

# Turning brand credibility into positive word-of-mouth: integrating the signaling and social identity perspectives

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**Abstract** Drawing upon signaling theory and social identity theory, we developed a theoretical model that illuminates the role of brand credibility as an important basis on which customers form and signal their brand-related self and social identities via positive word-of-mouth (WOM). The proposed model was empirically tested using time-lagged data from a sample of 249 students of a top university in a metropolitan city. The findings show that the credibility of a brand is of paramount importance for the customer in developing a sense of oneness with the brand as well as a sense of affinity with other users of the brand. Our study also offers the new insight that brands serve as symbolic devices that customers use in their evolving thought processes that create a link between personal identity and social identity. In addition, brand–social connection is essential in spreading positive WOM. Finally, our findings support a sequential mediation model in which brand credibility is positively related to brand–self

connection and brand–social connection, which in turn are positively associated with positive WOM.

**Keywords** Brand credibility · Brand–self connection · Brand–social connection · Word-of-mouth

## Introduction

The marketing literature has highlighted the role that brand credibility plays when customer uncertainty arises from the imperfect and asymmetric information that characterizes most services (Erdem and Swait 2004; Erdem et al. 2006). Brand credibility is defined as “the believability of the product information contained in a brand, which requires that consumers perceive that the brand has the ability (i.e., expertise) and willingness (i.e., trustworthiness) to continuously deliver what has been promised” (Erdem and Swait 2004, p. 192). Evidence has suggested that brand credibility increases the probability of inclusion of a brand in the consideration set (Erdem et al. 2006), enhances perceived quality (Baek and King 2011), and decreases price sensitivity (Erdem et al. 2002).

However, the literature is silent on the role of brand credibility after the purchase has been made. Prior research has not addressed an important but neglected issue—the implication of brand credibility in spreading positive word-of-mouth and its underlying mechanisms. The specific processes of how brand credibility translates to greater WOM, and the contexts in which the effect of brand credibility is magnified are an important theoretical understanding for marketers seeking to nurture brand advocates via investing in brand credibility. By examining alternative mediating processes between brand credibility and WOM as well as the moderating condition in the

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underlying mechanisms, we shed light on how marketers can allocate investments in brand credibility in a way that can enhance its positive outcomes.

Indeed, industry reports show that approximately 2.4 billion daily conversations are related to a brand (Nielsen 2012; Keller and Fay 2012; Baker et al. 2016). “Brands and word of mouth (WOM) are cornerstones of the marketing field, and yet their relationship has received relatively little attention” (Lovett et al. 2013, p. 427). Moreover, examining the relationship between brand credibility and WOM becomes more critical in the context of services, whereby the quality of services is often very difficult to evaluate prior to or even after consumption (Darby and Karni 1973). The intangible and heterogeneous nature of services increases uncertainty, perceived risk and variability of service quality (Parasuraman et al. 1985). However, since brands often embody signals of quality (Erdem and Swait 1998; Rao and Ruckert 1994; Wernerfelt 1988), brands may be a key ingredient in driving WOM behaviors in services context. Adopting the signaling framework of brand effects on consumer behavior (Erdem and Swait 2004), we explore the critical role that brand credibility might play in fostering positive WOM in services context, especially higher education sector. Compared to several other services, higher education is a complex and credence services that require efforts of both parties (i.e., students and professors) to co-create value and contribute toward the educational success (Gruber et al. 2010). Importantly, students must take responsibility for their own education. With credence attribute, both parties might also be influenced by quality uncertainty and informational asymmetry (Cooper 2007). As noted by Casidy and Wymer (2015, p. 118) “research in university branding seems to be limited, indicating the complexity of such branding,” despite branding’s rise up the strategic agenda for universities, and branding initiatives that result in increased enrollment are more important than ever (Joseph et al. 2012; Chapleo 2010). The higher education sector offers a unique context for exploring the effect of branding on WOM. Indeed, recent research on university branding reveals that students tend to rely on WOM influences in making university choices (Joseph et al. 2012). However, relatively little prior research has addressed the modus operandi through which university branding influences WOM (Casidy and Wymer 2015).

In this current study, we embrace the social nature of services as an essential basis of our investigation of the relationship between brand credibility and WOM. The inseparability of service production and consumption informs that social interactions between a consumer and a service employee are central to the service experience (Lehtinen and Lehtinen 1982). Personal trust, care and connections that arise from social interactions become

especially important for services that are high in credence properties where the service quality is difficult to evaluate (Eisingerich and Bell 2007). Moreover, the presence of other customers during a service encounter and interactions between them further reinforce the social nature of many service contexts (Gummesson and Lovelock 2004).

Recognizing the social nature of service encounters, we adopt social identity theory (Hogg and Abrams 1988) in unraveling the modus operandi through which brand credibility influences WOM. Social identity theory explains that through self-categorization processes, individuals categorize or classify themselves into a social category or group by accentuating perceived similarities with other in-group members in order to form their social identities. Once their social identities are formed, they promote and protect the interests of the group in order to build and maintain a consistent self-image and self-esteem (Tajfel and Turner 1979). This provides a theoretical basis on which individual consumers connect with a social category (the brand) or a social group (other users of the same brand) and enhance, maintain or protect their connections via spreading positive WOM.

Specifically, drawing upon signaling theory and social identity theory, we develop a serial mediation model in that we specify two important mediators—brand–self connection and brand–social connection. Brand–self connection refers to “the extent to which individuals have incorporated a brand into their self-concept” (Escalas and Bettman 2003, p. 329). On the other hand, brand–social connection refers to the extent to which a customer develops the feeling of being connected to other brand users (Lobschat et al. 2013; Fischer et al. 2010). Customers are often in need of making sense of self. They look for “food for thought” (e.g., external factors such as brands and social groups) for their personal and social identity through which their sense of self comes into existence. In this sense, “brands become linked to the self when a brand is able to help consumers achieve goals that are motivated by the self” (Escalas and Bettman 2005, p. 379). Thus, brands become essential resources for the construction of identity (Elliott and Wattanasuwan 1998; Karjaluoto et al. 2016). We propose that brands act as signals of credibility that allow customers to feel safe to self-categorize with other in-group objects (brands) or members (other users of the same brand) and to enhance, maintain or protect their social identities through generating positive WOM.

By revealing the temporal mechanisms based on signaling theory and social identity theory, in which brand credibility increases brand–self connection first, which in turn increases brand–social connection and WOM, we contribute to the theory and research on brand credibility. The current research assists marketers to better understand how their investments in the believability of the brand’s



promises can nurture brand advocates by strengthening brand–self connection and brand–social connection. Moreover, the findings demonstrate that positive outcomes of investing in brand credibility are amplified for customers who have greater memorable experiences with the brand. Thus, this research informs marketers that cultivating positive and memorable brand experiences helps strengthen the indirect effect of brand credibility on WOM.

We organize the remainder of this paper as follows: in the next section, we review the extant literature related to brand credibility, brand–self connection, brand–social connection, and positive WOM. We then present the conceptual framework and propose that there exists indirect relationship between brand credibility and positive WOM and that brand–self connection and brand–social connection would serially mediate the credibility–advocacy relationship (Fig. 1). We also investigate the contexts in which the indirect effect of brand credibility on WOM is amplified. We test the hypotheses using time-lagged data from a sample of 249 students of a top university in a metropolitan city. We then confirm the serial mediation using Preacher and Hayes' (2008) PROCESS, AMOS-SEM and fuzzy-set qualitative comparative analysis. We conclude with a discussion of the theoretical and managerial implications and limitations of the study.

## Theoretical model and hypotheses

### Signaling theory and brand credibility in services context

Signaling theory explains that branding, which acts as a signal of service quality, becomes extremely important, especially in service contexts with a high level of asymmetric information regarding the quality of service that service providers and consumers possess (Spence 1974). Boulding and Kirmani (1993) argue that signaling theory can “greatly enhance our knowledge of consumer behavior under conditions of incomplete information” (p. 122). Conditions of incomplete information are in fact very common in services context. In services context, branding becomes crucial for the success of a company because “the

company offers no fabrics to touch, no trousers to try on, no watermelons or apples to scrutinize, no automobiles to test drive” (Berry 2000, p. 128).

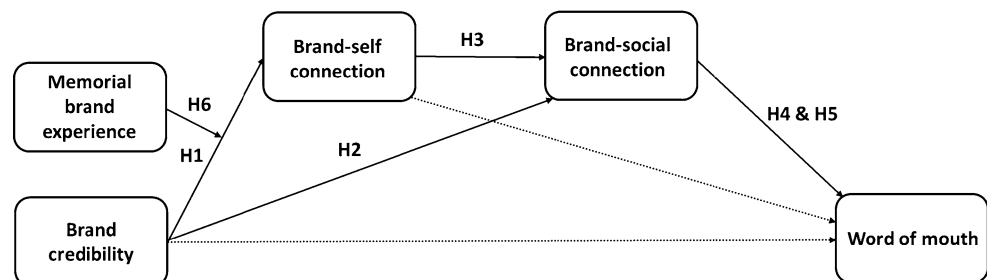
A service brand embodies service attributes, symbolic meanings and functional consequences of the service encounter, and acts as a bridge on which trust is built between consumer and service provider (Davis et al. 2000). A service brand can be seen as a signal to help customers simplify the complexity in choosing service brands (de Chernatony and Riley 1999), and reduce the risk of purchase (Erdem and Swait 1998). Strong brands help customers to reduce their worries about the risks associated with purchasing intangible services that are difficult to evaluate before purchase (Zeithaml et al. 2013).

Although a brand is seen as a signal of product or service quality, the signal must be credible (Wernerfelt 1988). The credibility of the brand is also known as reputation in the economic theory of information (Herbig and Milewicz 1995), which requires consistent investment in and delivery of brand positioning over time, expressing the values, beliefs and identities that a brand stands for with clarity (Erdem and Swait 1998). Erdem and Swait (2004) also show that brand credibility increases perceived quality and reduces perceived risks associated with brand choice. They define brand credibility as the believability of the service position information contained in a brand, and identify the two components of brand credibility as trustworthiness and expertise, or the willingness and ability of a brand to continuously deliver what has been promised. Furthermore, Ghantous (2015, 2016) illustrates the importance of brand credibility, especially in service contexts with relatively high perceived risks, which arise from the intangible and interactive nature of services.

### Word-of-mouth and service brands

In the past decade, it has been widely accepted that building a brand requires creating and conveying a strong identity of the brand to customers (Aaker and Joachimsthaler 2000; Keller and Lehmann 2003). Accordingly, managers have tried to positively influence customers' perception of the brand through marketing programs (Keller 1993). However, customers today are not only the

Fig. 1 Conceptual framework



“recipients” of information about the brand, but they are also the “senders” of that information—for example by introducing the brand, commenting on the brand or sharing information about the brand to others (Hennig-Thurau et al. 2010). Firms cannot fully control the information related to the brand, and hence customers play an important role in shaping the perception of the brand (Keller 2007). Today, the goal of marketing is not only to achieve customers’ purchase, but also to achieve the participation of customers (customer engagement) with the brand. One of the behavioral expressions of customer engagement is word-of-mouth (WOM).

According to Keller (2013), brand communication from a customer is considered an important aspect of brand building because of its higher perceived reliability and relevance than marketing communications. Lobschat et al. (2013) show that WOM is one of the factors that contribute to the social value of the brand, which, in turn, positively affects brand equity value. Brand equity, in turn, positively impacts business performance of the enterprise (Srivastava et al. 1998). Another study by Marsden et al. (2005) showed that for every percentage point of WOM corresponds to £8.82 million in sales. Moreover, the service marketing literature explains that WOM is one of the core influencers of service quality expectations and perceptions (Parasuraman et al. 1985). In this article, given that WOM has an important role in building brand equity and business performance of the brand, we delve deeper into how brand signaling influences WOM using social identity theory.

### Word-of-mouth drivers

One of the most commonly studied drivers of WOM is customer satisfaction. However, the effect of satisfaction on WOM has produced mixed effects (Bettencourt 1997; Heckman and Guskey 1998; Swan and Oliver 1989). Such inconsistent results have prompted efforts in exploring other drivers of WOM such as commitment (Brown et al. 2005; Harrison-Walker 2001), customer delight (Arnold et al. 2005), brand strength (Casidy and Wymer 2015) and brand love (Batra et al. 2012), among others. Moreover, many studies have emphasized the importance of investigating mediating mechanisms when exploring the antecedents of WOM. This approach enables a deeper understanding of why and how key drivers of WOM influence WOM. Brown et al. (2005) argue that investigating a simple direct relationship between an antecedent and WOM provides a limited view. In response, Casidy and Wymer (2015) investigated the effect of brand strength on WOM via satisfaction, which sheds greater insights into the interrelationships among the antecedents of WOM.

Likewise, further research is required to shed light on the underlying processes in which cognitive evaluations of

a brand’s trust and expertise, namely brand credibility, enhance WOM. In this study, we explore how such cognitive evaluations, coupled with affective experiences with the brand, help shape brand–self as well as brand–social connections to influence positive WOM.

### Social identity theory

Social identity theory explains how individuals form their identities by belonging to social categories or groups (Hogg and Abrams 1988). Individuals form sense of self by internalizing shared attitudes, beliefs and values, affective reactions, behavioral norms, styles of speech among members of the same social group or “in-group members” (Stets and Burke 2000). Individuals with strong social identities behave in ways that enhance their self and in-group members’ outcomes (Thoits and Virshup 1997). Individuals act in the best interest of their self and in-group members to maintain and enhance their self-esteem (Turner et al. 1987). This explains why individuals might be motivated to promote and nurture their social identity. Their level of effort in engaging in social group enhancing behaviors increases as their sense of commitment and belonging with the social group increases (Stryker 1980). Since engaging in WOM can be seen as behaviors that maintain or enhance consumers’ membership in a brand and/or with other users of the same brand, we adopt social identity theory in explaining the mechanism between brand credibility and WOM via brand–self connection and brand–social connection.

It is important to note that incorporating the brand to the self-concept and feeling connected to other brand users are two distinct dimensions of social identity. For instance, an individual might identify strongly with the brand, but have no sense of connection with other brand users. This view is in line with the perspective of social identity theory, which posits that there are distinct levels of abstraction or “categories” in which an individual connects with (Turner et al. 1987). These categories range from a personal level (perceiving the self as an individual) to different social levels that expand with greater inclusions of others (e.g., perceiving the self as a member of a smaller group, an organization or a human “species.” This indicates that although brand–self connection and brand–social connection can be seen as the dimensions of social identity, they are distinct constructs where one does not always lead to the other.

However, it may be rarer to find an individual who has a high level of connection with others because they use the same brand as the individual, but have very weak connection to the brand. This suggests that temporal order may exist in which one (brand–self connection) precedes the other (brand–social connection). For example, Park et al.



(2010) argue that brand–self connection causes the individuals to allocate their social resources such as buying the brand products for others. Escalas (2004) reinforces that self-brand connections can satisfy psychological needs that allow individuals to connect with others.

However, we do not argue that positive social benefits that consumers derive from connecting with other brand users do not also strengthen brand–self connection. Stokburger-Sauer et al. (2012) present brand–self similarity and brand–social connection benefits, not as dimensions of consumer-brand identification, but as distinct antecedents of consumer-brand identification, whose effects also depend on memorable brand experiences. Their findings reinforce the idea that brand–self connection and brand–social connection are distinct constructs, but also that positive customer–to–customer interactions may also increase brand–self connection. However, although brand–self connection and brand–social connection may reinforce each other, based on social identity theory, we posit that the fundamental nature of their theoretical relationship favors brand–self connection as a preceding construct. Moreover, based on social identity theory, it is difficult to argue that brand–self connection and brand–social connection are unrelated, having no influence on each other.

### Brand credibility and brand–self connection

In the current study, we argue that a credible brand can create a connection of consumers to the brand more effectively. By categorizing the brand as part of the self, a consumer develops a sense of oneness with the brand, establishing cognitive and emotional links that connect the brand with the self (Park et al. 2010). Brand–self connection is an important aspect of brand attachment, which manifests in both cognitive and emotional connections between the brand and the customer (Chaplin and John 2005; Escalas 2004; Escalas and Bettman 2003). The emotional connection may result in feeling sad or worried about being separated from the brand; feeling happy and comfortable with the closeness with the brand; and feeling proud of the brand (Mikulincer and Shaver 2007; Thomson et al. 2005). Consumers will engage with brands when they reflect who they are (identity basis) or because the brands help to achieve certain goals (Mittal 2006).

Studies show that the brand is seen as a sociocultural symbol (Diamond et al. 2009; Holt 2005; Thompson et al. 2006). According to Elliott and Wattanasuwan (1998), the brand is considered as a good element that can make up the identity of the individual. When a brand reflects characteristics that are considered central to the identity of the individual, the individual identifies with the brand, defines the self-concept using the brand and expresses the self-concept to others (Underwood et al. 2001).

According to social identity theory, individuals identify with social categories and social groups partly to enhance self-esteem (Tajfel 1981). However, they must evaluate their social categories and groups in a positive light in order to enhance their self-esteem, and to identify with them (Oakes and Turner 1980). Therefore, consumers are more likely to identify or connect with social categories or brands that are evaluated positively, and more specifically, credibly. Evidence also suggests that consumers use *trusted* brands to communicate their self-concept (Dolich 1969; Chaplin and John 2005; Hankinson 2004; Escalas and Bettman 2003). Therefore, it is likely that when a brand is perceived or signaled as credible because of its consistent investment and delivery of its brand positioning, and brand-related values, beliefs and identities with clarity, the customer is better able to identify with the brand. Thus, we propose the following hypothesis.

**H1** Brand credibility has a positive effect on brand–self connection.

### Brand credibility and brand–social connection

Individuals often identify themselves with groups of people with similar characteristics to the individual in order to feel a greater self-esteem (Tajfel and Turner 1985). The perception of unity and belonging to a social group allows individuals to experience common successes or failures (Ashforth and Mael 1989). Studies on brand communities show that brands are essential tools for connecting consumers with other people (Muniz and O’Guinn 2001; O’Guinn and Muniz 2009; Stokburger-Sauer 2010). According to Escalas and Bettman (2003), a social group is important for consumers, because consumers often buy and use the brand to confirm their identity within the social group. This is consistent with the findings of Wallace et al. (2012), which showed that more Facebook users who are similar in attitudes and behaviors “like” the brand that reflects themselves (inner self) and the relationships with their friends (social self).

Signaling theory in service branding literature illustrates the positive effect of brand credibility on service quality perceptions (Erdem and Swait 2004). This means that credible brands are seen as having more positive service quality and thus, more attractive compared to non-credible brands. According to social identity theory, individuals tend to put themselves into a group with attractive characteristics, distinctiveness and reputation to improve their own image (Tajfel and Turner 1985; Bhattacharya and Sen 2003). Thus, we expect that credible brands that are seen as more attractive can help customers to enhance their self-esteem by identifying with other customers that use the same brands. However, although it could be argued that





brand–social connection may also influence brand credibility, we argue that it is difficult for individuals to establish and maintain stronger connection with other brand users when the individuals believe that the underlying brand is not credible, trustworthy or is unable to deliver on what it promises.

**H2** Brand credibility has a positive effect on brand–social connection.

### **Brand–self connection and brand–social connection**

The intricate relationship between brand–self connection and brand–social connection can be explained based on social identity theory. According to the theory, the self-concept is comprised of a personal identity (personal characteristics), and a social identity (memberships in social groups) (Mael and Ashforth 1992; Tajfel and Turner 1985). Studies by Wallendorf and Arnould (1988) and Escalas (2004) show that the connection with the brand itself can satisfy the psychological needs of the individual, define the identity of the individual and allow the individual to connect with others. In other words, once the connection with the brand is established, consumers feel the brand reflects who they are, which allows them to feel more comfortable sharing their positive experiences with others. Indeed, it would be difficult to identify with other users of the brand without first identifying with the brand itself. This is consistent with the study by Park et al. (2010), which expands on self-expansion theory by showing that when consumers connect with the brand, they are not just the recipients of the resources that the brand provides, but they also actively invest their resources for the brand. These resources can be social (protecting the brand and its users) (Johnson and Rusbult 1989), financial (willing to pay higher prices or spend more for brand) (Thomson et al. 2005) and time (involved in brand communities and brand promotion through social media) (Muniz and O’Guinn 2001; Schouten and McAlexander 1995). Thus, through these activities, the binding with the brand (brand–self connection) will create social cohesion with the brand (brand–social connection). Thus, we hypothesize:

**H3** Brand–self connection has a positive effect on brand–social connection.

### **Brand–social connection and positive word-of-mouth**

According to social identity theory, when individuals have identified themselves with a social group, they will promote and protect the interests of the group in order to build and maintain a consistent self-image and self-esteem (Tajfel and Turner 1979). Such actions of promotion and

protection, which arise from a stronger connection to other users of the brand, manifest in various forms including stronger cooperation (Ashforth and Mael 1989), loyalty (Bhattacharya and Sen 2003; O’Reilly and Chatman 1986), commitment (Bergami and Bagozzi 2000), and organizational citizenship behaviors (Morrison 1996).

Lovett et al. (2013) studied the elements of brand characteristics and word-of-mouth (WOM) for American brands in different product and service categories. They identified social, emotional and functional brand characteristics. Social factors are represented by the ability of the brand to assist consumers to express their personality, uniqueness, status and expertise. Thus, belonging to a social group of a brand helps customers to engage in WOM to further demonstrate their personality, uniqueness, status and expertise. Based on these arguments, we argue that:

**H4** Brand–social connection has a positive effect on positive WOM.

### **The interplay among brand credibility, brand–self connection, brand–social connection, and positive word-of-mouth**

We argue that brand credibility allows customers to identify with the brand and other users of the brand, which in turn increases their willingness to actively promote the brand. Brand credibility provides a firm basis for individuals to relate to the values, beliefs and symbolic identities that the brand represents, and to relate to other users of the brand with greater confidence. Then, they engage in positive WOM as a way to express and promote their self-identity that is shaped by their connections to the brand and its users. In the following section, we seek to clarify this mechanism.

Signaling theory illustrates that, due to information asymmetry in services context, brands are important signals of service quality, and the signals must be credible to increase consumer choice (Erdem and Swait 2004). Social identity theory informs that individuals identify with and promote social categories and groups that are seen as attractive (Tajfel and Turner 1985). Using these two theories, we argue that consumers are more likely to connect with a brand and other users of the brand when it signals high credibility. In turn, they are more likely to engage in behaviors that maintain, enhance and promote their brand–self identity and brand–social connection identity.

Previous research provides evidence that brand credibility, brand–self connection and brand–social connection may be associated with positive WOM. Morhart et al. (2015) have shown that the authenticity of the brand has a positive effect on positive WOM. Notably, authentic brands that deliver what they say they will (brand



credibility) and brands that help customers to express who they are (brand symbolism) have been identified as significant predictors of positive WOM. Another study by Badrinarayanan and Laverie (2013) showed a positive relationship between trust toward salespeople and manufacturer and WOM. Trustworthiness and expertise of the brand, thus, allow customers to promote the brand.

Self-brand connection is seen as a key driver of WOM. Stokburger-Sauer et al. (2012) and Popp and Woratschek (2017) found that when people perceive a psychological association with their self and the brand, or consumer-brand identification, they will be inclined to act as brand advocates. In particular, consumer-brand identification is understood as the perception consumers have about the similarities between themselves and brands, which reflects a sense of who they are, and a sense of belonging. When individuals identify with a certain brand, they act in ways that can benefit the brand (Kuenzel and Vaux Halliday 2008; Underwood et al. 2001). Kemp et al. (2012) found a positive relationship between self-brand connection with WOM. Howard and Kerin (2013) show that consumers love the brand that has the same name as their last name, which is explained by their ego gratification and a desire to express themselves.

In this research, we argue that consumers will engage in greater positive WOM when the brand helps to express their personal and social identities. Wallace and colleagues (2012, 2014) show that consumers engage in WOM, especially for self-expressive brands that reflect themselves (inner self) and the relationships with their friends (social self). Alexandrov et al. (2013) have emphasized that WOM is a social process. Unlike previous studies that often rely on the characteristics of the brand to explain WOM, this study shows that people engage in WOM when brands satisfy self needs (self-enhancement and self-affirmation) as well as social needs (social comparison, social bonding, prosocial motivation).

However, prior research has not yet examined how brand credibility increases positive WOM via brand–self connection and brand–social connection. In this research, we aim to clarify this mechanism. In brand communities, a member does not just identify with the community but also with the brand (Bagozzi et al. 2012; Bagozzi and Dholakia 2006; O’Guinn and Muniz 2009). Thus, the brand has the role to connect people, forming social relationships that are beneficial to consumers. Through these relationships, consumers interact and share information about the brand, forming social values of the brand (social currency/brand’s social value) (Lobschat et al. 2013). These studies demonstrate the importance of brands in creating opportunities for individuals to interact to create social value. Therefore, it is even more critical for brands to be established as credible in the minds of customers for them to be

comfortable in rooting their social interactions on the brands.

Thus far, we have illustrated that the credibility of the brand reflects the confidence of consumers in the ability and willingness to deliver what was promised, which allows consumers to have the connection with the brand to enhance the evaluation itself. Through engagement with the brand, these individuals tend to connect to a brand community to affirm self-image and social relationships. Cohesion among group members with their brand will stimulate positive advocacy for the brand to protect their image and to raise the appreciation of themselves. Therefore, we argue that brand credibility positively influences positive WOM through the sequential impact via brand–self connection and brand–social connection:

**H5** The effect of brand credibility on positive word-of-mouth is serially (and positively) mediated by brand–self connection and brand–social connection, respectively.

#### **Moderated mediation by memorable brand experiences**

Thus far, we have argued that brands act as signals of credibility that allow customers to feel safe to self-categorize with other in-group objects (brands) or members (other users of the same brand) and to enhance, maintain or protect their social identities through generating positive WOM. We further argue that the effect of brand credibility on WOM via self-brand connection is not uniform across all customers. Customers differ in the extent to which they form brand-related narratives based on brand consumption experiences (Escalas 2004; Sujan et al. 1993). Previous research shows that the more memorable brand experiences or “positive, affectively charged memories of prior brand experiences” a customer has, the more the person will identify with that brand (Stokburger-Sauer et al. 2012, p. 410). Torres et al. (2017) also show that memorable brand experiences are a powerful driver of repurchase intentions. We argue that the effect of brand credibility on brand–self connection depends on customers’ affective brand experiences. Brand credibility is mainly a cognitive evaluation of the brand’s trust and expertise. When such cognitive evaluation is imbued with positive, affective brand experiences, the customer is more likely to build stronger connections to the brand.

**H6** The effect of brand credibility on brand–self connection is positively moderated by memorable brand experiences.



## Research methodology

### Research context

Higher education is regarded as services of learning and training that branded universities provide to consumers (McAlexander et al. 2006). Diversified development of educational institutions and the types of training provided to learners has led to intense competition in attracting students. Thus, Curtis et al. (2009) emphasized the importance of branding in the higher education sector, where the brand has important implications for attracting students as well as faculty and staff. According to Bennett and Ali-Choudhury (2009, p. 85), “a university’s brand is a manifestation of the institution’s features that distinguish it from others, reflect its capacity to satisfy students’ needs, engender trust in its ability to deliver a certain type and level of higher education, and help potential recruits to make wise enrollment decisions.”

Thus far, a number of studies have explored factors that can strengthen university brands. For example, Sultan and Yin Wong (2014) have emphasized the role of marketing communications and students’ past experience of study and interaction in shaping the service quality perceptions and brand image. Whisman (2009) emphasized the role of internal branding via fostering a positive organizational culture and creating an open dialogue among employees, students and external stakeholders for strengthening a university brand. The study by Joseph et al. (2012) also demonstrates the importance of word-of-mouth for university branding, specifically in motivating potential students’ university selection. Extending this prior research, we examine service branding in the context of higher education, and the effect of university brand credibility on WOM.

### Measurement instrument

We developed the measurement instrument from existing measures in research. On the basis of Erdem and Swait (2004), we measured brand credibility with seven items reflecting trustworthiness (five items) and expertise (two items). We asked the respondents the degree to which the brand has the ability (i.e., expertise) and willingness (i.e., trustworthiness) to continuously deliver what has been promised (seven-point scale where 1—strongly disagree, 7—strongly agree). We measured brand–self connection with two items taken from Park et al. (2010). We asked the respondents the extent to which they develop a sense of oneness with the brand, establishing cognitive and emotional links that connect the brand with the self (seven-point scale where 1—strongly disagree, 7—strongly agree).

Drawing on Lobschat et al. (2013) and Fischer et al. (2010), we measured brand–social connection with five items asking the respondents the extent to which they develop the feeling of being connected to other brand users (seven-point scale where 1—strongly disagree, 7—strongly agree). We measured WOM with three items borrowed from Alexandrov et al. (2013), asking the respondents to indicate the likelihood that they actively recommend and support the brand to others (seven-point scale where 1—very unlikely, 7—very likely). We included several control variables such as age, gender, education and income. In addition, we also included brand-related controls such as brand uniqueness (4-item scale adapted from Bhattacharya and Sen (2003), e.g., “The brand is unique in comparison with other brand,” “The brand stands out from its competitors”), and perceived quality (“The quality of this brand is very high,” “In terms of overall quality, I’d rate this brand as a...”; Erdem and Swait 1998, 2004). Previous research has shown that perceived quality and brand uniqueness are positive drivers of WOM (Kemp et al. 2012).

### Crafting the survey questionnaire and item refinement

Having discussed the operationalization of constructs and measurement scales, we crafted the survey questionnaire and refined items prior to data collection. Specifically, we prepared the original survey items in English and two bilingual academics translated the surveys independently into Vietnamese using back translation method (Brislin 1970). The two translators then discussed and had full agreement about correct wording, expressions, and readability of the translated surveys. To minimize the cost of responding, we ensured that the survey questionnaire takes no longer than 15 min to complete. Moreover, most of the questions were designed such that they only involved selecting the answers from a range of responses, hence reducing the mental and physical effort required for answering them. To establish trust, the logo of the university was put on every page of the questionnaire, thus giving a sense of legitimacy.

Before the questionnaire was launched, we employed a number of procedural remedies to reduce potential ambiguities and bias and minimize self-generated validity. With respect to potential ambiguities and bias in scale items, we avoided ambiguous or unfamiliar terms, kept the items simple, specific, and concise, and avoided double-barreled questions. By doing so, we aimed at reducing the probability that respondents may develop their own systematic response tendencies. We also asked four academics, who are experienced in questionnaire design and market research, to independently review the questionnaire and





provide feedback on the wording of the questions, clarity of the measurement items, and the overall structure of the questionnaire. We also employed several procedural remedies to minimize self-report validity, which may inflate the correlations between constructs. For example, we randomly interspersed items throughout the survey. We also inserted an irrelevant question in the middle of the survey. We separated the items of the independent and dependent variables by introducing a time lag between them when they were measured. In particular, we divided the questionnaire items into two surveys. Survey 1 included items that measure brand credibility, brand–self connection and brand–social connection. Survey 2 included items that measure memorable brand experience, positive WOM and demographic questions. Upon finalizing the survey items, we ensured that issues pertaining to the layout of the survey, opening instructions, and question sequences were properly addressed. Following the conventional approach recommended by Burns Alvin and Bush Ronald (1995), demographic questions were placed at the end of the survey.

### Data and procedures

We employed a self-administered online survey via Google Doc. The advantage of this method is threefold. First, we are able to collect a reasonably large amount of data at a relatively low cost (Hair et al. 2008). Second, the data collection process is shortened as the online survey can reach potential respondents instantly regardless of geographic distance and respondents are able to complete the questionnaire in their own schedule. Third, the online survey method prevents data entry errors.

The study was carried out at a large university in Vietnam. We planned a 1-month time lag between the first (Time 1, Survey 1, February 2016) and second (Time 2, Survey 2, March 2016) waves. The data collection completed within 2 weeks in each period. We personally contacted the university asking for authorization to contact their students. We received an email list of 2000 students studying in business disciplines. Participants were asked to provide their email addresses in both Survey 1 and Survey 2. Survey 1 was completed by sending the link of the survey to participants via emails. A reminder email was sent to the participants after 2 weeks. A total of 417 participants responded at Time 1 to Survey 1. One month later, 417 respondents participated in Survey 1 were invited via emails to complete Survey 2. A reminder email was also sent to the participants after 2 weeks. The participants were also asked to provide their email addresses in Survey 2. After 4 weeks, we received 249 completed questionnaires.

## Data analysis and findings

### Sample profile

The participants were 249 students from a large university in a metropolitan city in Vietnam. Their age ranged from 19 to 52 years (mean = 23.03 years, SD = 4.61). The gender ratio of the participants was 32.5% male to 67.5% female. Most participants were educated to bachelor's degree level (81.9%). One half of the participants (54.2%) earned a salary of less than 3,000,000 VND. The demographic characteristics of the sample are given in Table 1. There were no differences between early and late respondents in relation to all key constructs of the study including demographic variables. This indicates that nonresponse bias was not a significant issue in our data (Armstrong and Overton 1977).

### Common method variance

Common method variance (CMV) is a systematic measurement error that can bias relationships of the predictors and outcomes (Johnson et al. 2011; Podsakoff et al. 2003). CMV may have an impact on the findings in this study as we used the survey data. Following Podsakoff et al. (2003), we attempted to control for CMV with both procedural and

**Table 1** Demographic characteristics of the sample ( $N = 249$ )

Participant characteristics	Number	Percent
Age: mean = 23.03 years, SD = 4.61		
Gender		
Male	81	32.5
Female	168	67.5
Education		
High school	10	4.0
Diploma	35	14.1
Undergraduate	204	81.9
Internet experience		
1–3 years	30	12.0
4–6 years	96	38.6
7–9 years	76	30.5
≥ 10 years	47	18.9
Income (USD)		
< 3,000,000	135	54.2
3,000,001–5,000,000	39	15.7
5,000,001–10,000,000	62	24.9
10,000,001–15,000,000	8	3.2
15,000,001–20,000,000	2	.8
> 20,000,000	3	1.2

Approximate exchange rate VND \$20,000 = USD \$1



statistical remedies. With respect to procedural remedies, as discussed in “[Crafting the survey questionnaire and item refinement](#)” section, we reduced evaluation apprehension, improved item wording and introduced a time lag between when the independent and dependent variables were measured. We also used statistical remedies to assess and mitigate the threat of CMV.

First, we used a Harmon’s single factor analysis and found that more than one factor emerged from unrotated exploratory factor analysis (the first factor accounted for 11.23% of the 72.10% explained variance). This suggests that a substantial amount of common method variance is not present in the data (Podsakoff et al. 2003). Next, we used the marker variable technique (Lindell and Whitney 2001; Malhotra et al. 2006). We selected a marker variable that is not theoretically relevant to the dependent variable (“I am satisfied with the telecommunication service provider I have chosen.”). We calculated the average absolute correlation between the key constructs in our model and the marker variable ( $rM = .27, p < .01$ ). Next, we calculated the correlations between the key constructs in our model ( $rU$ ) and then the differences between  $rU$  and  $rM$ . These differences were adjusted following Eq. 4 in Lindell and Whitney’s (2001, p. 116) paper to derive  $rA$ . Every  $rA$  remained significant, which indicates that the results cannot be accounted for by CMV.

### Convergent validity

As shown in Table 2, factor loadings for all items exceeded .5, indicating adequate item reliabilities (Hulland 1999). Composite reliabilities were satisfactory as they were greater than .7 (Nunnally 1978), and the values of average variance extracted (AVE) for all constructs were greater than .5, indicating convergent validity (Fornell and Larcker 1981).

Fit statistics including all key constructs show fair fit (root-mean-square error of approximation [RMSEA] = .09; comparative fit index [CFI] = .933, standardized root-mean-square residual [SRMR] = .049). Next, we changed the measurement model structure to include brand credibility as a second-order construct and found improvements in the model fit (RMSEA = .089; CFI = .932). Thus, we use the second-order measurement model for our hypothesis testing.

### Discriminant validity and multicollinearity test

Table 3 shows that the square roots of the AVE values were greater than all corresponding correlations, indicating discriminant validity of all key variables in the study were satisfactory (Fornell and Larcker 1981). Table 3 also presents the heterotrait–monotrait (HTMT) ratios and the

highest upper confidence interval of all HTMT ratios did not include 1. This suggests stronger evidence for discriminant validity than Fornell and Larcker’s method (Henseler et al. 2015). Moreover, the highest variance inflation factor (VIF) value was 3.55, which is well below 10, suggesting that multicollinearity is not a concern (Hair et al. 1992).

### Hypothesis testing

In order to test our hypotheses, we conducted a series of analyses using the bootstrapping bias-corrected confidence interval procedure with the SPSS macro PROCESS (Preacher and Hayes 2008). The advantage of using PROCESS in this study is that it provides statistical tests regarding whether the mediators in our model are more appropriate as serial mediators or are unrelated to each other affecting WOM in parallel. This procedure uses an OLS path analysis to estimate the coefficients in the model. We used 95% confidence interval and 5000 bootstrap resamples for the coefficient estimation.

In Table 4, Model 1 shows that brand credibility is positively related to brand–self connection ( $\beta = .95, t\text{-value} = 10.82$ ), supporting H1. Model 2 shows that brand credibility is positively related to brand–social connection ( $\beta = .57, t\text{-value} = 6.90$ ), while brand–self connection is positively related to brand–social connection ( $\beta = .19, t\text{-value} = 3.85$ ) in support of H2 and H3, respectively. Finally, Model 3 shows that brand–social connection is positively related to WOM ( $\beta = .18, t\text{-value} = 2.29$ ) in support of H4. To test the serial mediation (*brand credibility* → *brand–self connection* → *brand–social connection* → *brand advocacy*), we specified Model 6 in PROCESS. The results show that there is a significant serial mediation in support of H5 (Table 4;  $\beta = .03; p < .05; 95\% \text{ CI } [.003, .089]$ ). Finally, we used Model 7 in PROCESS to test for moderated mediation (H6), that memorable brand experiences moderate the relationship between brand credibility and brand–self connection, which, in turn, influences brand–social connection. H6 was supported ( $\beta = .01; p < .05; 95\% \text{ CI } [.003, .027]$ ).

### Robustness check

We also used AMOS-SEM (AMOS 18.0) to test the structural model. The results demonstrate that the sequential mediation model fit the data well ( $\chi^2 = 330.840$  with 107 degrees of freedom,  $p = < .01$ , normed Chi square ( $\chi^2/df$ ) = 3.092, goodness-of-fit index (GFI) = .87, root-mean-square error of approximation (RMSEA) = .09, CFI = .93, and Tucker–Lewis index (TLI) = .92 (Hu and Bentler 1999; Steiger 2007)). This sequential mediation model has better fit than the model with the two mediators as parallel



**Table 2** Scale items and latent variable evaluation

Construct and items	Loading
<i>Brand credibility</i> (AVE = .70, composite reliability = .94)	
Trust (AVE = .72, composite reliability = .93)	
1. This brand delivers what it promises (BTR1)	.88
2. This brand's product claims are believable (BTR2)	.89
3. Over time, my experiences with this brand have led me to expect it to keep its promises, no more and no less (BTR3)	.86
4. This brand has a name you can trust (BTR4)	.85
5. This brand doesn't pretend to be something it isn't (BTR5)	.76
Expertise (AVE = .84, composite reliability = .91)	
6. This brand reminds me of someone who's competent and knows what he/she is doing (BE1)	.90
7. This brand has the ability to deliver what it promises (BE2)	.93
<i>Brand-self connection</i> (AVE = .90, composite reliability = .95)	
8. This brand is part of me and who I am (BSC1)	.94
9. I feel I am personally connected to this brand (BSC2)	.95
<i>Brand-social connection</i> (AVE = .70, composite reliability = .92)	
10. Through this brand, I feel like a member of a community (BSC1)	.88
11. I feel a connection to other users of this brand (BSC2)	.86
12. I get to know interesting people through this brand (BSC3)	.82
13. To me, this brand is indeed important because I believe that other people judge me on the basis of it (BSC4)	.84
14. I pay attention to this brand because its buyers are just like me (BSC5)	.80
<i>Positive WOM</i> (AVE = .81, composite reliability = .93)	
15. Say positive things about this brand	.89
16. Recommend this brand to others	.94
17. Recommend this brand to someone else who seeks my advice	.86
<i>Brand uniqueness</i> (AVE = .74, composite reliability = .92)	
18. The brand's efforts are different from that of other brands	.85
19. The brand is unique in comparison with other brand	.87
20. The brand stands out from its competitors	.87
21. The brand's efforts are distinct from that of its competitors	.85
<i>Brand quality</i> (AVE = .80, composite reliability = .88)	
22. The quality of this brand is very high	.85
23. In terms of overall quality, I would rate this brand as a ...	.94
<i>Memorable brand experience</i> (AVE = .90, composite reliability = .96)	
24. I have had a lot of memorable experiences with this brand	.94
25. Thinking of this brand brings back good memories	.96
26. I have fond memories of this brand	.95

AVE average variance extracted

processes (GFI = .84, RMSEA = .10, CFI = .92, TLI = .90). Consistent with regression results, we found that brand credibility has a positive effect on brand-self connection ( $\beta = .89$ ,  $t$ -value = 9.34) and brand-social connection ( $\beta = .61$ ,  $t$ -value = 7.25). Brand-self connection is positively related to brand-social connection ( $\beta = .41$ ,  $t$ -value = 6.25), and brand-social connection is positively related to WOM ( $\beta = .35$ ,  $t$ -value = 2.76).

Using PROCESS Model 7, we examined an alternative model whereby the effect of brand credibility on positive word-of-mouth is serially (and positively) mediated by brand-social connection and brand-self connection,

respectively. However, this alternative serial mediation model was not significant ( $\beta = .00$ ;  $p > .05$ ; 95% CI [- .033, .065]). We also assessed the two mediators as a parallel process whereby brand-self connection and brand-social connection act as simple mediators between brand credibility and WOM. However, the indirect effect via brand-self connection was not significant, while the indirect effect via brand-social connection was significant ( $p < .05$ ). Together, the results show that the proposed sequential mediation model (brand credibility  $\rightarrow$  brand-self connection  $\rightarrow$  brand-social connection  $\rightarrow$  WOM) is a better model than an alternative sequential mediation



**Table 3** Construct means, standard deviations and correlations

Constructs	Mean	SD	1	2	3	4	5
Brand credibility	4.71	1.09	<b>.84</b>				
Brand–self connection	4.45	1.39	.73	<b>.95</b>			
			(.81)				
Brand–social connection	4.78	1.17	.79	.70	<b>.84</b>		
			(.87)	(.78)			
Memorable brand experience	4.58	1.46	.69	.82	.68	<b>.95</b>	
			(.71)	(.90)	(.74)		
Positive WOM	5.59	.97	.45	.36	.43	.38	<b>.90</b>
			(.49)	(.41)	(.49)	(.42)	

Correlation between variables (off diagonal), heterotrait–monotrait ratios (in bracket), square root of AVE (bold diagonal)

model or a model with the two mediators as a parallel process.

To further validate our findings, we collected 152 responses from staffs of the university. All of the significant relationships in the student sample remained significant, enhancing the robustness of our findings. We also examined a competing model with brand–self connection and brand–social connection as moderators between brand credibility and brand advocacy. We found that the moderating effects of brand–self connection and brand–social connection were insignificant ( $p = .21$  and  $p = .14$ , respectively), providing greater evidence for the serial mediation model as opposed to the moderating model.

Furthermore, we used fsQCA as an alternative to conventional regression analysis. First introduced by Ragin (1987), fsQCA is based on a set theoretical approach that uses Boolean algebra to study configurations of causal conditions related to the outcome. In contrast with net-effects analyses (e.g., SEM, multiple regression, ANOVA) which examine direct and indirect effects of individual independent variables on outcome variables, fsQCA identifies combinations of causal conditions that can lead to the outcome of interest in the real world, as it maintains the integrity of individual cases in analyzing the data. Specifically, we conducted fuzzy-set qualitative comparative analysis (fsQCA) to show that the presence of brand credibility, brand–self connection and brand–social connection is required to increase brand advocacy. We calibrated all variables of our study, which involves classifying values of each variable into full membership (covering 95% of the data values), cross-over (covering 50% of the data values) and full non-membership (covering 5% of the data values) (Ragin 2008). The results show that the combination of brand credibility, brand–self connection and brand–social connection is sufficient in increasing brand advocacy (raw coverage = .64; consistency = .84). This illustrates that brand credibility, brand–self connection and brand–social connection are important elements of

a complex causal combination in explaining brand advocacy.

## Discussions and implications

Drawing upon signaling theory and social identity theory, we developed a theoretical model that illuminates the important role of brand credibility as a basis on which customers develop and signal their personal and social identity via positive WOM. Our study contributes to branding theory in four main ways.

First, the direct effects of brand credibility on brand–self connection and brand–social connection shed new light on the importance ascribed to brands as symbolic resources for customers to construct their personal identity and social identity. Prior research has primarily studied the credibility of a brand as a signal of product quality (Erdem and Swait 1998; Rao and Ruekert 1994; Wernerfelt 1988). In this sense, brand credibility serves as a driver of brand choice and brand consideration (Erdem and Swait 2004; Erdem et al. 2006), price sensitivity (Erdem et al. 2002), customer loyalty (Sweeney and Swait 2008) and perceived quality (Baek and King 2011). We extend this body of knowledge by examining the identity signaling effect of brand credibility. Our study is the first that combines signaling theory with social identity theory showing that brand credibility influences brand–self connection and brand–social connection. We enrich social identity theory (Tajfel and Turner 1979; Hogg 2006) by illuminating that when the brand–self connection is activated, the brand becomes a personal identity signal to the customer. In addition, we also find that when the brand–social connection is activated, the brand becomes a means to signal group membership. In this sense, the credibility of a brand is of paramount importance for the customer to develop a sense of oneness with the brand as well as a sense of affinity with other users of the brand. Our findings reinforce Grubb and





**Table 4** Results for conceptual model

Independent variables	Model 1 Brand–self connection	Model 2 Brand–social connection	Model 3 WOM		
Brand credibility	.95** (10.82)	.57** (6.90)	.18 (1.66)		
Brand–self connection	–	.19** (3.85)	.05 (.79)		
Brand–social connection	–	–	.19* (2.29)		
<i>Control variables</i>					
Age	– .06** (– 3.39)	.01 (1.15)	.02 (1.20)		
Gender	– .05 (– .43)	.10 (.94)	.00 (.03)		
Education	– .17* (– 2.09)	– .05 (– .74)	– .06 (– .79)		
Income	– .01 (– .20)	– .11* (– 2.15)	.06 (.85)		
Brand quality	– .04 (– .40)	.10 (1.30)	.11 (1.19)		
Brand uniqueness	.03 (.36)	.03 (.36)	– .11 (– 1.21)		
$R^2$	.59	.66	.24		
Indirect effects			Estimate	LLCI	UCLI
Brand credibility → brand–self connection → brand–social connection → WOM			.03*	.003	.089
Index of moderated mediation	Index			LLCI	UCLI
	.01			.00	.03
Memorable brand experience	Conditional indirect effects of brand credibility on brand–social connection via brand–self connection			LLCI	UCLI
Mean – 1SD = 3.12	.07			.02	.18
Mean = 4.58	.09			.02	.19
Mean + 1SD = 6.05	.11			.03	.22

$N = 249$ ;  $t$  values in bracket

LLCI lower level of the 95% confidence interval, UCLI upper level of the 95% confidence interval

\*, \*\*significant at the .05 and .01 levels, respectively (2-tailed  $t$  test)

Grathwohl's (1967) study and other advocates of the individual self-enhancement theory who argue that brands help consumers articulate their identities (Stokburger-Sauer et al. 2012). Supporting the information economics perspective on the value ascribed to brands by customers, our findings signify the important role of brand credibility in imperfect and asymmetrical markets, such as higher education with credence services, where customers have difficulties in gathering service information and cannot make confident evaluations even after purchase or experience (Keh and Pang 2010; Ostrom and Iacobucci 1995).

Second, we find strong support for the theoretical contention that “the consumer's self does not develop in

isolation but rather evolves within a complex process of social interaction” (Fischer et al. 2010, p. 826). The essence of social identity theory lies on two facets: (1) personal identity that relates to unique personality, representing intrinsic values, (2) and social identity that relates to the shared identity, representing extrinsic values. We empirically show that a brand becomes more meaningful when the brand–self connection (i.e., personal identity) is linked to the brand–social connection (i.e., social identity). Our study offers the new insight that brands serve as symbolic devices that customers use in their evolving thought processes that create a link between personal identity and social identity.



Third, our findings also suggest a link between brand–social connection and WOM. This is in line with prior research indicating that “consumers are more likely to provide WOM for products that are relevant to self-concept than for more utilitarian products” (Chung and Darke 2006, p. 269). Social identity is “that *part* of the individuals’ self-concept which derives from their knowledge of their membership of a social group (or groups) together with the value and emotional significance of that membership” (Tajfel 1981, p. 255). Although existing research on social identification acknowledges that individuals who develop a sense of affinity with others in a certain group behave positively towards the group (Mael and Ashforth 1992; Bhattacharya et al. 1995), little is known about the implication of brand–social connection in turning customers into advocates. Our study is a response to this void and support Bhattacharya and Sen’s (2003) contention that “consumers become champions of the companies with whom they identify” (pp. 76–77).

Finally, in the current study, we seek to shed light on the complex link between brand credibility and positive WOM by serially specifying two important mediators—brand–self connection and brand–social connection. We provide insight into the possible nature of the relationship among brand credibility, brand–self connection, brand–social connection in the prediction of positive WOM. Specifically, our findings support a sequential mediation model according to which brand credibility is positively related to brand–self connection and brand–social connection, which in turn are positively associated with positive WOM. Our findings support prior work of Elliott and Wattanasuwan (1998, p. 133) who state that “the development of individual self-identity is inseparable from the parallel development of collective social identity... the *internal–external dialectic of identification* [in that] self-identity must be validated through social interaction and that the self is embedded in social practices.” Furthermore, the sequential mediation view (H5) as well as the moderated mediation view (H6) add to the extant literature on the interrelationships among various antecedents of WOM (Brown et al. 2005; Casidy and Wymer 2015; Chitturi et al. 2008).

Our findings have several managerial implications. When “turning customers into advocates” is an engine for business growth, brand credibility, brand–self connection and brand–social connection can make a difference. Building strong brand credibility is a key strategic asset of any firm; however, our findings suggest that brand credibility is not sufficient for nurturing positive WOM. Instead, what managers should be cognizant of is how customers construct their identity via brand–self connection and brand–social connection. Our significant managerial implication is that forming brand–self connection and brand–social connection is a psychological manifestation

of intangible brand assets. Marketers should take into consideration the two forms of connections simultaneously in their marketing activities that are designed to enhance the perceptions of brand credibility. A deeper understanding of underlying processes via which brand credibility influences WOM should inform marketers to better design their interactive components of brand to customer interactions in a way that can enhance customers’ self and social connections with the brand, and ultimately, WOM.

For instance, managers might focus on enhancing brand credibility in order to nurture their relationship with customers, and in turn, stimulate positive WOM. However, our findings suggest that managers would be able to generate more positive WOM by nurturing their relationship with customers as well as customers’ relationships with other customers. Managers’ efforts to optimally generate WOM may be inadequate if the importance of brand–social connection is neglected. Therefore, managers’ understanding of the signaling effect of building brand credibility needs to be enriched by incorporating social identity perspective. In other words, efforts should be made to turn on brand credibility signal in nurturing both brand–self connection and brand–social connection when stimulating positive WOM.

### Limitations and directions for future research

The contributions of the current study should be examined in light of its limitations, which may open new directions for future research. The correlational nature of our data limits the complete validity of the proposed direction of causality, although we have drawn from extensive prior research, time-lagged data and multiple samples to formulate and test our hypotheses. Experimental studies that carefully manipulate brand credibility would further strengthen our proposed framework.

The current research examined the validity of the conceptual model in one services context (education) and one university brand. Future research should address this important limitation by exploring multiple brands with varying degrees of brand credibility across multiple service contexts. With this regard, future research may recruit MTurk respondents or MBA students and test the model in non-higher-education contexts. Moreover, this research did not investigate any moderating factors that may influence the mediating mechanisms. For instance, depending on the type of service or customer profiles, brand credibility may lead to positive WOM via brand–self connection or via brand–social connection. In fitness gym service context, a customer may rarely interact with other members, but still engage in positive WOM because of a strong brand–self connection. Another customer may generate positive



WOM even though he or she does not feel strongly connected to the gym brand, but because the customer feels strongly connected to other members. In another case, a customer may simply generate positive WOM without feeling connected to the brand or other members simply because of a referral reward. These instances should be investigated further in future research.

Extending the recent research on the effect of recommending a brand on the recommender's future loyalty to the brand (Garnefeld et al. 2013; Garnefeld et al. 2010), it would be interesting to explore the effect of "defending a brand" on future loyalty intentions. This may inform the possibility of creating and portraying an "enemy" brand to further enhance the loyalty of existing customers. Encouraging and nurturing a rivalry between the focal brand and its enemy brand may be an effective strategy for customer relationship management.

Future studies may also explore whether different effects exist between word-of-mouth contents that are perceived to be based on brand–self connection (Brand X is part of who I am) or brand–social connection (I am a part of Brand X's community). Do word-of-mouth contents that reflect brand–self connection or brand–social connection have different persuasive effectiveness? The effect of actual contents of positive WOM from existing customers on non-customers' perceived credibility of the brand should be studied further. Indeed, investigating the content of word-of-mouth is an important area of research that is gaining an increasing attention (Ludwig et al. (2013); Moore 2015).

Another interesting avenue for future research on the effect of WOM content is the intricate relationship between bias and perceived credibility. For instance, a brand advocate may be seen as someone whose opinion is skewed or biased in favor of the focal brand, which may reduce the credibility of the opinion. However, a certain level of assertiveness and confidence in the advocate's message may be required to enhance the message credibility. Here, an inclusion of a negative opinion on a minor aspect of the brand may enhance the perceived critical thinking of the advocator and in turn, the message credibility. Furthermore, researchers may also look at the characteristics of positive WOM communicators beyond the characteristics of WOM contents to deepen our understanding of the drivers of brand credibility. In other words, "who is communicating what?" may be the question that can continually spark innovation in research on WOM.

Finally, future research may also extend the scope of our study by bringing into the current theoretical model digital-related constructs such as online reviews, influencer credibility and negative e-WOM. Such an attempt may make the investigation more specific in the perspective of credibility issues faced by institution brands in the digital age.

## Compliance with ethical standards

**Conflict of interest** On behalf of all authors, the corresponding author states that there is no conflict of interest.

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