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Consumer Engagement in Online Brand Communities: The Moderating Role of Personal Values

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Abstract

Purpose

Despite growing recognition of the importance of consumer engagement with new technologies, a gap remains in terms of understanding the antecedents, consequences and moderators of online consumer engagement (OCE). This paper aims to address this gap by exploring the relationship between personality traits, OCE, perceived value and the moderating role of personal values.

Design/Methodology/Approach

A theoretical framework anchored in the extant OCE literature is tested through a study of 559 users of two distinct firm-hosted online brand communities (FHOBCs).

Findings

Findings suggest that three personality traits – extraversion, openness to experiences and altruism – are positively correlated with OCE. OCE is related to two types of perceived value, namely social value and aesthetic value. The personal values of conservation and self-enhancement moderate the relationships between the three identified personality traits and OCE.

Research limitations/implications

Future research into OCE should consider the application of this study's conceptual framework across different cultures to account for the fast changing nature of online communities.

Practical implications

Understanding how personality traits drive OCE and what value consumers receive from engagement in online communities can help managers to better segment and evaluate consumers. Engagement and levels of activity within these online communities can be improved accordingly.

Originality/Value

This study's contribution to the OCE literature is threefold. Firstly, the study provides new insights regarding personality traits as antecedents of consumer engagement with FHOBCs.

Secondly, the study reveals the first insights into the role of personal values in the relationship between personality traits and OCE. Specifically, conservation and self-enhancement emerged as moderators of the relationship between three personality traits (extraversion, openness to experiences, altruism) and OCE. Thirdly, the study yields support for perceived value types (social value and aesthetic value) that emerge as consequences of consumer engagement in FHOBCs.

Keywords: Online consumer engagement; personality traits; personal values; perceived value; firm-hosted online brand communities

Introduction

The way that consumers engage with brands is being increasingly influenced by new forms of technology. As a result, understanding how to best engage consumers through these technologies has become a key challenge for managers. While consumer engagement plays a key role in developing memorable consumer experiences (Kumar *et al.*, 2010), the growth in always-connected social platforms gives consumers greater power to control these experiences. Although the digital environment provides companies with unprecedented opportunities to engage with consumers, it also empowers consumers to decide where, and when, to engage. Developing a better understanding of how consumers engage online is therefore crucial to establishing stronger emotional bonds with consumers (Hollebeek, 2013; Rose *et al.*, 2012; Vivek *et al.*, 2012). The significance of this topic is reflected in the growth of scholarly interest in the concept of online consumer engagement (OCE) in recent years (e.g. Brodie *et al.*, 2011; Brodie *et al.*, 2013; Hollebeek and Chen, 2014).

This study addresses a gap in OCE research by examining its antecedents and consequences as well as the moderating impact of personal values on these relationships. Specifically, this study focusses on personality traits as antecedents, an area that has been identified as an important gap for research into OCE (Wirtz *et al.* 2013). Although some antecedents and consequences of consumer engagement have been included in theoretical models (Van Doorn *et al.*, 2010; Verhoef *et al.*, 2010), there is a paucity of empirical research into the role of personality traits as antecedents of consumer engagement. In particular, existing research has focussed on the relationship between personality traits and social media usage in general (Correa *et al.*, 2010; Lee *et al.*, 2014; Marshall *et al.*, 2015; Seidman, 2013) rather than consumer engagement with brands across online channels. While recent studies (e.g. Marbach *et al.*, 2016; Islam *et al.*, 2017a) have begun to investigate the role of personality traits as an antecedent of OCE, these studies are based on Facebook and not on the more general context of firm-hosted online brand communities (FHOBs). Additionally, the moderating impact of personal values on the relationship between personality traits and OCE has not yet been investigated.

Moreover, the relationship between OCE and consumer value has not been fully examined, despite perceived value being identified as a potential consequence of OCE (Brodie *et al.*, 2013; Hollebeek, 2011; Jaakkola and Alexander, 2014; Kumar *et al.*, 2010; Maslowska *et al.*, 2016; Schau *et al.*, 2009; Sung *et al.*, 2010). While Higgins and Scholer (2009) and Hollebeek (2013) provide support for a possible relationship between OCE and perceived value, Hollebeek (2013)

calls for further research to examine this relationship. Accordingly, the study aims to make three contributions to existing knowledge. First, this study addresses the calls by previous scholars highlighting that it is worthwhile to investigate what drives online consumer engagement (Hollebeek, 2013; Wirtz *et al.*, 2013; Bolton, 2011). Understanding the drivers of consumer engagement is important because one of the primary objectives of brand management is to develop and implement successful consumer engagement in order to retain as well as grow membership numbers for online brand communities. Hence, understanding what drives consumers to engage in online brand communities and what value they derive from online brand engagement are critical. Although recent studies (Marbach *et al.* 2016; Islam *et al.* 2017a) examined the role of personality traits as antecedents of OCE, this study extends Islam *et al.*'s (2017a) work by investigating new personality traits, namely altruism, as well as the role of consumer-perceived value as a consequence of OCE. Additionally, this study extends Marbach *et al.*'s work (2016) by investigating the moderating role of personal values in the relationship between personality traits and OCE. This study also investigates personality traits as antecedents and consumer values as consequences of OCE in a large scale quantitative study focussing not only on the social media content but on the broader FHOBC context as well, contrary to Marbach *et al.* (2016).

Second, the study adds new insights into the relationship between personality traits and OCE by examining the effect of personal values as a moderator of this link. To the best of our knowledge, examination of personal values as a moderator of the relationship between personality traits and OCE is limited (Wirtz *et al.* 2013; Sung *et al.* 2010; Hollebeek, 2011). Personal values are deeply rooted concepts that guide consumer behaviour, perceptions, personality traits and culture and that transcend specific situations and actions (Schwartz and Bilsky, 1987). Hence, it is worthwhile to examine personal values as a moderator for gaining a better understanding of the influences of personality traits in OCE (Wirtz *et al.*, 2013; Soares, Farhangmehr and Shoham, 2007). In addition, the study provides a simultaneous examination of the role of personal values, personality traits and consumer values in order to determine their unique contributions to OCE behaviour.

Third, this study examines the validity of the OCE scale of Hollebeek *et al.*, (2014) and Schwartz's (1999) personal value framework in an international online community setting of FHOBCs. This is important because Hollebeek *et al.*, (2014) calls for further research investigating the external validity of the newly developed OCE scale in other cultural contexts.

In order to examine the moderating role of personal values in the relationship between personality traits and OCE, the present study also employs a short version of Schwartz's personal values measure for the first time in an online FHOBCs setting. Previous studies predominantly used Hofstede's (1984) cultural values scale, but validity of this measure has been consistently questioned (e.g. Chow *et al.*, 1994; Evans and Mavondo, 2002; Evans *et al.*, 2000; Kim and Gray, 2009; McSweeney, 2002; Schwartz, 1999). In line with previous research calls (Ng *et al.*, 2007; Steenkamp 2001), this study examines the external validity of Schwartz's (1999) personal value measure in a new research setting, namely OCE.

This paper is structured as follows. Firstly, we present the literature on OCE, personality traits, personal values and perceived value, leading to our conceptual framework and research hypotheses. Secondly, we present the findings from an empirical study with consumers who participated across two FHOBCs. Thirdly, the results are discussed alongside theoretical and practical implications. Finally, we present a number of promising directions for future research.

Literature review

Online consumer engagement (OCE)

Consumer engagement in online brand communities can be referred to as specific and interactive experiences among consumers, or between consumers and the brand. Consumer engagement is a psychological state that is context dependent and characterised by fluctuating intensity levels that occur within dynamic and iterative engagement processes (Brodie *et al.*, 2013). Part of the relationship-marketing domain, consumer engagement can be described as a central concept within marketing. The focus of consumer engagement is on interactive consumer experiences (Vivek *et al.*, 2012), an important development in customer management that goes beyond simple transactions (Verhoef *et al.*, 2010).

Despite a growing body of research on consumer engagement, there is little consensus on how it is determined. While several authors highlight that consumer engagement consists of three dimensions, namely cognitive, behavioural (active) and emotional (affective) (e.g. Algesheimer *et al.*, 2005; Brodie *et al.*, 2013; Vivek, *et al.*, 2012), others support the existence of one or two of these dimensions (e.g. Bejerholm and Eklund, 2007; Huo *et al.*, 2009; Marks, 2000). The unidimensional nature of the concept possesses the merit of simplicity but it does not reflect its rich conceptual scope (Hollebeek, 2011). Research gaps remain in terms of investigation of the antecedents, moderators and consequences of OCE as these have been included in theoretical

models (Van Doorn *et al.*, 2010; Verhoef *et al.*, 2010) but have not been empirically examined in great detail to date (Hollebeek *et al.*, 2014).

Personality traits

The personality trait theory suggests that individuals behave in a certain way because of the personality traits they possess (Feist and Feist, 2008). A personality trait can be defined as a cross-situational individual difference, which is temporally stable (Ajzen, 2005), and thus, the trait is expressed in the exact same way in different social settings. Personality traits often reflect what people value, prefer and what motivates them. (Harris and Lee, 2004). Hence, it is generally believed that traits directly influence behaviour (Chen, 2011; Matthews *et al.*, 2009).

The personality trait literature distinguishes between primary and secondary traits (Matthews *et al.*, 2009). The former is narrower than secondary traits, which are broader and include the primary traits (Cattell, 1947; Eysenck, 1991). The taxonomy of secondary traits has long been dominated by the three-factor model (psychoticism, extraversion, neuroticism) (Eysenck, 1991) and the sixteen personality factor model (Cattell, 1947). The Big Five's origins are seen in the work of Fiske (1949), who rated 128 clinical trainees on twenty-two scales of surface behaviour based on Norman's (1963) work, which converted Cattell's (1947) sixteen personality traits into five higher order traits. The factor analysis yielded evidence of the existence of five orthogonal personality factors, namely extraversion, agreeableness, conscientiousness, neuroticism and openness to experiences. Often openness to experiences is called culture, intellect or imagination (Digman and Takemoto-Chock, 1981). Since 1963, the Big Five has become one of the most popular personality instruments in psychology and the best paradigm for personality structure (Costa and McCrae, 1992a; Digman, 1990). However, others argue that restricting personality traits to five factors reduces its predictive ability (Brown *et al.*, 2002). This study takes the latter stance by arguing that the Five Factor Model is limited in explaining peoples' personality (Coelho *et al.*, 2016; Block, 1995; Brown *et al.*, 2002). Hence, we included altruism as an additional personality trait that may drive OCE (Mowen and Sujana, 2005). Altruism has been added as it enables a more comprehensive list of personality traits relevant to a marketing context, in line with previous marketing research that added traits to the Big Five (Brown *et al.*, 2002; Harris *et al.*, 2005; Sousa *et al.*, 2016).

Personal values

The study adopts the personal value definition introduced by Schwartz (1992), the most commonly used personal value research in the literature (Lindeman and Verkasalo, 2005).

Personal values are deeply rooted concepts that guide behaviour and they transcend specific situations and actions (Schwartz and Bilsky, 1987). According to Schwartz (1992), people possess ten basic human values: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, conformity, tradition and security. These personal values are theoretically derived from the general requirements of human life (Schwartz, 1999). The ten personal values form two higher order constructs, namely self-enhancement (i.e. achievement, power) versus self-transcendence (i.e. universalism, benevolence) and openness to change (i.e. self-direction, stimulation) versus conservation (i.e. tradition, conformity, security).

Perceived value

Perceived value or consumer value can be seen as one of the cornerstones of the marketing discipline (Mustak, 2014). The term “consumer value” is used interchangeably in the marketing literature to portray two perspectives, one where value is derived by the consumer from the supplier and the other perspective where value is derived by the supplier from other companies or producers. The latter is often referred to as customer lifetime value or value for the company (Borle and Singh, 2008; Kumar *et al.*, 2008) whereas the former is referred to as perceived value or value for the consumer (Woodall, 2003). Perceived value represents the demand-side notions of value and has become of more interest to both researchers and practitioners (Woodall, 2003). Perceived value can be seen as the trade-off between the benefits the consumer is realising versus the sacrifices that are required to get these benefits, such as monetary resources, time and stress (cf. Zeithaml, 1988). While some regard perceived value as a unidimensional construct (e.g. Dodds *et al.*, 1991; Monroe, 1979), others see perceived value as multidimensional (Holbrook, 2006; Ruiz *et al.*, 2008). This study adopts Holbrook’s (1999, p.5) definition of perceived value as “an interactive, relativistic preference experience” and proposes eight value types, grouped in four categories, namely economic value (efficiency, excellence), social value (status, esteem), hedonic value (play, aesthetics) and altruistic value (ethics, spirituality). The creation of value has become a strategic imperative for companies in order to build and sustain competitive advantage as their customers become more value driven (Wang *et al.*, 2004). Managers need to understand how value is perceived by consumers and where they should focus their attention in order to be able to compete with or even outperform competitors (Woodruff, 1997).

Personality traits as antecedents of OCE

Extraversion

Extraverts are regarded as chatty and lively (Mottram and Fleming, 2009), assertive, sociable, outgoing, energetic, optimistic and enthusiastic (Raja and John, 2010) as well as self-confident (McCrae and John, 1992). Introverts tend to be less open minded, find pleasure in solitary activities, like to hide their feelings and are more suspicious (Evans, 1941; Eysenck, 1991). Extraversion is positively linked to social media usage (Correa, *et al.*, 2010; Lee, *et al.*, 2014; Marshall, *et al.*, 2015; Seidman, 2013). A potential reason is that extraverts like to be known by others while introverts view recognition as less important (Ross *et al.*, 2009). Introverted people might engage less online as they are less open to finding new friends who share the same interests (Mottram and Fleming, 2009; Raja and John, 2010). Hence, it is not surprising that extraversion has been associated with greater Facebook use (Gosling and Augustine, 2011). In particular, extraverts are members of more groups on FHOBCs as they prefer to be in social situations rather than being alone (Ross *et al.*, 2009). Therefore, it is proposed that:

H1: Extraversion is positively related to OCE

Agreeableness

Agreeableness can be seen as a measure of people's friendliness (Costa and McCrae, 1992b) and refers to their general warmth of feelings towards others (Brown *et al.*, 2002). Agreeable individuals are kind, warm, authentic (Costa and McCrae, 1992b; Leary and Allen, 2011), flexible, co-operative, generous and good-natured (Goldberg, 1990). Whereas disagreeable individuals tend to be unfriendly, uncooperative, suspicious, sceptical and prioritise self-interest (Eysenck, 1991). Usually disagreeable people tend to be indifferent to the well-being of other individuals and thus will be less likely to share their experiences online to help others. On the other hand, agreeable people have characteristics of trust and tender mindedness (Taggar, 2002) that enhance interpersonal skills, necessary for the appreciation of other's contributions. Despite some studies finding that agreeableness is unrelated to social media usage (Correa *et al.*, 2010; Ross *et al.*, 2009), in the broader context individuals who are less agreeable engage less in FHOBCs as they do not appreciate the comments and contributions of peers, or share their experiences to help peers (Schnell and Becker, 2006). The following hypothesis is proposed:

H2: Agreeableness is positively related to OCE

Conscientiousness

Conscientiousness is the degree of orderliness, organisation and precision (Brown *et al.*, 2002). A higher degree of conscientiousness is associated with a more organised and cautious person (Costa and McCrae, 1992a) with a tendency to meet deadlines and be responsible with obligations (Ross *et al.*, 2009). Interpersonal relationships are also less important for these individuals. Therefore Tsao (2013) argues that conscientious individuals use the internet for the improvement of work skills rather than building relationships with peers in an online community. Engaging in a FHOBC might be seen as a distraction from more important tasks (Butt and Phillips, 2008) which is in line with past studies that investigated time spent on Facebook (Amichai-Hamburger and Ben-Artzi, 2000; Ryan and Xenos, 2011; Wilson *et al.*, 2010). Thus, the following hypothesis is suggested:

H3: Conscientiousness is negatively related to OCE.

Openness to experiences

Individuals that are open-minded to experiences constantly seek novelty (McCrae and Costa, 1987), are more changeable and less prone to any prejudices (McCrae and Costa, 1991). They have high curiosity and imagination, are flexible (Madjar, 2008; McCrae and Costa, 1991) and more likely to have a broader range of interests and to pursue those interests through a much wider variety of means (Butt and Phillips, 2008). Additionally, individuals scoring high on openness to experiences seek more information and are more tolerant towards others (McElroy *et al.*, 2007). Hence, the individual will look for opportunities to learn something new (McCrae and Costa, 1991; McElroy *et al.*, 2007), driving online engagement. In line with past research that individuals high on openness to experiences had a greater tendency to be sociable via Facebook (Amichai-Hamburger and Vinitzky, 2010; Correa *et al.*, 2010; Ross *et al.*, 2009), this study hypothesises that:

H4: Openness to experiences is positively related to OCE.

Neuroticism

Neuroticism refers to the extent to which the emotions of an individual vary (Brown *et al.*, 2002). Individuals high on neuroticism are less able to deal with stress (McCrae and Costa, 1991) and seem easily frustrated and hopeless (McCrae and Costa, 1991). Anxiety is present when the person is not in his/her familiar surroundings and these individuals are more likely to experience depression or irritability (McCrae and Costa, 1991; Suls *et al.*, 1998).

A new stream of research, namely the ‘loneliness theory’, has been evolving and supports the argument that neuroticism could be positively related to OCE. This theory suggests that individuals high in neuroticism frequently use the internet to avoid loneliness (e.g. Amichai-Hamburger and Ben-Artzi, 2003; Correa *et al.*, 2010; Ryan and Xenos, 2011). These individuals may also look for acceptance and social contact through social networking sites and FHOBCs (Malone *et al.*, 2012). Therefore, this study proposes that:

H5: Neuroticism is positively related to OCE.

Altruism

Altruism can be regarded as a personality trait (Rushton *et al.*, 1981) and is defined as the general predisposition to selflessly help others (Mowen and Sujan, 2005). Some individuals are simply more generous, more helpful and kinder than others, and several studies demonstrated that these people are perceived as being more altruistic in nature (Dlugokinski and Firestone, 1973; Rutherford and Mussen, 1968). Consumer engagement behaviour can include the willingness to help other consumers, for example in terms of word-of-mouth or through providing feedback (Verleye *et al.*, 2013). In other words, individuals engage online because they enjoy helping others, hence it is proposed that:

H6: Altruism is positively related to OCE.

The moderating role of personal values on the relationship between personality traits and OCE

The idea that personal values moderate the relationship between personality traits and OCE is appealing as personal values guide personality traits and human behaviour (Homer and Kahle, 1988; Roccas *et al.*, 2002; Schwartz and Bilsky, 1987). Recent research argues that it is important to investigate personality characteristics as antecedents of OCE in order to shed more light on this under-researched concept (Hollebeek, 2011; Sung *et al.*, 2010; Wirtz *et al.*, 2013). As previously stated, individuals who possess a specific personality trait are more likely to engage with online marketing activities. Equally, the orientation towards OCE might result from personal values, implying that the strength of the relationship between the two variables (personality traits and OCE) might be dependent on a third variable, namely personal values. There is room for variation in personal values as individuals born in different countries may have different customs, traditions or rules, all of which are embedded in their religious or family values and beliefs, and these may influence their online engagement. That said, even within the same country and cultural context, there can be substantial variation among individuals in the intensity with which they adhere to such social rules and customs. Thus, the self-enhancement dimension might play an important moderating role in the relationship between personality traits and OCE. Those individuals who have self-enhancement values are motivated to pursue social status and prestige. They want to control others and want to be seen as successful and competent according to social norms (Roccas and Schwartz, 2010). Individuals high on self-enhancement are more selfish or self-focussed and by engaging online they can seek attention and at the same time show their achievements. Their life is more focussed on enjoyment and their own personal interests and this is what they like to show to others through engagement with FHOBs.

Another personal value relevant to the OCE context is conservation. Conservation values express the motivation of an individual to avoid instability and uncertainty. Individuals high on conservation do not stand for independent action and are less ready for new experiences as they adhere to beliefs, customs or traditions that might affect their online engagement (Roccas and Schwartz, 2010). Thus, conservation may weaken the relationship between personality traits and OCE, whereas self-enhancement is proposed to strengthen this relationship as their ambition and drive, resulting from their valuing of success and social power, leads them to engage more online. Their online consumer engagement ensures that they can demonstrate their expertise or share their experiences, keeping others well informed about their own successes or

social power. Hence, personal values (i.e. self-enhancement and conservation) moderate the relationship between personality traits and OCE behaviour, as expressed in the following hypotheses:

H7a–H7f: Self-enhancement moderates the relationship between extraversion (H7a), agreeableness (H7b), conscientiousness (H7c), openness to experiences (H7d), neuroticism (H7e) and altruism (H7f) and online consumer engagement.

H8a–H8f: Conservation moderates the relationship between extraversion (H8a), agreeableness (H8b), conscientiousness (H8c), openness to experiences (H8d), neuroticism (H8e) and altruism (H8f) and online consumer engagement.

Perceived value (social value and aesthetic value) as a consequence of OCE

While some FHOBCs may have more visitors and be more successful, other communities become abandoned. Hence, engagement might be linked to a value perception by consumers, which ultimately accounts for the difference between successful and failed FHOBCs (Hollebeek, 2013; Seraj, 2012). Value can be seen as a jointly created phenomenon emerging through interaction (Vargo and Lusch, 2008). If an individual is highly engaged he/she will derive intrinsic and extrinsic value from his/her engagement (Vivek *et al.*, 2012).

In this study we focus on two types of value – social value and aesthetic value – as these are especially relevant to OCE. In particular, if an individual shapes the responses of others due to their engagement online, this might be perceived as social value. Social value is of high importance as a community is seen to be collaborative. Thus, no community can be one-sided because customers expect to receive something from engaging online. It is important that individuals engaging in FHOBCs perceive social approval through their engagement. Social approval can be shown by the FHOBC itself, the brand, its employees or users in any form.

Aesthetic value can occur when aesthetic aspects of the FHOBC lead to value creation. For example, through an attractive design or overall appearance of the FHOBC website. An attractive font, easy to use layout or appropriate colours can also contribute to a perceived aesthetic value when engaging in an FHOBC. First impression is linked to aesthetics and this

should not be underestimated. A well-designed visual design of an FHOBC enhances the content of it and helps to build trust in the community. The main goal of aesthetics should be to enhance customer experience. A well-designed welcome page that invites and encourages users to join the community is crucial to get new customers. Aesthetic value is a result of engaging online if the FHOBC targets their customers in an effective way.

While the relationship between FHOBC practices and consumer value has been theorised (Misra *et al.*, 2008; Porter *et al.*, 2013; Schau, *et al.*, 2009; Seraj, 2012) and supported by propositions relating OCE to value creation (Higgins and Scholer, 2009; Hollebeek, 2013; Jaakkola and Alexander, 2014; Kumar *et al.*, 2010), there is limited empirical evidence of the relationship between OCE and perceived value. Therefore, this study proposes that:

H9: OCE is positively related to social value.

H10: OCE is positively related to aesthetic value.

Figure 1 depicts the conceptual framework summarising the relationships among personality traits, personal values, OCE and perceived value.

[Insert Figure 1 here]

In this conceptual framework, personality traits are regarded as antecedents of OCE whereas the two types of perceived value – social and aesthetic – are regarded as its consequence. Personal value is the moderator in the relationship between personality traits and OCE. H1 to H6 postulate that personality traits (extraversion, agreeableness, conscientiousness, openness to experiences, neuroticism and altruism) are antecedents of OCE. Hypotheses 7a–7f as well as 8a–8f reflect the moderating role of the two personal values – self-enhancement and conservation – in the relationship between personality traits and OCE. H9 and H10 examine the effect of OCE on social value and aesthetic value.

Other potential personality traits are need for activity (Mowen and Sujana, 2005) and need for learning (Mowen, 2000). Need for activity is the enduring motive to do something on a continuous basis (Mowen and Sujana, 2005). Individuals who have a high need for activity have the desire to keep busy and stay active all the time (Licata *et al.*, 2003). Need for learning can

be defined as a motivating factor, which leads individuals to obtain information and be engaged in a high-level information process (Mowen, 2000). Through this need, a deep understanding of the entire environment can be developed (Mowen and Spears, 1999), as need for activity has the power to inspire individuals to increase their knowledge and thus experience the enjoyment of learning new things (Harris *et al.*, 2005). Many customers may engage with an FHOBC to obtain news from peers or new information (see Harris *et al.*, 2005).

Other potential consumer value types are altruistic value, and economic value in the form of, for instance, efficiency and excellence (Holbrook, 1999). *Altruistic* value can occur if the purpose of engaging with online media is to help peers, since the individual is motivated by doing something for the sake of others, and is underpinned by a concern about how others will react or how they will be affected by one's actions (Holbrook, 1999). Economic value in the form of *Efficiency* results from the active use of an FHOBC platform when members may feel that the relevance of the FHOBC content is high or that it is easy to use. Economic value as *Excellence* involves a reactive appreciation of the experience of engaging online. Excellence value can be generated, for example, through high quality discussion in the community (Holbrook, 1999). Although these additional personality traits and perceived values are relevant variables for future research focussing on OCE and FHOBCs, they were not studied in this investigation.

Methodology

Research setting

This study uses data from an online survey carried out in two online communities, namely an FHOBC for customer service support of a major German telecommunications provider and a firm-hosted social media brand community. An FHOBC is a non-geographically bound community formed in cyberspace based on a structured set of social relationships among admirers of a focal brand, a shared consumption practice, a common interest, experience, emotion or passion (Muñiz and O'Guinn, 2001; Wirtz *et al.*, 2013). It is a social entity that not only connects the brand to consumers but also consumers to consumers (Muñiz and O'Guinn, 2001; Wirtz *et al.*, 2013). The community is set up by the company (business to consumer (B2C)) but is sustained by the engagement of consumers (Fournier and Lee, 2009; Muñiz and O'Guinn, 2001; Wirtz and De Ruyter, 2007). Content that is central to consumers' interests is constantly and collectively co-created and consumed and peer-to-peer problem solving is enabled (Harwood and Garry, 2010; McAlexander *et al.*, 2002; Wirtz and De Ruyter, 2007). In line with research indicating that the individual is the most frequent unit of analysis in social

studies (Corbetta, 2003), this study's unit of analysis is the individual user who is a member of at least one of the selected FHOBCs.

The FHOBC for customer-service support of a German telecommunications provider is a well-established community focussing on customer service support. The community is known for engaged members that are heavily involved in creating content and helping others in relation to product specific questions. Thus, the engagement within the community is not only based on a brand manager–consumer/user basis, but also on a consumer–consumer basis, as individuals with the same interests connect in the community. The chosen company uses FHOBCs not only as a marketing and customer support medium, but also as part of a brand management strategy. In establishing an FHOBC, a brand can look to grow and evolve with the expectations and perceived-value of its most valuable customers or users (Chan and Li, 2010; Woisetschläger *et al.*, 2008). Technology companies have been early adopters of online brand communities (DiMauro, 2014) and therefore represent a good choice for a research context.

Moreover, the leading firm-hosted social media brand community – Facebook – is chosen as the focus for studying consumer engagement as this platform engages billions of users on a daily basis. While Facebook might not be seen as a typical FHOBC, it hosts many brand related online communities and brand pages set up by different companies. It has become a powerful research tool as it allows easy access to large and diverse samples. The accessibility in combination with these other strengths makes it an appropriate choice. The focus on two distinct FHOBCs distinguishes this study from other recent studies that have tested the newly developed OCE scale; these studies give participants the opportunity to choose any Facebook-based online brand community (Islam *et al.*, 2017a; Islam *et al.*, 2017b).

Measurement scales

The measurement scales used in this study have been adapted from past studies. The personality traits scale was adapted from Licata *et al.* (2003) and the measurement scales for personal values from Lindeman and Verkasalo (2005). The measurement items for OCE were adapted from Hollebeek *et al.*'s (2014) study and, based on the exploratory interviews discussed above, two items were added to the cognitive and behavioural dimensions of OCE respectively, and one item was added to the emotional dimension. Social value was measured using Leroi-Werelds *et al.*'s (2014) scales. The scale for aesthetic value was adapted from Leroi-Werelds *et al.* (2014).

In order to refine and adapt the existing scales to the OCE context, seventeen exploratory interviews were conducted (Netemeyer *et al.*, 2003). The participants were individuals capable of understanding the nature of the concepts that are being investigated (i.e. academics and doctoral researchers in the field of marketing and management). The members of online brand communities (who were the actual unit of analysis) participated in the interviews as well. Interviews lasted between 35 and 45 minutes and were stopped when data saturation was reached (Bertaux, 1981; Morse, 1995). Participants were asked how they saw the constructs of personality traits, personal values, online consumer engagement and perceived value to be related. As a result of these interviews, constructs were revised in order to have a clearer understanding of the construct definitions and statements (see Appendix for measurements).

Research design

The survey was conducted using an online web survey tool (SurveyMonkey). Given the need to ensure that participants were representative of the FHOBC users, a purposive sampling approach was adopted. Links to the survey were posted on each online community together with a prominent announcement that informed each forum user about the research project and its purpose. Permission from community owners was granted for posting each announcement. In order to account for non-response bias, the demographic profile of respondents was compared to the overall profile of consumers and found to be similar, in terms of age, gender and educational attainment. The unit of analysis for this study is the individual member of at least one of the selected FHOBCs. This choice of an individual user as the unit of analysis is in line with research that claims that the individual is the most frequent unit of analysis in social studies (Corbetta, 2003). The only criterion for participating in this research project is membership of at least one of the FHOBCs selected.

With regard to the sampling frame, it comprises firm-hosted online brand communities. Online brand communities can be divided into firm-hosted online brand communities and non-firm-hosted online brand communities. The latter are set up by the customer or user instead of the firm (Ouwensloot and Odekerken-Schröder, 2008). Both communities chosen for this study are ones that have been set up by the firms and sustained by the engagement of the users. The next section deals with the development of the survey instrument for this study.

Survey

In total, 391 surveys were collected from the social media brand community, whereas 296 surveys have been collected from the FHOBC for customer service support. In total, 687 online

questionnaire responses have been collected. Following a thorough data cleaning process, a total of 559 questionnaires were retained, which were deemed reliable for further data analysis (Hair and Black, 2013). The demographic profile of the sample indicates a wide spread of age groups and educational backgrounds. The distribution of age of participants is as follows: 34% are less than 30 years old; 24% are in the 30–39 age group; 16% are in the 40–49 age group; 17% are in the 50–59 age group; 9% in the 60+ age group. A total of 4% of the research population indicates their highest qualification to be lower than secondary school; 14% had completed their GCSEs; 9% had completed A-level or equivalent; 1% held a diploma; and 4% possessed a foundation degree/higher national diploma. Another 19% had completed an undergraduate degree; 31% had completed a postgraduate degree; 8% had completed an MBA; and 7% had completed a PhD (Doctor of Philosophy), MD (Medical Doctor) or DBA (Doctor of Business Administration). In total, 47% of participants are female and 52% are male (1% prefer not to reveal their gender identity).

Results

A covariance-based structural equation modelling (SEM) estimation method using the AMOS 22 software was used to examine the measurement and structural components of the model (Jöreskog and Wold, 1982). While the partial least squares (PLS) estimation method could have been an option, PLS is primarily used for predictive analysis and is most suitable for data that has small sample sizes and skewed variables (Haenlein and Kaplan, 2004; Hair *et al.*, 2018). Confirmatory factor analysis (CFA) was run to assess the validity and reliability of the measures. Then, the structural models were estimated to examine validity of the research model and test the research hypotheses¹.

Reliability and validity of measures

The measurement model was validated with a confirmatory factor analysis using AMOS 22.0. Reliability of the scales was assessed with Cronbach's alpha (α) and composite reliability (CR) (Hair and Black, 2013). A measure has good reliability if the α and CR scores are above 0.70 (Hair and Black, 2013). Convergent validity is confirmed when the factor loading of each item is high and statistically significant (Malhotra *et al.*, 2017). Thus, factor loadings should be at least 0.50 or higher (Hair and Black, 2013). Moreover, the average variance extracted (AVE) score should be 0.50 or higher to achieve adequate convergent validity (Hair and Black, 2013). The personality trait agreeableness was excluded from the study due to a low Cronbach's alpha,

¹ Before examining the measurement and structural models, the normality of the distribution was checked through skewness and kurtosis. The results indicated that the absolute value of the skewness and kurtosis scores were less than 1 and therefore the distributions were normal (Hair *et al.*, 2018)

CR score and not presenting convergent validity. Neuroticism and conscientiousness were excluded, as they did not present convergent validity. Discriminant validity is achieved if the AVE is greater than 0.50 and greater than the squared inter-construct correlations (SIC) for every measure (Fornell and Larcker, 1981). Table 1 shows the scales that reached acceptable reliability and validity.

[Insert TABLE 1 here]

Reliability and discriminant validity were achieved for all constructs with the exception of altruism as its AVE score was below 0.50. However, altruism is still included because its AVE score is higher than the squared inter correlations (SIC) and its composite reliability is above 0.70 (Fornell and Larcker, 1981). Moreover, convergent validity was achieved for all constructs as all the standardised path coefficients were high and statistically significant. The CFA model excluding the moderator resulted in the following fit indices: $\chi^2_{(335)} = 833.05$; GFI = 0.90; NFI = 0.92; CFI = 0.95; RMSEA = 0.05; SRMR = 0.05, which indicate a good fit. The CFA for the model including the moderator resulted in the following fit indices: $\chi^2_{(499)} = 1257.24$; GFI = 0.88; NFI = 0.90; CFI = 0.94; RMSEA = 0.05; SRMR = 0.06. Although the GFI is below 0.90, the value is still acceptable if the GFI is above 0.80 (Baumgartner and Homburg, 1996; Doll *et al.*, 1994), thus the results still indicate good measurement model validity.

In line with previous research (Lindell and Whitney, 2001; Podaskoff *et al.*, 2003) the following tests have been used to assess common method bias: 1) Harman's single-factor test and 2) the marker variable test. In the Harman's single-factor test common method bias poses a threat if one single unrotated factor appears when conducting exploratory factor analysis in SPSS or if the majority of the variance (more than 50%) is accounted for by one general factor (Podaskoff *et al.*, 2003). The unrotated factor solution revealed five factors with Eigen values greater than 1. The result accounts for 67.82% of the total variance, the first factor accounts for 41.37% of the total variance. Furthermore, with regard to the marker variable test, all adjusted correlations between the marker variable and the items are below the 0.30 threshold, which indicates that common method bias is not an issue for the study (Bagozzi and Yi, 1991; Lages and Piercy, 2012; Lindell and Whitney, 2001).

Testing of the research hypotheses

After evaluating the measurement model, a structural model was estimated in order to investigate the antecedents and consequences of OCE. The full mediation model was first

tested. The full mediation model has a good fit ($X^2_{(342)} = 879.99$; GFI = 0.90; NFI = 0.92; CFI = 0.95; RMSEA = 0.05 and SRMR = 0.06) as shown in Table 2.

[Insert Table 2 here]

Following Hair and Black (2013), an alternative partial mediation model was tested against the initially proposed full mediation model in order to make sure that the proposed model represents the best way to explain these relationships. The goodness of fit measures for the partial mediation model indicate a good model fit: $X^2_{(336)} = 845.19$; GFI = 0.90; NFI = 0.92; CFI = 0.95; RMSEA = 0.05 and SRMR = 0.05 (see Table 2). An X^2 difference test was conducted to compare the full and partial mediation models and the result shows that the partial mediation model provides a better fit for the data collected ($\Delta X^2_{(6)} = 34.8$; $p < 0.01$) (Brown *et al.*, 2002). The SRMR value is slightly better for the partial mediation model (SRMR = 0.05). Therefore, the partial mediation model was selected for hypotheses testing (Hair and Black, 2013). Hypotheses H1 (extraversion), H4 (openness to experiences) and H6 (altruism) posit positive relationships with OCE (see Table 2). Additional direct relationships have been tested and results show that OCE is positively related to social value and aesthetic value, respectively. In addition, the direct relationship between extraversion and social value is supported and negative in nature and openness to experiences is related to aesthetic value. Hierarchical regression tests were conducted to show the importance of the mediation of OCE. The mediation of OCE explains a greater proportion of variance in social value and aesthetic value than the direct effects of the personality traits variables on their own. The improvement in R^2 when OCE was included was statistically significant (Social value: $\Delta R^2 = 0.25$, $\Delta F_{1,554} = 242.7$, $p < 0.01$; Aesthetic value: $\Delta R^2 = 0.15$, $\Delta F_{1,554} = 157.93$, $p < 0.01$). Hence, the inclusion of OCE as a mediator is highly relevant for the study.

Testing the moderation effect of personal values on the relationship between personality traits and OCE

In order to test the moderation effect, the self-enhancement measure was split into low and high self-enhancement groups based on the median score. Similarly, the conservation score was split into low and high conservation groups. Table 3 summarises the overall model fit for different groups.

[Insert Table 3 here]

Results show a better model fit for the model with high self-enhancement than for the model with low self-enhancement. The GFI and NFI values for the model with high self-enhancement are just below the 0.90 threshold but still acceptable within the more liberal 0.80 cut-off point (Garson, 1998). The GFI and NFI values for the model with low self-enhancement are just below the 0.80 threshold but the other fit indices of the model are all within the threshold for good model fit (see Bryne 2010). The model fit for low conservation is slightly better than the model fit for high conservation. Table 4 summarises the results of the moderation model analysis for self-enhancement (H7a, H7d, H7f) and conservation (H8a, H8d, H8f).

[Insert Table 4 here]

Hypotheses 7a, 7d and 7f propose that self-enhancement moderates the relationship between the independent variables and OCE. Self-enhancement strengthens the relationship between extraversion and OCE and between openness to experiences and OCE. Self-enhancement weakens the relationship between altruism and OCE.

Results suggest that the model with low conservation is better in explaining the variance of OCE. One can observe a gap of 31% between the two models in explaining this variance. In total, 60% of the variance in online consumer engagement can be explained by the low conservation group in contrast to 29% by the high conservation group. Hypotheses 8a, 8d and 8f propose that conservation moderates the relationship between the independent variables and OCE. The moderator conservation weakens the relationship between all three personality traits (extraversion, openness to experiences, altruism) and OCE. The model for self-enhancement was better in explaining the variance in online consumer engagement. In total, 62% of the variance in online consumer engagement can be explained by the high self-enhancement group while only 19% is explained by the low self-enhancement group.

Post-hoc analysis

In order to check whether there are any differences in terms of the results for the model testing and research hypothesis, we conducted a multi-group analysis for gender (male vs. female). The analysis supported the validity of the model across the two gender groups but differences occurred in terms of the relationship between two of the personality traits, namely extraversion and altruism, and OCE behaviour. The relationship between extraversion and OCE was

statistically significant for the female group (SPC = 0.21, C.R. = 2.88, $p < 0.01$), which corroborates the overall results, but was insignificant for the male group (SPC = 0.12, C.R. = 1.18, $p > 0.05$). Additionally, the relationship between altruism and OCE was statistically significant for the male group (SPC = 0.36, C.R. = 3.82, $p < 0.001$), which corroborates the overall results, but this was not the case for the female group (SPC = -0.01, C.R. = -0.17, $p > 0.05$). These findings suggest that extrovert females are more likely to engage with FHOBCs than males. Furthermore, altruistic males are more likely to engage with FHOBCs than females.

The data were collected in two distinct FHOBCs (Model fit: $\chi^2_{(336)} = 698.74$; GFI = 0.86; NFI = 0.89; CFI = 0.94; RMSEA = 0.06 and SRMR = 0.06 for firm-hosted social media brand community, Facebook; Model fit: $\chi^2_{(336)} = 615.15$; GFI = 0.85; NFI = 0.88; CFI = 0.94; RMSEA = 0.06 and SRMR = 0.06 for FHOBC for customer service support). Results indicate that both models have an acceptable fit. The relationship between extraversion and OCE is found to be not significant for the FHOBC for customer service support (SPC = 0.10, C.R. = 1.02, $p > 0.05$), whereas it is highly significant for the firm-hosted social media brand community Facebook (SPC = 0.28, C.R. = 3.63, $p < 0.001$). The relationship between altruism and OCE is highly significant for the FHOBC for customer service support (SPC = 0.37, C.R. = 3.57, $p < 0.001$) but not significant for Facebook (SPC = 0.04, C.R. = 0.74, $p > 0.05$). The relationship between openness to experiences and OCE is highly significant for Facebook (SPC = 0.58, C.R. = 5.58, $p < 0.001$) but not for the FHOBC for customer service support (SPC = 0.21, C.R. = 1.62, $p > 0.05$).

Discussion

The study suggests that three personality traits – extraversion, openness to experiences and altruism – are key antecedents of OCE. The two personal values, conservation and self-enhancement, moderate the relationship between these three personality traits and OCE. In terms of the consequences of OCE, OCE is positively related to social value and also positively related to aesthetic value. While testing a partial mediation model, two direct relationships were identified, with extraversion being negatively related to social value, and openness to experiences being positively related to aesthetic value. The results of this study address the call for research into personality's relationship with OCE by Wirtz *et al.* (2013) and McAlexander *et al.* (2002). The study findings show that individuals who are more extravert have greater engagement with online brand communities as they are more sociable and outgoing. They are also more likely to approach or get to know individuals who have similar interests. The findings also suggest that individuals who are more open to experiences have greater engagement in

FHOBCs, because it is a manifestation of novelty seeking behaviour. Furthermore, the relationship between altruism and OCE is supported as individuals engaging in an FHOBC like to share their experiences and help others to solve their problems.

Hollebeek (2011), Sung *et al.* (2010) and Wirtz *et al.* (2013) highlight the absence of cross-cultural research within the OCE literature. The idea that personal values moderate the relationship between personality traits and OCE is appealing as values are concepts that guide behaviour (Homer and Kahle, 1988; Roccas *et al.*, 2002; Schwartz and Bilsky, 1987). This study supports the argument that personal values, namely conservation and self-enhancement, moderate the relationships between personality traits and online engagement. An open-minded individual will engage more online if they are not restricted by the predisposition to follow certain rules embedded in traditions or religious beliefs. Thus, if the individual is low on conservation values (i.e. on tradition, conformity and security) this will facilitate greater levels of online engagement, as they will not be restrained by traditions, customs or rules which might deter contributions to online communities. Such individuals are not held back from taking part in online communities by these social norms as they are open to new experiences, new ideas and interactions with new and different types of people. Conversely, individuals scoring highly on conservation like to restrict themselves, as they are rule-governed, following regulations that they have either set for themselves or that been imposed by others.

Self-enhancement moderates the relationship between extraversion and OCE. If extraverts also score highly on self-enhancement, they are motivated to enhance their personal goals, which then increases online engagement. This occurs because individuals high on self-enhancement are more selfish or self-focussed, and online engagement provides them with an avenue to seek the attention they desire while simultaneously showcasing their achievements. Additionally, the relationship between openness to experiences and OCE was found to be moderated by self-enhancement. Individuals who are more open to experiences engage more in online communities as their curiosity, ambition for success and social power stimulates their online engagement. This enables them to show their expertise or share their experiences and successes, thereby increasing personal prestige. Self-enhancement also moderates the relationship between altruism and online consumer engagement. Individuals who are altruistic in nature are helpful to others and this can provide a strong reason to engage in online communities, as these provide a forum where they can show support for others.

Results reveal that OCE is related to two perceived value types, namely social value and

aesthetic value, confirming H9 and H10. This finding is aligned with previous literature suggesting that OCE is related to value creation in general (Higgins and Scholer, 2009; Jaakkola and Alexander, 2014; Kumar *et al.*, 2010) and perceived value in particular (Hollebeek, 2013; Vivek *et al.*, 2012). OCE is positively related to social value which is linked to status and esteem (Holbrook, 1999). Hence, any form of recognition, such as a specific status awarded in the community or an appreciation for something they have achieved, is important for those individuals. Social value can also occur if an individual shapes the responses of others in an FHOBC. Additionally, OCE and aesthetic value are positively related. Aesthetic value occurs when aesthetic aspects of the FHOBC, namely an attractive design (font, easy-to-use layout or appropriate colours) or overall appearance of the FHOBC website, lead to value creation. Moreover, findings show support for two of the six direct relationships between personality traits and perceived value types. In particular, the relationships between extraversion and social value as well as between altruism and aesthetic value are supported. Interestingly, the relationship between extraversion and social value is negative in nature and the direction of the relationship changes when OCE is added as a mediator. A possible explanation for this is that users of FHOBCs who are extraverts by nature might not care about social approval as they have self-confidence. However, if these users engage and interact online by expressing their opinion and sharing their experiences, they may expect some recognition. Hence, social approval becomes more relevant for them.

Findings of this study show that the OCE scale developed by Hollebeek *et al.*, (2014) may be unidimensional depending on the context of the study (Brodie *et al.*, 2011). Validity of this scale has been supported in the social media context (Islam *et al.* 2017a) where participants had to be members of at least one Facebook-based online brand community. Moreover, the construct validity of the scale was supported across different contexts (Leckie *et al.*, 2016), and not for specific FHOBCs. Further support for the scale has also been found in the context of people visiting FHOBCs to share travel experiences (Nguyen *et al.* 2016). Thus, we argue that OCE may be context dependent and therefore unidimensional for the broader context of an FHOBC with the criterion of an actual membership to a specific FHOBC.

Theoretical implications

This study contributes to OCE theory by bringing together literature from a wide range of disciplines into a conceptual framework focussed on antecedents and consequences of OCE. The study shows empirical support for some of the hypothesised relationships between personality traits (extraversion, openness to experiences and altruism) and OCE, as well as

between OCE and perceived values (social value, aesthetic value) and the moderating role of personal values (conservation, self-enhancement) on the relationship between personality traits and OCE. The study supports research questioning whether personality traits should be assessed by only the Big Five factors (Brown *et al.*, 2002). Also, results of this study support the integration of additional traits into the Big Five, as only two out of the five personality traits passed reliability and validity tests. Furthermore, the study empirically tests the moderating role of personal values on the relationship between personality traits and OCE.

The findings of the study also suggest that the OCE scale is unidimensional despite including cognitive, emotional and behavioural aspects. As a result, the study contributes to the academic debate on the dimensionality of OCE. Additionally, the present study is the first to apply the short version of Schwartz's personal value scale as a moderator. Finally, this research introduces a perceived value measure that can be used in the context of FHOBC services.

Practical implications

The results of this study point towards a number of insights for managers seeking to better engage current and future customers in online communities. The study highlights the challenges faced by firms seeking to establish successful online communities. While the technical barriers to creating online communities have never been lower, creating consumer engagement within firm-hosted or firm-managed online communities is much harder. More specifically, given the breadth of different platforms and online communities competing for customers' attention and time, this study points to a number of proactive steps that managers can take to improve levels of engagement in online communities.

By understanding the influence of different personality traits on online consumer engagement, managers are able to focus on activities that will strengthen online communities. For example, this study highlights the role of altruistic individuals in answering questions and helping others with problem solving, suggesting that this group might be best engaged by providing them with some formal recognition (e.g. contributors' star rankings) that enables and motivates them to engage within a community. To leverage this altruism the first step to improve engagement in FHOBCs is for its employees to understand that their role is to facilitate discussion and not act as 'content creators'. For example, community managers should facilitate answers instead of simply replying to questions. Secondly, if community managers can get to know their brand advocates well, they can be aware of who has the knowledge to reply to a specific question and

can guide customers to those who can help address their questions most effectively by tagging them in the message.

Another step is to leverage the role of extraverts in recruiting and engaging new community members. For example, managers could assess levels of extraversion through analysis of posting frequency and offer incentives to customers that remain engaged in the community. Findings of this study also highlight that personal values moderate the relationship between personality traits and online consumer engagement. Even though community managers may not be able to influence personal values, they should be aware of how they influence online behaviour so that they are able to deal with the potential consequences.

Findings also indicate that a community must be collaborative in order to meet consumer expectations for social value when engaging online. Social approval can be shown by the online brand community, the brand, its employees or other users in any form. Thus, it is essential for online community managers to encourage and reward consumers' engagement whether through awarding forms of online status (e.g. points, badges or labels that provide recognition), invitations to contribute content to a website (e.g. writing an article) or inviting advocates to key team meetings in order to share their expertise and feel they are involved in the company's decision making. For the most active brand advocates promotion opportunities could be offered including interviews or awards that provide public recognition. Even for less active members, regularly receiving regular thanks from community managers can help building social value. These awards can be of symbolic as well as financial value. For example, while support can be acknowledged with branded company items (e.g. t-shirt or mug), a digital plaque or certificate is a cost-free option that can be used to express thanks to a user who has made a certain number of valuable or helpful posts.

Users of both FHOBCs in this study perceived both aesthetic value and social value as a result of online consumer engagement. This highlights again the importance of holistic approaches to considering overall user experience, including good website design, overall appearance and responsive layouts across a range of devices to create more effective information searches. Community managers should have clear onboarding processes and strategies to reach out to new community members and to introduce both themselves and the purpose of the community. By explaining how to get started, how to navigate and how to complete a profile, the brand community will be able to more quickly demonstrate value to new members. Other suggestions

in relation to aesthetic value are that the FHOBC manager should ensure that the content and dialogue is kept honest and easy to follow so that the FHOBC shows only important insights. This aim can be achieved by monitoring the quality of customer comments, seeking to avoid repetition and ensuring that online discussion remains friendly, avoiding the forms of hostile social interactions that can often be seen in unmoderated social media contexts.

Limitations and future research directions

In presenting this research, we acknowledge some limitations as well as a number of future research directions. Despite the specificity of the context in this study, both the theoretical contribution and fast-changing nature of online communities provide promising avenues for further research. The first limitation is the use of self-reported measures. Despite the potential for social desirability bias where respondents may present themselves in a favourable light (Furnham, 1986), self-reported measures are a commonly used method in research on personality traits (e.g. Coelho *et al.*, 2016). A second limitation relates to the potential for findings to be culturally bound, due to online communities with an individual national focus being selected, where cultural values might impact upon the behaviour of individuals (Hofstede and McCrae, 2004). Hence, future research is recommended to apply this study's conceptual framework across different cultures to enhance its generalisability. Future research could also consider additional types of consumer perceived value such as economic value and altruistic value and their role in other OCE contexts.

In order to develop a deeper understanding of the concept of consumer engagement, future research could also consider broader theoretical and practical implications, such as developing and testing theoretical frameworks of the psychological process of engagement (Calder *et al.*, 2016) or relating engagement to happiness (Calder *et al.*, 2016). Future research could also look at how and why personal values influence engagement. Additionally, reflecting broader shifts in the nature and use of online communities, and thus the interaction between brands and consumers in these communities, a valuable focus for future research lies in developing a richer understanding of engagement across a range of social and technological contexts. For example, research on online engagement across cultures, in business-to-business (B2B) settings (Hollebeek *et al.*, 2016a), interdisciplinary research (Calder *et al.*, 2016), the investigation of focal engagement stakeholder group roles, activities, practices and responsibilities (e.g. Pervan and Bove, 2011; Schau *et al.*, 2009) and the interface between engagement and big data (Hollebeek *et al.*, 2016a) constitute directions for further research.

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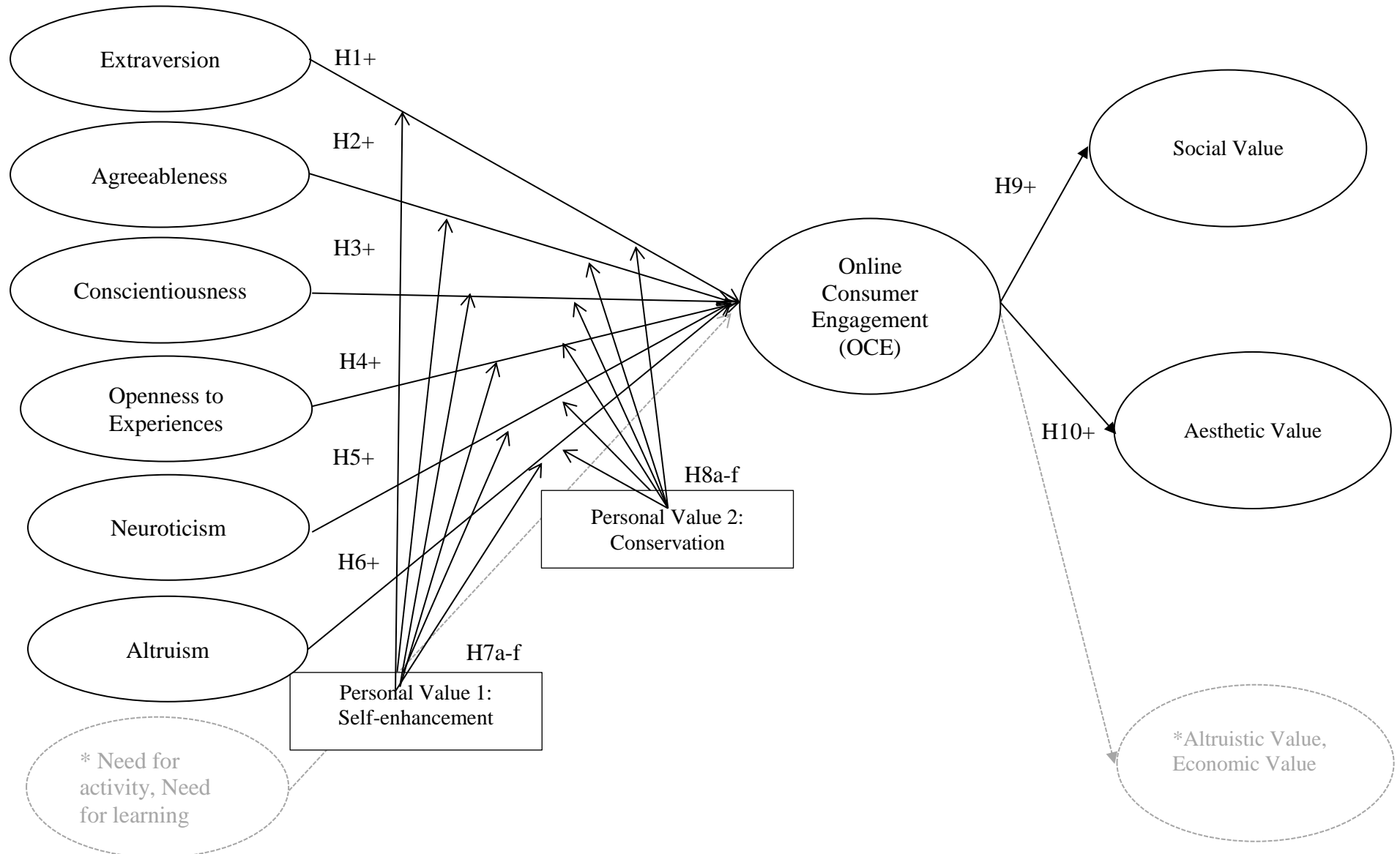
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Figure 1: Conceptual framework



Note: *Other additional personality traits could be need for activity or need for learning (Mowen and Sujun, 2005) and other categories of consumer value could be altruistic value and economic value (Holbrook, 1999), which might arise in other specific contexts.

Table 1: Measurement model: Descriptive statistics, bivariate correlations and average variance extracted

	Mean	SD	α	CR	1	2	3	4	5	6	7	8
1. Extraversion	5.48	1.08	0.87	0.87	0.53	0.53	0.34	0.36	0.10	0.26	0.35	0.26
2. Openness to experiences	5.43	0.96	0.81	0.75	0.73*	0.54	0.42	0.48	0.17	0.35	0.41	0.18
3. Altruism	5.21	0.94	0.78	0.79	0.58*	0.65*	0.48	0.31	0.16	0.22	0.16	0.05
4. OCE	4.95	1.35	0.92	0.86	0.60*	0.69*	0.56*	0.62	0.49	0.49	0.31	0.14
5. Social value	4.50	1.65	0.90	0.91	0.31*	0.41*	0.40*	0.70*	0.76	0.31	0.24	0.03
6. Aesthetic value	5.40	1.25	0.93	0.93	0.51*	0.59*	0.47*	0.70*	0.56*	0.83	0.28	0.07
7. Self-enhancement	5.37	1.22	0.79	0.81	0.59*	0.64*	0.40*	0.56*	0.49*	0.53*	0.59	0.05
8. Conservation	4.28	1.30	0.82	0.83	-0.51*	-0.42*	-0.23*	-0.37*	-0.16**	-0.27*	-0.23*	0.62

Note: SD = Standard Deviation; α = Cronbach's Alpha; CR = Composite Reliability; AVE = Average Variance Extracted Values are diagonal in bold; (IC) Inter-Construct Correlations are in the lower diagonal; SIC = Squared Inter-Construct Correlations are in the upper diagonal; * = $p < 0.001$; ** = $p < 0.01$

Table 2: Results of the structural equation model: The full and partial mediation models

Relationships	Full Mediation		Partial Mediation	
	SPC	CR	SPC	CR
H ₁ Extraversion → OCE	0.17	2.79**	0.17	2.91**
H ₄ Openness → OCE	0.46	6.33***	0.46	6.25***
H ₆ Altruism → OCE	0.17	3.11**	0.16	2.94**
H ₉ OCE → Social value	0.70	12.26***	0.80	10.79***
H ₁₀ OCE → Aesthetic value	0.71	13.02***	0.56	9.19***
Extraversion → Social value			-0.17	-2.84**
Extraversion → Aesthetic value			0.03	0.60
Openness → Social value			-0.08	2.19**
Openness → Aesthetic value			0.15	-1.10
Altruism → Social value			0.11	1.84
Altruism → Aesthetic value			0.04	0.69
Model Fit Statistics				
χ^2		879.99		845.19
df		342		336
RMSEA		0.05		0.05
SRMR		0.06		0.05
GFI		0.90		0.90
NFI		0.92		0.92
CFI		0.95		0.95
Squared Multiple Correlation (R²)				
Online consumer engagement		0.52		0.51
Aesthetic value		0.51		0.52
Social value		0.48		0.52

Note: SPC = Standardised Path Coefficient; CR = Critical Ratio; OCE = Online Consumer Engagement; df = Degrees of Freedom; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardised Root Mean Residual; GFI = Goodness of Fit Index; NFI = Normed Fit Index; CFI = Comparative Fit Index; *** p < 0.001; ** p < 0.01;

Table 3: Overall model fit statistics

	N	χ^2	df	GFI	NFI	CFI	RMSEA	SRMR
Model with Low Self-enhancement	559	555.94	336	0.77	0.78	0.90	0.07	0.08
Model with High Self-enhancement	559	746.54	336	0.89	0.89	0.94	0.05	0.06
Model with Low Conservation	559	629.88	336	0.88	0.89	0.94	0.05	0.06
Model with High Conservation	559	597.48	336	0.84	0.86	0.93	0.06	0.07

Note: df = Degrees of Freedom; GFI = Goodness of Fit Index; NFI = Normed Fit Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardised Root Mean Residual

Table 4: Results of the moderation model for conservation and self-enhancement

Relationships	Self-enhancement				Conservation			
	Low		High		Low		High	
	SPC	CR	SPC	CR	SPC	CR	SPC	CR
H _{7a} ; 8a Extraversion → OCE	0.13	1.19	0.15	2.48**	0.08	1.02	0.16	1.82
H _{7d} ; 8d Openness → OCE	-0.14	-1.16	0.70	7.29***	0.56	5.30***	0.33	3.44***
H _{7f} ; 8f Altruism → OCE	0.42	3.36***	-0.03	-0.51	0.20	2.52**	0.16	1.86

Note: SPC = Standardised Path Coefficient; CR = Critical Ratio; OCE = Online Consumer Engagement; *** p < 0.001; ** p < 0.01

Appendix: Measurements

	<u>SPC</u>	<u>Cronbach Alpha</u>
Consumer Personality		
Extraversion*		
1. I feel uncomfortable in a group of people. (R)	0.76	0.87
2. I prefer to be alone rather than in a large group. (R)	0.83	
3. I am shy. (R)	0.68	
4. I am quiet when with others. (R)	0.76	
5. I am talkative when with others.	0.64	
6. I am withdrawn. (R)	0.69	
Openness to Experiences		
1. I frequently feel highly creative.	0.70	0.81
2. I am imaginative.	0.69	
3. I am innovative.	0.68	
4. I am more original than others.	0.86	
5. I enjoy beauty more than others.	0.73	
Altruism		
1. I am altruistic.	0.58	0.78
2. I am giving to others.	0.73	
3. I sacrifice my goals to help others.	0.69	
4. I am selfless in giving time to others.		0.76
Personal Values		
Self-enhancement		
1. The importance of POWER – that is social power, authority and wealth.	0.90	0.79
2. The importance of HEDONISM – that is gratification of desires, enjoyment in life and self-indulgence.	0.61	
3. The importance of ACHIEVEMENT – that is success, capability, ambition and influence on people and events.	0.77	
Conservation		
1. The importance of TRADITION – that is respect for tradition, humbleness, accepting one's position in life, devotion and modesty.	0.83	0.82
2. The importance of CONFORMITY – that is obedience, honouring parents and elders, self-discipline and politeness.	0.81	
3. The importance of SECURITY – that is national security, family security, social order, cleanliness and return of favours.	0.71	
Online Consumer Engagement (OCE)		
1. I think about Facebook a lot when I'm using it.	0.81	0.92
2. Using Facebook makes me think about using one of their services.*	0.76	
3. I feel very positive when I use Facebook.	0.88	
4. Using Facebook makes me happy.	0.89	
5. I'm proud to use Facebook.	0.86	
6. I spend a lot of time using Facebook compared to other social networking pages.	0.59	
7. I use Facebook to learn about other users' experiences.**	0.67	
Perceived Value		
Social Value		
Facebook		
1. ...helps me feel accepted.	0.85	0.90
2. ...improves the way I am perceived.	0.87	
3. ...gives me social approval.	0.89	
Aesthetic Value		
Thinking about Facebook.		
1. The layout of the page is attractive.	0.92	0.93
2. The design of the page is visually appealing.	0.92	
3. The overall appearance of the page is visually appealing.	0.89	

* Introversion was reverse-coded into Extraversion; ** Items added to scale in exploratory interviews; SPC = Standard Path Coefficient