



**Patient experience of sharing with online social media communities: a bottom-of-the-pyramid perspective**

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**Abstract**

**Purpose:** Despite having inadequate resources, highly impoverished patients tend to seek and share health information over social media groups to improve each other's wellbeing. This study focuses on access to healthcare information for such patients and aims to provide an understanding of how online healthcare communities (OHCs), as transformative service mediators, can be platforms for patients with chronic and nonchronic health conditions to share their experiences in a base-of-the-pyramid (BOP) context.

**Design/methodology/approach:** A large-scale survey among 658 respondents was conducted in a very low-income country. SEM was used to test the hypotheses.

**Findings:** A model of patients' experience sharing (PES), motivations, and consequences for healthcare services is introduced and tested. The result supports the PES model for patients with chronic health conditions, showing that utilitarian, hedonic and social value dimensions directly influence PES and indirectly influence patients' continuance intention with online healthcare communities and patient efforts. However, a mediating effect of PES was found only between the value dimensions and patients' efforts. A negative moderation effect of medical mistrust was found in the relationship between utilitarian value and PES for both chronic and nonchronic patient groups.

**Originality:** This study is a pioneering attempt to develop and test a PES model in a BOP market.

**Keywords:** Patients' experience sharing, base-of-the-pyramid, healthcare services, online health communities, healthcare consumers.

**Introduction**

To date, approximately one in ten people in developing regions continue to live below the international poverty line of US\$1.90 per day (United Nation, 2018), referred to as the base-of-the-pyramid (BOP) market. Since its original articulation (Prahalad and Hammond, 2002; Prahalad and Hart, 2002), interest in a BOP perspective on business strategy and poverty

alleviation has continued to grow and involves the billions of people living on less than \$2.50 per day (Prahalad and Hart, 2002). The BOP is a socioeconomic concept derived from the economic human pyramid that allows the grouping of the world's poorest citizens as well as invisible and unserved markets that are blocked by challenging barriers that prevent them from realizing their human potential for their benefit, the benefit of their families, and that of society at large (Financial times, 2017). More broadly, BOP is a market-based model of economic development that promises to simultaneously alleviate widespread poverty while providing growth and profits for multinational corporations (Kirchgeorg *et al.*, 2014). A BOP consumer is thus part of the largest but poorest group of the world's population and is often excluded from the modernity of society, including service consumption, choice, and access. While a lack of financial resources is in itself a very significant issue, it also lies at the root of many other problems, such as inequality and having little or no access to basic services, such as healthcare. Accordingly, despite the urgent need to gain knowledge of this important portion of the world population, little is known about value creation and service delivery for these very vulnerable markets (Sharma *et al.*, 2017). Therefore, the transformative service research (TSR) stream has called for scholarly research to provide a deeper understanding of these underresearched communities, to translate the findings into practice, and to help improve and better serve these populations (Blocker *et al.*, 2013). Among the solutions, digital healthcare platforms are seen as playing a critical role in terms of prevention, care, and cure in such contexts (Akareem *et al.*, 2020).

In recent years, healthcare services have been shaped by information communication technology and have been strongly impacted by the rise in online social media platforms. For instance, social media is being increasingly utilized by patients to search for information on health issues, share information about treatments and benefit from peer and professional social support (De Martino *et al.*, 2017). According to the Pew Research Centre, 80% of internet users

seek health information online (Weaver, 2019), where Facebook is becoming the primary source for users seeking and sharing such healthcare information (Rahim *et al.*, 2019). As such, Facebook is emerging as a dominant social media platform for healthcare purposes and seems to be particularly powerful in reaching minorities and vulnerable groups, such as impoverished populations (Rahim *et al.*, 2019).

Social media platforms hold promise for improving patients' engagement and empowerment, as they allow users to connect (Househ *et al.*, 2014) and share experiences and health information with others who are concerned about the same health issues (Basch *et al.*, 2015). Trust is an important factor in the knowledge-sharing process (Probst *et al.*, 2000). Particularly in online communities, trust is a key enabling factor for sharing (Fang and Chiu, 2010; Young and Tseng, 2008), and without ongoing exchange, online communities will fail to thrive (Ardichvili, 2008). Accordingly, these social media platforms have been suggested as being an integral part of the healthcare-service ecosystem in developed countries (De Martino *et al.*, 2017). Despite interest from academia in online healthcare communities (OHCs) (Zhang *et al.*, 2017), most of the existing studies have been conducted in developed economies. Very little is known about the use of such platforms by the disadvantaged and poor populations in emerging market countries, where constraints and realities are different from those of other populations, and the accessible healthcare systems are not comparable. For instance, healthcare systems in emerging market countries are often characterized by high levels of demand with limited supply. For BOP consumers, this means limited access to healthcare services, a focus on emergency healthcare, and poor quality of services. This explains the rise in self-medication, home remedies and, consultation of healers outside of formal healthcare systems. These healthcare systems are recognized to be more medication centered and exclusive instead of patient centered and inclusive. Accordingly, we expect OHCs to play a special role and are

likely to be used and consumed in various ways in such contexts. While access to healthcare services is limited in terms of time, cost, location, and disease type, these platforms offer indisputably transformational features of unlimited access to information and support at any hour of the day, as well as private and anonymous communications with others in real time at very low cost.

Despite healthcare being one of the most accessed information categories on the internet, knowledge of experience sharing between patients in online communities remains limited (Keeling *et al.*, 2013). Although general knowledge sharing in OHCs has received some attention (Chiu *et al.*, 2011; Zhang *et al.*, 2017), several gaps still exist in terms of OHCs on social networks, including the distinction between chronic and nonchronic patient sharing and a specific focus on medical experience sharing instead of general knowledge sharing in a BOP context. Yan *et al.* (2016) argue that more knowledge-sharing research that includes other relational constructs (instead of benefits and costs) and the role of trust is needed. This raises the question of what other motivational factors (expected value dimensions) encourage consumers to share their health-service experiences in OHCs. Despite the importance of the information available on OHCs, the threat of misinformation (i.e., mistrust in health information) imposes a risk on physical wellbeing (Diviani *et al.*, 2015). Moreover, outcomes such as consumers' intention to continue (Cheung *et al.*, 2013) and individual efforts in OHCs (Chen *et al.*, 2018) due to health-service experience sharing among impoverished consumer groups are unknown. In addition, Gurrieri and Drenten (2019) called for further research to understand the motives and outcomes of vulnerable consumers who use social media to narrate their healthcare experiences. This paper aims to explore the use of OHCs on social media platforms by BOP healthcare consumers in emerging market countries.

Accordingly, this study makes multiple contributions. First, this study seeks to provide a further understanding of how OHC, as a transformative service mediator, can create value for vulnerable consumers in a BOP context. This answers recent calls to study how such transformative service mediators contribute to co creating value for vulnerable consumers and could provide transformational experience to assist and empower them (Johns and Davey, 2019; Previte and Robertson, 2019). Therefore, this paper proposes a unique model of patients' experience sharing (PES) in OHCs by considering the motivators and consequences of PES behaviors. We define PES as patients' initiation efforts for the benefit of other patients on social media platforms. Second, healthcare informational mistrust in social media is considered to determine whether it weakens the relationship between utilitarian value and PES. Third, this study considers OHCs for BOP healthcare consumers in emerging market countries as the service context. Finally, chronic and nonchronic diseases have very different durations of treatment and patient experiences, which require particular attention (Sandefer *et al.*, 2018). Therefore, this study goes a step further by comparing the perceptions of patients with chronic diseases to those of patients with nonchronic diseases.

The remainder of the paper highlights the relevant literature and introduces the conceptual model. The research design and data collection method are then presented. Finally, the findings and a discussion of the results are presented. The paper concludes with managerial and theoretical implications and suggestions for future research.

## **Literature**

### ***Online healthcare communities (OHCs)***

Recent studies in the service field have emphasized the key role played by transformative service mediators in supporting value cocreation in a service context (Johns and Davey, 2019).

In the specific context of healthcare, the role of some actor mediators has been suggested to be crucial for reducing vulnerable consumers suffering and enhancing their wellbeing (e.g., OHC).

OHCs are complex networks of members who often deal with the emotional and informational demands of illness, where they exchange valuable information and helpful social support (Rubenstein, 2015). These groups are hosted and managed by healthcare professionals, patients or third parties (Johnston *et al.*, 2013). Such interpersonal interactions often bring patients comfort and empathy (Preece and Ghazati, 2001), as they allow the opportunity to connect with others facing similar health problems (Zhang, 2014). Furthermore, OHCs provide support that is often unavailable from medical providers, who are unable to spend significant amounts of time with patients (Moumjid *et al.*, 2009). These OHCs could be considered service mediators or safe places that create value and lead to an improvement in consumer wellbeing (Johns and Davey, 2019; Parkinson *et al.*, 2017).

Online health groups have emerged in the healthcare realm as a result of the need for individuals to know more about the health issues that they or their communities are facing (White and Dorman, 2001). These online communities can not only provide a cost-effective means of support and education to a large number of people but also have the potential to reach groups that are currently unreachable or difficult to reach (White and Dorman, 2001), such as the BOP market. OHCs can thus be of benefit to those with limited offline resources and allow people to fulfill health needs that are not being met offline (Pendry and Salvatore, 2015). Despite their wide adoption, little research has been dedicated to these platforms. Recent studies have questioned the role of these platforms as intermediaries and called for their contributions to value cocreation for vulnerable consumers to be explored. Furthermore, there

is a call for a better understanding of the involvement of these transformative service intermediaries (i.e., OHCs) in service ecosystems and delivery processes to reduce vulnerability (Johns and Davey, 2019).

### ***TSR and healthcare services in the BOP market***

Transformative service research (TSR) is the “integration of consumer and service research that centers on creating uplifting changes and improvements in the wellbeing of individuals (consumers and employees), families, social networks, communities, cities, nations, collectives, and ecosystems” (Anderson *et al.*, 2011, p. 3). This stream highlights the priority of improving the wellbeing of humans and connects individual wellbeing to higher-level collective wellbeing, showing its critical role in society. Previous studies have shown that individuals’ wellbeing differs depending on their resource conditions and challenges (Chen *et al.*, 2020; Dodge *et al.*, 2012). Several individuals could be in a situation of diminished or limited resources (e.g., impoverished populations) that constrain the realization of service exchange with important consequences for wellbeing (Dean and Indrianti, 2020). Therefore, the TSR stream called the service community to focus attention on these vulnerable consumers. Because of the lack of resources, these consumers find themselves in a state of powerlessness that could hinder their (healthcare service) consumption goals. In addition, some studies have also shown that individual wellbeing can fluctuate, with its deterioration and improvement depending on each actor’s context (La Placa *et al.*, 2013). This implies that studying vulnerable service consumers (e.g., BOP) in various contexts and ecosystems will be beneficial to the field. Therefore, the TSR stream has called for scholarly research focusing on impoverished communities to provide a deeper understanding of these under researched communities,

translate the findings into practice, and help improve and better serve these markets (Blocker *et al.*, 2013).

Due to poverty, vulnerability is widespread in developed countries but even more widespread in developing countries (Hodgson, 2017). Consumers experiencing vulnerability comprises the “unique and subjective experiences where characteristics such as states, conditions and/or external factors lead to a consumer experiencing a sense of powerlessness in consumption settings” (Riedel *et al* 2021:11). Vulnerability is thus a result of an individual’s lived experience and, as a result, varies across individuals and groups and service settings. This study focuses on the vulnerability of the BOP segment due to their struggle to obtain access to formal healthcare information. The lack of financial resources lies at the root of many important problems, such as inequality and having little or no access to basic services, such as healthcare. At least half of the world’s population lacks access to essential health services (Dugani *et al.*, 2018; Fisk *et al.*, 2018). The need for healthcare is one of the key areas in which the lack of access is especially challenging for BOP markets worldwide (Kapoor and Goyal, 2013). Critical shortages of healthcare professionals, insufficient healthcare infrastructure, high costs of treatment, and delays in care delivery (long waiting times) contribute to reduced life expectancy and quality of life for those in the BOP market (Ahmed and Shirahada, 2019). In addition, the information asymmetry between patients and healthcare professionals is even higher for BOP consumers in developing countries due to their low health literacy levels (Lako and Rosenau, 2009).

Patients search for information through a variety of sources, such as self-help groups, healthcare professionals, medical journals, or meetings with others with the same diagnosis

(Herxheimer et al., 2000). However, such information access can be facilitated and supported by emerging new technologies, such as OHCs. Surprisingly, this trend is particularly common in low-income countries, where patients are ambitious and proactive in terms of technological opportunism (Srinivasan *et al.*, 2002), and countries with higher technological opportunism are more likely to assimilate and exploit such emerging technology (Dutta and Mia, 2011). Therefore, there is a need to leverage technology for innovative solutions that are affordable, available, and accessible to facilitate access to healthcare in the BOP context (Kapoor and Goyal, 2013). Technology, such as OHCs and health pages, can provide the BOP market with access to affordable healthcare and healthcare education. BOP healthcare consumers often have no direct relationship with a medical service provider; however, they engage with other patients to share their experiences. Therefore, the quality of content exchanged on OHCs and the level of engagement of users on these platforms, as well as their behaviors and attitudes, are expected to strongly influence other patients' experiences and wellbeing. However, despite its relevance, very little is known about such experience sharing in serving BOP markets (Chikweche, 2013).

### ***Social exchange theory and healthcare services in the BOP market***

Social exchange theory seeks to explain voluntary individual behavior motivated by resource exchange (Emerson, 1976). The theory suggests that there are various resources (e.g., status and information) that can be exchanged and that such exchange can be both financial and social, with an expectation of gaining something in return (Organ and Konovsky, 1989). Therefore, reciprocity is probably the most prominent exchange rule here.

Knowledge sharing is a kind of exchange behavior (Bock *et al.*, 2005), and OHCs focus on the exchange of health knowledge, such as personal health conditions and experiences (Yan *et al.*,

2016). In addition, social exchange theory is widely applied to explain individual behavior across various domains, including information sharing (Hall *et al.*, 2010) and behavior in online communities (Jin *et al.*, 2010). Therefore, social exchange theory can be deployed as a means of explaining online experience-sharing behaviors and serves as a theoretical underpinning for the study.

Hall (2003) posits that social exchange theory is a means of explaining the willingness of individuals to share information and knowledge. Previous research has confirmed the importance of expectations and returns arising from ‘sharing’ in online communities (Chiu *et al.*, 2011). Users who share knowledge in OHCs may want to get something in return, for example, feelings of pleasure when they participate, social value for educating others, and other reciprocal benefits (Kankanhalli *et al.*, 2005). Built on social exchange theory, our proposed model posits that utilitarian, hedonic and social value facilitate PES, providing functional, hedonic, and social benefits to the participants in return.

In return for the perceived benefits, people choose to reciprocate by developing commitment or putting in extra effort into performing tasks (Musa *et al.*, 2005). Following the same notion, health consumers demonstrate increased patient effort toward OHCs in online health settings. Similarly, in return for the benefits gained from OHC participation (i.e., PES), participants reciprocate with a commitment to the online community (Jin *et al.*, 2010), as both parties in a relationship must benefit for it to continue in the long run (Hennig-Thurau *et al.*, 2002). As such, the perception of continued benefits of both parties is the key to the ongoing social exchange reflected by the intention to continue to use and participate in the OHCs.

Given that participation through online experience sharing (PES) is vital for OHCs to exist in the first place, none of the benefits or reciprocal behavior (effort and intention to continue) would be possible without experience sharing; therefore, the mediating role of PES is explored in this study. Although the reciprocal benefits are perceived at an individual level, the benefits are received by the broader community, especially in a BOP context where traditional healthcare is often not accessible. Therefore, the transformative research perspective is also applied in this study.

Trust is a key enabling factor for the ongoing exchange of knowledge sharing in online communities (Fang and Chiu, 2010). Although trust is key in online advice, the increasing number of sites coupled with questions over the quality of information has led to concerns about trust regarding online health sites (Sillence *et al.*, 2006). Many people search online for health advice in an attempt to better deal with their health issues (Mead *et al.*, 2003), thus linking with the utilitarian or functional benefit of OHCs. Given the issue of whether the quality of information on e-health sites is trustworthy (Vega *et al.*, 2011) and the severe consequences of relying on incorrect or inaccurate health information, the role of (mis)trust in utilitarian value is also investigated in this study. The utilitarian value for this study is reflective of the functional benefits of using health information from experiences shared in OHCs to solve health issues effectively and quickly.

No exchange model operates in a vacuum (Befu, 1977). The sociocultural context sets the stage at which participants can act out their exchange behavior and that exchange is based on individuals' motivations to maximize rewards and minimize costs (Befu, 1977). In addition, the value of the benefits and the costs (exchange) varies depending on individual factors, such as the intensity of the recipient's need (Gouldner, 1960). Previous research has also found that the norm of reciprocity, on which social exchange theory is built, functions differently

depending on the context (Gouldner, 1960). Furthermore, empirical support is found that social exchange theory differs across racial groups and work statuses (Conway, 2004; Fryer Jr., 2007), for example. In addition, psychological, social, and demographic factors can also influence the development of social exchange (Wan and Antonucci, 2016).

Thus, one could argue that chronic health situations and unique psychosocial factors influence healthcare consumers' PES behaviors. Furthermore, chronic patients' motivations for using an OHC, expectations of sharing experiences, and more intensive needs could lead to differences in their social exchange processes in OHCs compared to those of nonchronic patients. Therefore, this study considers both individual (using social exchange theory) and community (using TSR) perspectives to construct the conceptual model and compare the two healthcare consumer groups.

### ***Patients' perceived value and patients' experience sharing***

Achieving patient-centered value is treated as the most important outcome of healthcare services (Porter, 2010). Healthcare communication research indicates that healthcare services should provide the desired value for patients (Crow *et al.*, 1999), and on the basis of this value, they share their experiences with others. Once a patient has received appropriate information that solves his or her health issues or when he or she has found a good doctor who can solve his or her health issues, he or she tends to share this experience with other patients in a patient-based social media group so that others can obtain a similar value. Users share their experiences in an online community, with the expectation that in the future, they will receive similar information from the group when they need it (Luo *et al.*, 2018), which is linked with social exchange theory. The functionality of the information that helps a user solve a problem is the

key feature here. Previous research found that vulnerable healthcare consumers provide informational support to one another online using social media platforms (Gurrieri and Drenten, 2019). In OHCs, consumers are more interested in sharing information when they receive information related to their interests (Zhao *et al.*, 2018). Following this notion, patients' perceptions of obtaining timely health information (utilitarian value) from a patient-based social media group motivates them to share their own experiences in a health-service context.

Deci and Ryan (2000) found that psychological values, such as enjoyment, are autonomous motivations for consumers as they engage with each other due to enjoyability and meaningfulness. In an online community, users' experience sharing not only helps other users but also generates value for themselves (Chen *et al.*, 2018). In the context of knowledge-sharing behavior, Yu *et al.* (2010) found that the hedonic value derived from helping others leads to sharing behavior. People are willing to help others solve problems because answering questions provides them with feelings of pleasure (Lakhani and Von Hippel, 2003) and thus serves as a reward. Consequently, patients' enjoyment of sharing experiences leads to sharing behavior with other patients in a social media group.

The third value dimension is social value, which is also found to have a direct influence on users' experience sharing. For example, Cyr and Choo (2010) revealed the direct influence of the perceived value of users' social orientation on sharing behavior. In line with the TSR, the majority of online community members share their experience in an online forum because they want to enrich community knowledge without any expectation of personal gain (Wasko and Faraj, 2000). People often visit OHCs to participate in dialog, to ask questions and to share their experiences with other members to obtain social support (Li *et al.*, 2014). Consequently, patients are expected to share their experiences with other patients in an online community if they are motivated by the social value they obtain from the community.

Rubenstein (2015) found that social support experienced via the sharing of information and emotional experiences is connected with individuals' interactions with one another, and these experience interactions and exchanges create functional, emotional and social values. Members (patients) can influence their (online) communities cognitively, emotionally and socially since they co create value and information by sharing their experiences (Bolton *et al.*, 2018). It is thus evident that various types of value influence consumers' willingness to experience sharing in social media groups (Zhao *et al.*, 2018). Considering this and the reasoning behind social exchange theory, we propose that all dimensions of healthcare consumers' perceived value influence their experience-sharing behavior in social media groups.

*H1: Utilitarian value positively influences PES in OHCs.*

*H2: Hedonic value positively influences PES in OHCs.*

*H3: Social value positively influences PES in OHCs.*

### ***Patient experience sharing and continuance intention***

To date, we still do not fully understand how members evaluate their information sharing experiences and how these evaluations affect their decisions to continue sharing knowledge in online communities (Cheung *et al.*, 2013). When a patient shares information in an OHC, it not only helps other patients with similar health issues but also helps the sharer himself/herself (i.e., retrieving the information from the online group/page for future reference).

Thus, sharing an experience brings about a sense of satisfaction for the patient, which influences his or her long-lasting motivation to participate in the online health community (Shang and Liu, 2015). Therefore, drawing from the above and from social exchange theory,

as long as exchanges maximize rewards, behavior will continue. We propose that PES affects patients' intention to continue with the social media group.

*H4: PES positively influences patients' continuance intention in OHCs.*

### ***Patients' experience sharing and efforts***

Engagement with social media is recognized as a motivator of feedback and collaboration among members (Kind and Evans, 2015). In the context of health services, patients share their experiences with other members of OHCs to obtain feedback in various ways (i.e., likes, shares and comments). In addition, patients share their experiences, inviting other patients in the social media group to share their own experiences of similar health issues, and aim to find solutions (Shang and Liu, 2015).

Social exchange theory supports users' expectation that they will have equal interaction from others as they had offered to others (Luo *et al.*, 2018), and therefore, once a patient shares his or her experience, other patients in the group are expected to share their experiences or feedback as well. Considering this notion, we hypothesize that PES positively affects patients' efforts in social media groups.

*H5: PES positively influences patients' efforts in OHCs.*

### ***Mediating role of PES***

Information sharing (Kaewchur *et al.*, 2013) and knowledge sharing (Ahmed *et al.*, 2018) often play a mediating role in various contexts. Gruen *et al.* (2005) found that firms' overall value proposition is related to their customer-to-customer exchange activities. In addition, users'

experiences encompass emotional evaluation, the level of engagement with the service provider, and users' knowledge and skills (Chen *et al.*, 2018). As such, the level of interaction with the service provider leads to interaction with other consumers of a service. In a health-service context, interacting with others through social media enables patients to gain confidence through validation from and knowledge of other patients' opinions, motivating them to continue interacting with social media communities (Shang and Liu, 2015). Given that participation through online experience sharing is crucial for OHCs to exist in the first place and that none of the benefits or reciprocal behavior (e.g., effort and intention to continue) would be possible without experience sharing, we propose that PES plays a mediating role in the patient experience-sharing model.

*H6: PES mediates the relationship between (a) utilitarian value, (b) hedonic value, and (c) social value and continuance intention in OHCs.*

*H7: PES mediates the relationship between (a) utilitarian value, (b) hedonic value, and (c) social value and patients' efforts in OHCs.*

### ***Moderating role of mistrust in PES***

Consumers' main reason for visiting online health websites and communities is to search for health information and advice, thereby reflecting the utilitarian value of healthcare services (Sbaffi and Rowley, 2017). OHCs are consequently an important source of health information and have a significant effect on healthcare decisions and the health outcomes of members (Xiao *et al.*, 2014). Furthermore, research suggests that low health literacy, as is so often the case in access-denied vulnerable groups, such as those of BOP consumers, enhances users' susceptibility to inaccurate or misleading information (Diviani *et al.*, 2015). As a result, Sbaffi and Rowley (2017) argued that research pertaining to the role of trust in online health

information needs to develop coherent reviews and informed practices for these vulnerable groups. Alarming, a significant amount of medical information available online has not been validated by medical professionals (University of Michigan, 1999). It is thus evident that while OHCs offer high utilitarian value, they are also high-risk information sources.

Trust in the accuracy of information (utilitarian value) is relevant on social networking sites, such as Facebook and Twitter (Gupta and Dhimi, 2015). Credibility and trust are consequently imperative for seeking and sharing health information in these communities. Emotional value or social value is less dependent on the credibility of social media information, but from a utilitarian perspective, the effect is significant since the use of inaccurate information impacts patients' health directly (Zhang, 2014). While the quality and accuracy of the information shared on these sites frequently varies, acting on incorrect advice can have dire consequences (Fan *et al.*, 2014). Trust is also central to social exchange theory (Lin and Lu, 2011) and has a positive effect on information sharing (Gupta and Dhimi, 2015). Studies on interpersonal exchange situations confirm that trust is a precondition for self-disclosure because it reduces the perceived risks involved in revealing private information, such as personal health issues (Metzger, 2004). Trust is thus critical for sustaining patients' continued use and involvement in OHCs (Fan *et al.*, 2014).

While the extant literature on trust has focused on how online trust in general can be established and sustained, the topic of online distrust or mistrust has been neglected (Chang and Fang, 2013). Previous research suggests that mistrust not only lowers satisfaction with healthcare treatments but also leads to less engagement with health services (Renzaho, 2009), especially among vulnerable communities. Furthermore, mistrust has a negative indirect effect on the intention of patients to participate in healthcare programs (Polonsky *et al.*, 2018). Grabner-Kräuter and Bitter (2015) argue that trust shapes interactions and participation in online social

networks. Trust shapes the interactions in social networks and is a requirement for interaction to take place (Fan and Lederman, 2018). Sillence *et al.* (2006) conjecture that users will engage with health sites that they believe to be trustworthy. Consequently, trust has been found to facilitate information and knowledge sharing online (Gupta and Dhimi, 2015). Therefore, we propose that mistrust will negatively moderate the relationship between utilitarian values and PES in social media groups, such as OHCs.

*H8: Mistrust in the medical information available on social media negatively moderates the relationship between utilitarian value and PES.*

#### ***PES model of patients with chronic versus nonchronic diseases.***

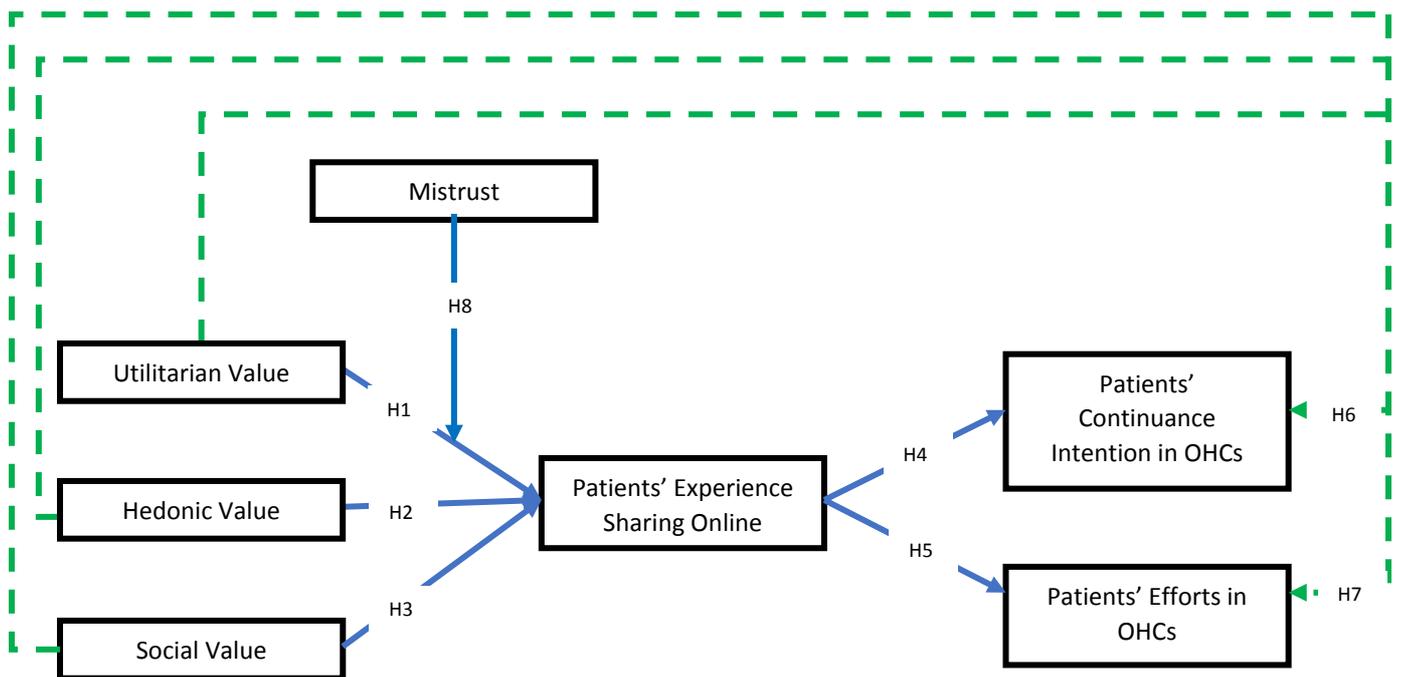
It is common for patients to use the internet and social media to seek information about their health conditions, especially patients with chronic diseases (Pew Research Center, 2013). Chronic diseases are claimed to be the ‘silent epidemic’, and they affect an increasing number of people every year (Willis and Royne, 2017). OHCs are powerful tools for addressing some of the difficulties that chronic care patients face since these communities can be used to share experiences, to exchange knowledge and to improve disease-specific expertise (Johnston *et al.*, 2013). Nevertheless, limited research has compared e-healthcare management and use across patients with reported chronic and nonchronic conditions (Sandefer *et al.*, 2018).

Various definitions of chronic diseases exist (Bernell and Howard, 2016), based not only on disease type, such as diabetes, obesity and cancer, but also on the duration of the condition(s). For the purpose of this study, we used the definition of Shiel Jr. (2018), defining a chronic disease as one lasting 3 months or longer. Chronic diseases can generally neither be prevented by vaccinations nor cured by medicine, nor do they just disappear (Bernell and Howard, 2016);

therefore, such patients use healthcare services for a substantial length of time, reflecting their long-term engagement with a service provider.

Several differences are evident in the way chronic versus nonchronic patients access and use e-health technologies (Pew Research Center, 2013). Patients with a chronic disease report significantly higher rates of e-information seeking and the use of internet-based health technologies and have higher uptake of e-health in general (Madrigal and Escoffery, 2019). Furthermore, commitment (patient effort and continued intention) is a complex construct because an individual's underlying motivation to continue relationships can vary in online communities (Jin *et al.*, 2010). In addition, empirical support indicates that social exchange theory manifests differently based on psychological, social, and demographic factors (Wan and Antonucci, 2016). Consequently, one can hypothesize that the PES in OHCs will differ between these two groups, and as a result, it will be worth investigating how the PES model in OHCs is different for poor chronic and nonchronic disease healthcare consumers.

Figure 1 reflects the conceptual model based on the discussions in the aforementioned literature review sections.



**Figur2e 1: Conceptual model**

## Research design

### *Data collection*

The population of this study is BOP healthcare consumers (monthly income approx. BDT 5,000/USD 60 or less) in Bangladesh who use Facebook regularly and are members of at least one patient-initiated Facebook health group/page. The term PES is used throughout the paper, as this is an emerging field in the user experience-sharing literature, and the term patient is generally used in research pertaining to information or knowledge sharing in a healthcare context. However, when referring to patients, one needs to take note that for the purpose of the paper it implies a healthcare consumer. The term healthcare consumer is used and implied since a formal diagnosis is not needed for a consumer to classify themselves as a patient to visit and use OHCs. Almost 25% of the population of Bangladesh lives below the national poverty line, representing a significant number of BOP consumers (Asian Development Bank, 2019). BOP

consumers in Bangladesh have largely adopted the use of smartphones, social media, and smartphone-supported services (Hasan *et al.*, 2019). In addition, statistics show that 67.3% of the population has attained internet penetration and that 26.7% of the population uses Facebook regularly (Internet world stats, 2021). Internet penetration has occurred mainly because of the availability of inexpensive smartphones (Afp, 2014), where 95.3% of the overall population owns a mobile phone (Passport, 2020). Over the years, the preference for Facebook compared to other popular social media platforms (i.e., Instagram and LinkedIn) has not changed (NapoleonCat.com, 2019). Therefore, we consider BOP healthcare consumers in Bangladesh to be an appropriate research context for this study.

To avoid challenges such as method-based bias, nonrepresentative responses, and inappropriate constructs caused by using items developed for non-BOP contexts, we followed the suggestions of Ingenbleek *et al.* (2013). We approached a local NGO specializing in healthcare in the BOP market to access the target population. The local NGO agreed to cooperate based on a pro bono basis where the anonymity of patients as well as the local NGO was assured. Historically, the field workers of the local NGO operating in the capital city of Bangladesh trained BOP consumers on how to use Facebook groups where the primary objective was to exchange health information. During the pretest and the initial stage of the second phase of data collection, the local NGO helped the data collection team obtain the contact information of consumers who use at least one Facebook health group.

During the pretest, 6 trained data collectors approached patients waiting for healthcare service in the NGO-operated health center. Once they confirmed the selection criteria (BOP consumer status (monthly income approx. BDT 5,000/USD 60 or less) and membership of at least one Facebook healthcare group) were met, they requested that the respondents complete the

questionnaire to ensure the accuracy of the statements in the local language. In this way, 20 responses were collected. Accordingly, the wording of a few items was improved based on the participants' feedback. In the second stage, the data collection team approached 150 convenience-sampled BOP consumers located at four slums in the capital city. Eighty-nine agreed to participate and met the study criteria. To increase the sample size, the data collectors used the snowball sampling method, in which the participants were requested to recommend their friends and family members who were also part of OHCs (Malhotra, 2008).

In total, 658 responses were collected, with an average respondent age of 30 years. In terms of gender, 60.3% of respondents were male, and 39.7% of respondents were female. Forty-one percent of respondents had a primary school certificate, 46.4% of respondents had educational qualifications higher than primary school degree, where the majority did not finish secondary school, 7.1% had a vocational degree, and 5% no formal education at all. The government initiative of educational stipends targeting poor children since early 2000 had a positive impact on urban slum education reflected by 97% primary enrollment and a 109% gross enrollment rate (BANBEIS and Bangladesh Ministry of Education, 2015). Therefore, the educational background of the urban slum population is considerably higher than that of the overall BOP market in the country. Furthermore, the demographic characteristics of the sample are similar to those of recent studies in a similar context (Akareem *et al.*, 2020; Hasan *et al.*, 2019). Of the 658 respondents, 310 were healthcare consumers with a nonchronic disease, and 348 were healthcare consumers with a chronic disease.

### ***Validity of measurements***

All of the measurement instruments were adopted and refined (during the pretest) from previous studies. Confirmatory factor analysis (CFA), following the guidelines of Anderson and Gerbing (1988), was conducted. Table 1 shows the factor loadings, along with the sources from which the scale items were adopted and refined. All model fitness indices ( $\chi^2 = 511.014$  [df= 303,  $p=0.00$ ], GFI=0.945, AGFI=0.931, TLI=0.987, CFI=0.989, IFI=0.989, RSMEA=0.032, CMIN/DF=1.687, SRMR=0.033) were acceptable, considering the sample size and complexity of the model (Bagozzi and Yi, 1988; Bearden *et al.*, 1982).

We also checked the construct reliability ( $CR > 0.70$ ) and average variance extracted ( $AVE > 0.50$ ), which met the standard cutoff point (Bagozzi and Yi, 1988). Although the factor loading of one of the items of continuance intention was below 0.060, all the other items scored substantially higher. There is no problem for the practical and statistical relevance of our results, as the loadings are higher than 0.50 in a sample of 658 (Hair *et al.*, 2019). Therefore, the model achieved convergent validity. In addition, the discriminant validity test was conducted using the guidelines of Fornell and Larcker (1981). The correlation matrix is presented in Table 2 and shows that the AVE of each factor is higher than the shared variance in other factors, thereby indicating that discriminant validity has been achieved.

**Table 1: Confirmatory factor analysis**

Variables (Sources)	Factor Loadings
<b><i>Utilitarian value (UV) (Bhattacharjee, 2001; Chen and Fu, 2018) The Healthcare Facebook Group (HFG)...</i></b>	
...enables me to solve health issues more quickly.	0.915
...enables me to solve health issues at any time.	0.921
...enhances the effectiveness of healthcare solutions.	0.924
...provides a comprehensive variety of suggestions, allowing me to solve various issues related to healthcare.	0.919
Generally, the HFG increases the chance of my wellbeing.	0.940
<b><i>Hedonic value (HV) (Babin et al., 1994; Jones, Reynolds and Arnold, 2006) Using the HFG...</i></b>	
...allows me to relax.	0.933

...allows me to keep up with new healthcare information.	0.915
...feels novel.	0.871
I usually immerse myself in using the HFG for hours.	0.892
...makes me feel fulfilled.	0.859
...is enjoyable.	0.927
<b>Patients' experience sharing (PES) (Chen et al.; 2018) How often have you...</b>	
...shared your experiences of healthcare services with other patients of the FG in the past six months?	0.901
...actively asked friends or Facebook acquaintances from the FG about their healthcare experiences in the past six months?	0.856
...given suggestions to friends or Facebook acquaintances from the FG based on your experiences of using healthcare services in the past six months?	0.897
<b>Social value (SV) (Chen and Fu, 2018)</b>	
The HFG became the main medium for me to interact with others and obtain healthcare solutions/information.	0.955
I feel excited when I use the HFG to share my healthcare experience with others in my immediate context.	0.959
I feel a sense of belonging when my friends' check in somewhere and tag me in the HFG to share healthcare experiences.	0.946
Using the HFG makes me feel cared about and followed because I can immediately check the comments and likes that friends gave my healthcare-related posts.	0.959
<b>Patients' efforts (PE) (Chen et al., 2018) How often have you contributed...</b>	
...comments, reviews, and recommendations in the FG based on your experiences of using healthcare services in the past six months?	0.759
...ratings on various aspects of healthcare services in the FG based on your experiences in the past six months?	0.828
...given constructive feedback in the FG based on your experiences of using healthcare services in the past six months?	0.619
<b>Continuance intention (CI) (Lin and Lu, 2011; Lin et al., 2014) I intend to...</b>	
...continue using the HFG to share my healthcare experience in the future.	0.589
...keep using the FG if I need any healthcare-related information in the future.	0.893
...recommend that my friends use the healthcare FG in the future.	0.645
<b>Mistrust (MT) (Polonsky, Ferdous, Renzaho, Waters and McQuilten; 2018)</b>	
You had better be cautious when dealing with healthcare information shared on social media.	0.769
Patients have sometimes been deceived or misled by healthcare information shared on social media.	0.856
Mistakes are common in healthcare information shared on social media.	0.784

Note: All parameter estimates are standardized and significant at the 0.001 level. (HFG = healthcare Facebook group).

**Table 2: Correlation matrix**

	Mean	SD	CR	AVE	CI	UV	HV	PES	SV	PE	MT
CI	5.188	2.365	0.759	0.520	0.721						
UV	2.619	2.481	0.967	0.853	0.147	0.924					
HV	5.517	2.416	0.962	0.810	0.111	0.663	0.900				
PES	4.578	2.571	0.915	0.783	0.163	0.868	0.784	0.885			
SV	2.725	2.344	0.976	0.912	0.157	0.594	0.642	0.704	0.955		
PE	6.243	2.401	0.782	0.548	0.360	0.196	0.197	0.245	0.148	0.740	
MT	3.083	2.252	0.845	0.646	0.100	0.374	0.539	0.442	0.736	-0.059	0.804

Note: The square root of the AVE is shown on the diagonal for the constructs.

### ***Common method bias test***

We dealt with the concern of common method bias by following the procedural remedies suggested by MacKenzie and Podsakoff (2012), in which we translated the questions into the local language and used simple terms that BOP consumers can understand.

Following Podsakoff *et al.*'s (2012) statistical remedies, we tested the model by creating a common latent factor (CLF), where the model fit remained similar before and after, including the CLF (model without a common latent factor:  $\chi^2/\text{d.f.} = 1.687$ , model with a common latent factor:  $\chi^2/\text{DF} = 1.616$ ) (Podsakoff *et al.*, 2003). Finally, we added a theoretically unrelated three-item variable, "societal perception of offline advertisements." This was added as a marker variable to test the correlation coefficients among the constructs following the instructions of Lindell and Whitney (2001). These correlations retained their statistical significance, thereby indicating that there was little or no common method bias in the sample.

### ***Invariance test***

We followed the guidelines of Steenkamp and Baumgartner (1998) for conducting a two-stage invariance test on both the chronic and nonchronic disease consumer groups. In the first step, we tested the configural invariance to check item equivalency. The chi-square value and individual model fit indices were found to be satisfactory for both groups. In the second stage of the invariance test, we tested the metric invariance (see Table 4). The  $\chi^2$  difference of 35.76 ( $\text{df}=27$ ,  $p>0.05$ ) was found to be significant for the fully restricted model. Therefore, full metric invariance was achieved.

### ***Hypothesis testing***

To test our model, we conducted structural equation modeling (SEM) using AMOS 25. The first model included all responses, which were treated as a single group, whereas in the second model, we divided all the responses into two groups based on the type of health condition: chronic or nonchronic disease. Although the chi-square differences for both models were significant [ $\Delta\chi^2/df(\text{all}) = 1.831$  ( $p < 0.01$ );  $\Delta\chi^2/df(\text{chronic vs. nonchronic}) = 1.531$  ( $p < 0.01$ )], other fit indices for both models were found to be acceptable (Hair *et al.*, 2010). We also controlled the demographic variables of gender and education in the model. To test the effects of the control variables, the prominent category was treated as a dummy variable. For example, respondents with educational backgrounds higher than a primary school degree were treated as the prominent category during the dummy variable creation. None of the demographic variables had any significant influence on PES, patient efforts, or continuance intention.

The results of hypothesis testing are presented in Table 3. They show that utilitarian value [ $\beta(\text{all})=0.565$ ,  $p<0.01$ ;  $\beta(\text{nonchronic})=0.559$ ,  $p<0.01$ ;  $\beta(\text{chronic})=0.547$ ,  $p<0.01$ ], hedonic value [ $\beta(\text{all})=0.280$ ,  $p<0.01$ ;  $\beta(\text{nonchronic})=0.196$ ,  $p<0.01$ ;  $\beta(\text{chronic})=0.374$ ,  $p<0.01$ ] and social value [ $\beta(\text{all})=0.335$ ,  $p<0.01$ ;  $\beta(\text{nonchronic})=0.473$ ,  $p<0.01$ ;  $\beta(\text{chronic})=0.235$ ,  $p<0.01$ ] significantly influenced PES behavior, supporting H1, H2 and H3, respectively.

The relationship between utilitarian value and PES is similarly strong for both patients with chronic and those with nonchronic diseases. In contrast, the relationship between hedonic value and PES for patients with chronic disease was stronger than that for patients in the nonchronic group, whereas nonchronic patients' perceptions of social value more strongly influenced their experience-sharing behavior than it did that of the chronic disease group. Supporting H5, a

significant relationship between *PES* and *patients' efforts* was observed in both the chronic and nonchronic patient groups [ $\beta(\text{all})=0.251$ ,  $p<0.01$ ;  $\beta(\text{nonchronic})=0.242$ ,  $p<0.01$ ;  $\beta(\text{chronic})=0.261$ ,  $p<0.01$ ]. However, the significant influence of *PES* on continuance intention was observed only among patients with chronic diseases [ $\beta(\text{chronic})=0.241$ ,  $p<0.01$ ], and these findings, therefore, partially support H4.

**Table 3: Hypothesis testing (direct effects)**

				All patients	Nonchronic disease	Chronic disease
	<i>Direct effects</i>					
H1	UV	→	PES	0.565*	0.559*	0.547*
H2	HV	→	PES	0.280*	0.196*	0.374*
H3	SV	→	PES	0.335*	0.473*	0.235*
H4	PES	→	CI	0.172*	0.087 <sup>ns</sup>	0.241*
H5	PES	→	PE	0.251*	0.242*	0.261*
	<i>Indirect effects</i>					
H6(a)	UV	→	CI	0.097*	0.049 <sup>ns</sup>	0.132*
H6(b)	HV	→	CI	0.048*	0.017 <sup>ns</sup>	0.090*
H6(c)	SV	→	CI	0.058*	0.041 <sup>ns</sup>	0.057*
H7(a)	UV	→	PE	0.142*	0.135*	0.143*
H7(b)	HV	→	PE	0.070*	0.047*	0.098*
H7(c)	SV	→	PE	0.084*	0.114*	0.061*
	<i>Moderation effect</i>					
H8	MT	→	PES	-0.158*	-0.224*	-0.133*
	MTxUV	→	PES	-0.101*	-0.131*	-0.073*

Note: \*  $p<0.01$ , <sup>ns</sup> Not Significant

The results of the indirect effects show that utilitarian value, hedonic value and social value have significant indirect effects on patients' continuance intention when we combine all patients' results. However, such relationships between value dimensions and continuance intention were observed among only patients with chronic diseases, which partially supports H6.

Supporting H7, utilitarian value [ $\beta(\text{all})=0.142$ ,  $p<0.01$ ;  $\beta(\text{nonchronic})=0.135$ ,  $p<0.01$ ;  $\beta(\text{chronic})=0.143$ ,  $p<0.01$ ], hedonic value [ $\beta(\text{all})=0.070$ ,  $p<0.01$ ;  $\beta(\text{nonchronic})=0.047$ ,  $p<0.01$ ;  $\beta(\text{chronic})=0.098$ ,  $p<0.01$ ], and social value [ $\beta(\text{all})=0.084$ ,  $p<0.01$ ;  $\beta(\text{nonchronic})=0.114$ ,  $p<0.01$ ;  $\beta(\text{chronic})=0.061$ ,  $p<0.01$ ] have significant indirect effects on consumers' efforts in both the chronic and nonchronic groups. The results also show that the indirect effects of utilitarian value on patients' efforts were stronger than those of the hedonic and social value dimensions.

Supporting H8, the moderation test results show a significant negative moderation effect of mistrust for both the chronic and nonchronic groups [ $\beta(\text{all})=-0.101$ ,  $p<0.01$ ;  $\beta(\text{nonchronic})=-0.131$ ,  $p<0.01$ ;  $\beta(\text{chronic})=-0.073$ ,  $p<0.01$ ]. Table 3 shows that mistrust negatively influences consumers' experience sharing. It also shows that the presence of mistrust in medical information available on social media significantly deteriorates the relationship between utilitarian value and consumers' experience sharing for both chronic and nonchronic health conditions.

## **Discussion**

The present study developed and tested a model of PES in peer-to peer OHCs in the BOP context. In that sense, one unique aspect of this study is the application of social exchange theory in explaining how PES in OHC benefits participants and how those benefits are reciprocated to the OHC in the form of continued intention and effort. We investigated the model for both chronic and nonchronic disease patients. By doing so, this study makes several contributions to theory in the service marketing and TSR streams of research.

First, our findings show that utilitarian, hedonic and social value significantly influence PES behavior. Among these three value dimensions, utilitarian value is found to be the strongest motivator for both the chronic and nonchronic groups. It is evident that solving health issues and improving wellbeing quickly and effectively encourage BOP healthcare consumers to share experiences and suggestions and to ask about others' healthcare experiences. Therefore, regardless of the nature of the illness, all patients are more concerned with solving their own and other patients' health issues than they are with any of the other drivers investigated. The other two value dimensions (hedonic and social value) play the role of secondary motivators to share personal experiences, regardless of the nature of the health issue (chronic vs. nonchronic). However, the influence of social value on PES behaviors was found to be stronger for nonchronic disease patients, while the influence of hedonic value was stronger for chronic patients. Patients with chronic disease try to help others with similar health issues, as it makes them feel that they are contributing to improving the lives of one another (Jung *et al.*, 2020).

PES directly influences individuals' participation (Shang and Liu, 2015), as evident in the patients' effort and continued participation in OHCs. The increase in participation (patients' efforts) by contributing comments and reviews, offering recommendations, or providing constructive feedback as a result of sharing an experience is in line with social exchange theory (Kind and Evans, 2015). In online communities, patients act as 'experts' by providing support and answering questions, as well as by making recommendations based on their healthcare-service experiences, also known as "expertise by experience" (Bradley, 2015). Sharing experiences amplifies patients' social connections and emotions (Jolly *et al.*, 2019), which encourage patient effort, as shown by the increase in contributions, comments, reviews or ratings. Although PES behaviors influence both chronic and nonchronic patients' efforts in

OHCs, the relationship between PES and continuance intention is found only among patients with a chronic disease. This may be explained by the nature of the condition, as chronic health issues require long-term treatment, which is why patients with such conditions tend to continue with patient-based online healthcare groups more often than patients with nonchronic health issues.

We also tested for the indirect effects of utilitarian, hedonic and social values on PES behaviors for both groups and found that patient effort is affected by all three value dimensions via PES behaviors, regardless of the patients' disease nature. However, the indirect effects of the value dimensions on continuance intention are observed among only the chronic group. It seems that even if nonchronic healthcare consumers receive value from sharing their experiences, they will not always continue to share their experiences in OHCs. Since these patients do not have a chronic disease requiring long-term medical treatment, they will stop visiting OHCs as soon as their health issue is resolved or their wellbeing is improved; consequently, they have no need to continue to visit and share experiences in these communities. The reverse is true for patients with chronic diseases, as they generally neither can be cured by medicine nor spontaneously recover (Bernell and Howard, 2016). Therefore, chronic patients will continue to use OHCs and continue sharing and recommending, reflecting long-term engagement with OHCs.

Second, the results confirm that mistrust negatively moderates the relationship between utilitarian value and PES behavior. This is in line with previous research suggesting that mistrust results in less participation and engagement in health services, especially among vulnerable communities (Renzaho, 2009). The findings confirm that if members of OHCs believe that medical information on social media is deceptive, the sharing of their experiences

or the request for feedback from others on OHCs will be hindered. The trust issue in OHCs is important due to not only the privacy of personal information but also the variability of the quality and accuracy of the information shared on online platforms. Therefore, acting on incorrect advice can have dire consequences (Fan *et al.*, 2014), even more so for BOP consumers with low health literacy levels (Diviani *et al.*, 2015). This study contributes not only to the neglected area of mistrust (Chang and Fang, 2013) in general but also to the limited research pertaining to the role of trust in an online health context (Sbaffi and Rowley, 2017).

Third, this study contributes to the scarce research on the BOP market in emerging market countries. In addition to being conducted in an emerging market country, this research focuses on patients with very low incomes and living standards who are below the poverty line. Accordingly, despite the urgent need to increase knowledge of this important proportion of the world population, little is known about service delivery to these markets (Fisk *et al.*, 2018; Sharma *et al.*, 2017). Our study is one attempt to fill this void and is in line with the prediction that marketing research focusing on the BOP should become one of the key focus areas in service research in the future (Koku, 2019).

This study also responds to the calls of TSR for scholarly research into impoverished communities to provide a deeper understanding of these underresearched communities, to translate the findings into practice, and to help improve and better serve these markets (Blocker *et al.*, 2013). This study responds to Blocker *et al.* (2013) by (a) providing a solution to *transform the lives of the poor* by suggesting OHCs as cost-effective options for healthcare advice and support; (b) harnessing the “*power within the lived experience of poverty*” by suggesting and testing the PES framework, enabling poor patients to cocreate by exchanging health experiences for the benefit of the larger community; and finally, (c) providing an

alternative yet complementary online platform addressing the challenges caused by *deficient healthcare* often faced by BOP consumers. Thus, this study joins the movement within the service research community that aspires to support impoverished communities across the world to achieve better service, as suggested by Fisk *et al.* (2016), especially from each other and from their communities.

Poverty is the complete ‘lack of the means’ necessary to ‘access products and services’ to meet ‘basic needs’. Our research is thus also aligned with the first of the 17 Sustainable Development Goals stated by the United Nations in 2015 as a drive to “end poverty in all its forms everywhere” (Cuaresma *et al.*, 2018), not by addressing the ‘lack of means’ by bringing financial reprieves but rather by offering a solution to meet basic needs by improving and expanding ‘access’ to healthcare. OHC is thus a valuable co created resource acting as a substitute for access to formal healthcare information and complementary to formal healthcare systems provided by governments and the informal support already available offline from family members or communities. We acknowledge that access to informal healthcare information over OHCs may not directly increase access to formal healthcare services; however, such information certainly helps vulnerable patients achieve wellbeing through utilitarian, hedonic and social value. Therefore, this study helps by shedding light on the role played by OHCs in the healthcare-service ecosystem in impoverished contexts. Due to the immense strain of delivering healthcare to poor patients (for example, enormous demand and limited supply and resources), service providers (such as healthcare practitioners and governments) will appreciate the opportunity to have BOP consumers participate in their own healthcare and in that of the community.

In conjunction with the informal social support from families and other social support systems and more formal support provided by healthcare practitioners, OHCs provide a platform that

enlarges the impact and benefits of ‘social exchange’ from a mere one-to-one exchange to a one-to-many exchange. OHCs are thus an example of social exchange theory, where the individual behavior involved in the process of resource exchange between two parties (experience-sharing) leads to benefits for the community at large. Therefore, it could potentially multiply the benefits of social exchange, especially in improvised communities.

The participation of vulnerable customers in OHCs impacts not only the individual’s wellbeing (Sharma *et al.*, 2017) but also that of the community at large (Hurley *et al.*, 2018). This mutual value-creation perspective is central to the TSR stream of the literature (Kuppelwieser and Finsterwalder, 2016). This research thus contributes to the important issue of health experience sharing and is expected to lead to transformative outcomes for a specific and large vulnerable population. Consequently, this study contributes to the TSR by enhancing our understanding of how to improve the wellbeing of vulnerable consumers (i.e., BOP healthcare consumers) (Anderson *et al.*, 2013) and proposing OHCs as a means of reducing inequalities and facilitating access to such basic services in emerging market countries (Fisk *et al.*, 2019). Finally, this paper contributes to the limited research comparing e-healthcare management and use across patients with reported chronic and nonchronic conditions (Sandefer *et al.*, 2018).

### ***Managerial implications***

Our findings indicate that OHCs can provide innovative technological solutions to improve the accessibility to healthcare services of almost half of the world’s population that suffers from limited or unfair access to these vital services (Dugani *et al.*, 2018). Given the high penetration rate of information technology and the wide adoption of social media by poor people (Hasan *et al.*, 2019), these platforms can be seen as a way to democratize access to healthcare and to decrease some of the related costs. As a result, our findings can help healthcare providers and

policy makers identify and facilitate the collective power and voice of BOP consumers, fostering ways in which disadvantaged healthcare consumers can meaningfully engage with one another, as well as with their healthcare providers, by sharing their health experiences. OHCs are not only a source of helpful information for patients to assist in managing and solving their health issues and improving their wellbeing but are also a crucial means for delivering emotional and social support, which is so often lacking in more traditional healthcare programs. In addition, many healthcare systems in emerging market countries cannot afford to provide social support because of their limited resources. Most of these systems are mainly focused on the essence of medicine, which is the cure, and they are unable to deliver social support services, which are desperately needed, especially in the management of chronic diseases (Kangovi, 2019).

OHCs have the potential to transform healthcare and have several implications for governments, healthcare professionals and healthcare consumers. First, impoverished communities must be educated on the availability of existing OHCs. Government initiatives to start and moderate OHCs are needed to further expand the reach and impact of these platforms. Healthcare professionals could be encouraged to join and partake in OHCs, inform their patients about the availability of such communities and use these communities as complementary to the more traditional healthcare options. Healthcare professionals such as doctors and nurses can not only provide expert opinions and support on these platforms by expanding their reach but also gain valuable insight into the experiences of impoverished healthcare consumers. In general, OHCs lend themselves toward providing tools for patient care, patient education, and public health programs as a means of relieving the burden on healthcare systems in times of increasing healthcare costs, especially in BOP markets.

However, despite the importance of OHCs, it is important that health professionals validate the information provided on these platforms to limit risk. For example, the risks are related to self-medication, fake profiles, the quality and veracity of the content, and the risk that these platforms become places for commercial recommendations of some doctors. It is vital to ensure that the information provided on these platforms is reliable and trustworthy and that BOP consumers can utilize these platforms effectively. OHCs can be beneficial not only for BOP healthcare consumers but also for health policy makers, who can use these platforms for health education purposes.

This study focuses on access to healthcare information for a highly impoverished population and aims to provide an understanding of how OHCs, as transformative service mediators, can create value for vulnerable consumers in a BOP context. Our research thus combines two perspectives: poverty (BOP) and consumer wellbeing (TSR). While the BOP perspective is more reflective of the increased availability and access to needed products, services (e.g., healthcare) and connections with business (OHC) to improve the life of BOP consumers, the latter pertains to how academic scholarship interacts with consumers by being proactive in improving life (Gau and Viswanathan, 2018). This is evident in the results showcasing that patient experience-sharing on OHCs co creates a valuable substitute service for access to formal healthcare information.

First, there are extreme differences in the standards of living and in cultural, political, and socioeconomic systems across developed and emerging countries. Many disciplines have called for the contextualization of research and further exploration of these countries. For instance, strategic management considers that formal and informal institutions such as regulations, culture, and norms influence how customers and firms behave. It has been

suggested that developing markets can create an environment that is fundamentally different from those of developed economies and thus require an in-depth analysis and investigation.

Second, at the societal level, our findings reveal how the use of online support groups (peer to peer) could enable vulnerable populations to overcome the issue of limited access to services that are supposed to be or were formerly provided by governments. Therefore, an improved understanding of the manner in which impoverished consumers use and experience these platforms will provide insights into how these platforms could be optimized to create safe and trustful third places for health consumers. The study helps provide an understanding of the factors that could maintain and encourage the motivation of OHC users. We highlighted the key information to better improve OHC effectiveness within the whole healthcare ecosystem.

Finally, it is expected that OHCs will play a crucial role in the future for social support and prevention, not only in BOP contexts but also in developed countries. A recent report by the European Commission (OECD) states great concern regarding shortages of medical staff arising from population aging and the aging of the medical workforce (OECD Publishing, 2020). Furthermore, the significant differences in the density of medical staff between urban and rural regions remain a challenge. Proper access to medical services could be seriously constrained by an insufficient number of healthcare professionals and disparities in terms of geographic distribution to serve patients in both rural and urban regions. Therefore, OHCs and other technology-mediated services will play an important role as service mediators (Johns & Davey, 2019) and offer improved accessibility to unserved, underserved or vulnerable consumers (Fisk *et al.*, 2019).

### **Future research and limitations**

While our research contributes to understanding OHCs in emerging market countries and their value creation for disadvantaged and poor consumers, limitations such as nonprobability sampling methods and the limited number of variables investigated necessitate further research to truly understand the phenomenon. Furthermore, we draw the attention of researchers to the challenges of conducting research in a BOP market, which may require more creativity in the research design and methods used (Ingenbleek et al., 2013). Conditions of low human development (e.g., low formal education, literacy, language barriers) and cultural or political conditions (gender bias, in some countries, only women could interview women) in BOP markets present researchers with complex conceptual and methodological challenges. To advance further research on service in the BOP context, service researchers are invited to think of different approaches and methods of data collection (e.g., collaboration with locals, NGOs) that are applicable to the very different contexts found in emerging market countries. We also encourage collaboration with local researchers in the studied nations for a higher impact. In addition, our study hypothesized various value dimensions as antecedents of PES behavior, patient effort, and continuance intention for OHCs. Future research should explore the effect of the dependent variables on the value dimensions to determine whether the overall value perceptions improve due to sharing experiences on OHCs. We focused on the level of engagement by including the following dependent variables: the patient's effort on the platform and future continuance intention. We proposed that the PES model, specifically the perception of value dimensions and experience-sharing behavior, is inherent to both physical and psychological wellbeing. Further research should consider measuring the effects of OHCs on the wellbeing of their users. It will be interesting to investigate cases in which someone (e.g., family members or friends) helps a BOP consumer manage OHC interactions and how that helps manage relationships with formal healthcare-service providers.

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