011), the role of hedonic factors in customer learning and the relationship between customer learning and employee performance or a brand company's performance represent another interesting topic for future discussion. Finally, the relationship between customer learning and brand concepts in an SNBC is another potential area for research. For instance, Park et al. (1986) categorise brand concepts as functional, symbolic and experiential. Brand researchers are encouraged to investigate the differences in customer learning with respect to the different brand concepts in an SNBC.

The theoretical implications of this study include extending the focus of U&G beyond information seeking to encompass customer-learning aspects. In addition,

U&G is extended into social interaction by expanding the interaction boundary from a dyad to a network. The study also helps us understand customer behaviour with regard to learning, and it reveals that customer learning in an SNBC is *collaborative*, *co-creative* and *interactive*. Finally, various implications of customer learning for brand companies are discussed.

Understanding the characteristics of customer learning in an SNBC can illuminate how to co-create value with customers in an SNBC. To co-create value with customers and integrate customers as an internal resource, a brand company should provide comparative skills and knowledge. The value of these offerings will help the brand company maintain and develop long-term relationships with customers in dynamic and turbulent environments.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Dr. Chang-Tang Chiang is an adjunct Assistant Professor of the Department of Accounting Shih Chien University, Taiwan. He earned his PhD degree from Fu Jen Catholic University, Taiwan and a Master of Science degree from St. Louis University in USA. His primary research interests are social media, online relationship quality, and customer relationship management in the service industry. His papers have been published in *Journal of Marketing Management*, *Business Strategy and the Environment*, and *International Journal of Business and Information*.

Dr. Chiou-Fong Wei is an associate professor at Business School in Nanfang College of Sun Yat-sen University, China. He holds a PhD in Business Administration from Fu Jen Catholic University, Taiwan and has published his works in *Journal of Marketing Management*, *Business Strategy and the Environment*, *International Journal of Operations and Production Management*, *International Journal of Business and Management*, and *Advances in Management and Applied Economics*. His research interests include green marketing, communication, and consumer behavior.

Dr. Kevin R. Parker is Chair and Professor of the Department of Informatics and Computer Science at Idaho State University. His research interests include eGovernment and the elderly, business intelligence, and the impact of developments in informatics on curriculum. He holds a BA in Computer Science from the University of Texas at Austin (1982), an MS in Computer Science from Texas Tech University (1991), and a PhD in Management Information Systems from Texas Tech University (1995). He chairs an interdisciplinary academic department that spans the College of Business and the College of Science and Engineering, and offers degrees in business informatics, health informatics, and computer science.

Dr. Bill Davey is a Senior Lecturer in the School of Business Information Technology at RMIT University, Melbourne, Australia. His research interests include methodologies for systems analysis and systems development, information systems curriculum, eGovernment and the elderly, and information technology in educational management. Bill and Kevin have worked together co-operatively on many occasions. They have co-operated on several joint research projects and coauthored several papers relating to management information systems, programming, computers in management, eGovernment and the elderly, and IS curriculum.

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