The influence of place on health-care customer creativity

ABSTRACT

Purpose – When using a service, customers often develop their own solutions by integrating resources to solve problems and co-create value. Drawing on innovation and creativity literature, this study investigates the influence of place (the service setting and the customer setting) on customer creativity in a health-care context.

Design/methodology/approach – In a field study using customer diaries, 200 ideas from orthopedic surgery patients were collected and evaluated by an expert panel using the Consensual Assessment Technique (CAT).

Findings –Results suggest that place influences customer creativity. In the customer setting, customers generate novel ideas that may improve their clinical health. In the service setting, customers generate ideas that may improve the user value of the service and enhance the customer experience. Customer creativity is influenced by the role the customer adopts in a specific place. In the customer setting customers were more likely to develop ideas involving active customer roles. Interestingly, while health-care customers provided ideas in both settings, contrary to expectation, ideas scored higher on user value in the service setting than in the customer setting.

Research limitations/implications – This study shows that customer creativity differs in terms of originality, user value, and clinical value depending on the place (service setting or customer setting), albeit in one country in a standardized care process.

Originality/value – As the first field study to test the influence of place on customer creativity, this research makes a novel contribution to the growing body of work in customer creativity, showing that different places are more/less favorable for different dimensions of creativity. It also relates customer creativity to health-care practices and highlights that patients are an untapped source of creativity with first- hand knowledge and insights, importantly demonstrating how customers can contribute to the further development of health-care services.

Keywords: Customer creativity, service innovation, value co-creation, place, service setting

INTRODUCTION

A creative customer is a customer that adapt, modify, or transform products or services to better suit their needs. Research shows that, when using a product or service, customers often develop their own solutions to problems they experience by finding the resources necessary to meet their goals (Hill-Briggs, 2003; Moreau and Dahl, 2005) and co-create value (McColl-Kennedy *et al.,* 2012*,* 2017a). While engaging customers in new service development is typically a formal process initiated and controlled by the firm, creative customers often act independently and experiment when actually using a product or service (Berthon *et al.,* 2007). This is consistent with the view that the value (of a product or service) is created in use, rather than at the point of transaction (Eggert *et al.,* 2018). Customers are essential for value creation, redefining customers from passive value recipients to active contributors who co-create value *with* the service provider and other actors. In this approach, the service provider benefits from identifying customer needs and actively collaborating with and learning from customers (Vargo and Lusch, 2015)

This study focuses on the patient as a source of creativity. Health-care services can be understood as comprising all the activities (by various actors) intended to promote, restore, or maintain health (Robbins, 2001). As such, health-care is a service with blurry boundaries, and it is challenging to determine what the service actually *is*, particularly as health-care changes constantly as the consumer enters different stages of the customer journey. For this reason, health-care provides interesting conditions for investigating customer creativity. It is particularly relevant because it is a demanding service that relies heavily on customer engagement and problem-solving (Creer and Holroyd, 2006; Spanjol *et al.,* 2015). Health services are complex and often require customers to participate extensively over long periods of time, with limited support from the service provider (Spanjol *et al.,* 2015). Health-care is not static, and patients must solve problems as they occur. In addition, health services stretch

far beyond one particular setting, entering patients' daily lives and surrounding networks (McColl-Kennedy *et al.,* 2012). While it has been suggested that thinking creatively and solving problems are fundamental for patients (Henrike and Schultz, 2014), the traditional view is that physicians determine customer needs and patients are viewed as passive care recipients (Berry and Bendapudi, 2007).

Despite the growing practice of using customers to innovate, a recent meta-analysis found that firms struggle to obtain benefits from customer involvement and identified a need to better understand the influence of contextual factors (Chang and Taylor, 2016). If involving customers in new service development significantly enhances the likelihood of success (Witell *et al.,* 2014), it is critical to understand when and under what conditions customers are most likely to be creative. Customer creativity has been studied in experimental lab settings related to product development (e.g., Magnusson *et al.,* 2016; Rosa *et al.,* 2014), but almost no research has addressed customer creativity outside the boundaries of the firm. As a result, we have a limited understanding of when, why, and how consumers act creatively. This study aims to fill this research gap by investigating the influence of place on customer creativity. In this study, place encompasses immediate physical surroundings, social relationships, and cultural settings (Barnett and Casper, 2001). Customers are creative in how they adapt and solve problems, but the degree of creativity can be influenced by the place in which it occurs as different places is related with different customer roles and social relationships, customer knowledge and experience that can enable or restrict creativity (Burroughs *et al.,* 2008; Moreau and Dahl, 2005).

Previous research focuses on specific aspects of creativity rather than the combined influence of the place in which creativity occurs, thus failing to recognize how customer creativity differs from one place to the next (Meusburger, 2009). By building on and extending previous research on value co-creation, customer creativity, and place, the purpose

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of this study is to investigate how the different dimensions of customer creativity is influenced by place. In the first step, we collected 200 ideas from orthopedic surgery (elective hip replacement) patients in a public Swedish hospital, capturing ideas from two key places: the service setting and the customer setting. In the second step, an expert panel (consisting of experienced nurses with significant knowledge in the domain they are evaluating) evaluated these ideas based on originality, user value, and clinical value.

This study extends previous research in several important ways. First, it investigates how place influences customer creativity. In particular, it shows that different places (the service setting/hospital and the customer setting/home) are favorable for different dimensions of customer creativity (originality, user value, clinical value). Second, the study furthers previous research on co-creative practices in health-care (McColl-Kennedy *et al.,* 2017a) by suggesting that customer creativity is key for designing and implementing such practices. It also furthers previous research on the role of front-line employees, such as nurses, in new service development (Karlsson and Skålén, 2015), suggesting that front-line employees should not replace patients, but co-create new services with patients. Third, answering calls in previous research on extending the dimensions of customer creativity (Magnusson *et al.*, 2003), this study introduces a context-specific dimension: clinical value. Finally, this study provides guidelines to help scholars and managers further understand the concept and process of customer creativity.

THEORETICAL FRAMEWORK

Co-creation in health-care

Health-care advances have focused on medical innovations, such as new tools, drugs, and technologies (Windrum, 2014). Less attention has been paid to innovating health-care services and enhancing patient experience. While involving customers in innovation is a common practice in many industries, patients have seldom been involved in health-care

development (Snyder and Engström, 2016). This is unfortunate because, while customer involvement and engagement are essential for the successful outcome of many services, they are particularly important in prolonged and complex services, such as health-care (Spanjol *et al.,* 2015). Health-care services are especially interesting because they directly address customers' well-being and can significantly impact quality of life (McColl-Kennedy *et al.,* 2017a; Patrício *et al.,* 2018), and their value creation depends on customer involvement and engagement (Black and Gallan, 2015). Patients have always been creative in solving health-related problems and engaging in self-care. However, modern medical practice has moved health-related activities from the individual, family, and community to health-care providers and institutions (Lorig and Holman, 2003). In essence, the role of the patient in modern health-care has been to show up to medical consultations, cooperate with doctors, and follow treatment instructions (Wagner *et al.,* 2005). Though patients may engage in health-related activities outside the hospital, this has been a blind spot for health-care service providers.

Recently, health-care researchers have suggested that the patient's traditional passive role limits health-care service innovation (Hardyman, Daunt, and Kitchener, 2015). Effective management of long-term illnesses, such as diabetes or arthritis, requires not only knowledge and skills to perform treatment, but also problem-solving skills to cope with everyday problems, make adjustments, and find solutions (Hill-Briggs, 2003). Therefore, scholars have identified a new, active role of patients in health-care, in which patients co-create the service with health-care professionals and others (Frow *et al.,* 2016; McColl-Kennedy *et al.,* 2017b). This more active patient role is emphasized by and manifested in such concepts and practices as patient-centered care (Mead and Bower, 2000; Stewart, 2001), shared decision-making (Charles *et al.,* 1997; Elwyn *et al.,* 2012), patient participation (Gallan *et al.,* 2013), patient empowerment (Anderson and Funnell, 2010; Aujoulat *et al.,* 2007), self-management (Bodenheimer *et al.,* 2002; Lorig and Holman, 2003), collaborative care (Gilbody *et al.,*

2006), and health-care value co-creation (Frow *et al.,* 2016; McColl-Kennedy *et al.,* 2017b) (see Table 1). While such developments in research and practice are encouraging, most have focused on direct patient–physician interactions and how to organize health-care within the service setting (Spanjol *et al.,* 2015). Although interactions with health-care professionals are important, most health-care activities take place in the customer setting (Creer and Holroyd, 2006). Even when they receive excellent high-quality care in the service setting, patients often fail to successfully manage their illnesses once they are home (Bodenheimer *et al.,* 2002; Creer and Holroyd, 2006; Spanjol *et al.,* 2015).

-Insert Table 1 here -

Customer creativity

Customer creativity can be defined as "the problem-solving capability possessed by the individual that may be applied toward solving consumption-related problems" (Hirschman, 1980, p. 286). While value co-creation and creativity are related concepts, not all practices that create value for the customer are automatically considered creative. Instead, value can be both a motivator and a goal of creativity, meaning we do what we do in order to create value for ourselves or for others. Creativity is commonly evaluated in terms of outcomes (e.g., products, services, solutions, or ideas) that are both novel and valuable in a given context (Amabile, 1983; Oldham & Cummings, 1996). To be considered creative, an idea must be not only new or novel, but also appropriate and beneficial to some actor and, thus, the value co-creation process (Zeng *et al.,* 2009).

While all customers can be considered creative in some way (Hirschman, 1980), the extent of their creativity depends on a range of factors. Early research was dominated by the personality approach, which considered creativity to be a function of individual traits, such as intelligence, curiosity, and risk-taking (Kristensen, 2004). More recent research focuses on how contextual and environmental factors influence individual creativity, positing that

creative ideas develop through complex interactions between the individual and the surrounding environment (Amabile, 1983; Simonton, 2000). More specifically, creativity takes place in relation to places, supporting diverse cognitive processes and behaviors (Moreau and Dahl, 2005). This follows the general approach of modern marketing, which emphasizes the relativistic, context-dependent features of value as created in use (Akaka and Chandler, 2011; Eggert *et al.,* 2018).

The conceptualization of place

The notion of place has been conceptualized in several ways in service and creativity research (Table 2). In service research, Bitner (1992) introduced the term "servicescape" to describe the physical surroundings of a service setting, arguing that a setting's physical elements strongly influence customer behavior and that servicescapes influence the nature and quality of interactions between staff and customers. While Bitner (1992) recognized the importance of social elements, she focused on the physical aspects of the service setting controlled by the firm. Although physical and social aspects can be theoretically separated, they tend to overlap in practice (Simonton, 2000). Building on this idea, the servicescape concept was extended to include social dimensions (e.g., Tombs and McColl-Kennedy, 2003) and aspects of language (Touchstone *et al.,* 2017). In service research, there is a strong emphasis on the servicescape being controlled by the firm (e.g., Bitner, 1992; Ezeh and Harris, 2007; Parish *et al.,* 2008); however, as more services are performed by customers outside the firm's boundaries (Frow *et al.,* 2016; McColl-Kennedy *et al.,* 2017a), extending the servicescape to places outside the service provider becomes increasingly relevant (Rosenbaum and Smallwood, 2013; Voorhees *et al.,*2017). Despite this trend, research on such places remains limited.

Notably, Rosenbaum et al. (2007) investigated the importance and meaning of third places in customers' lives and the effects of these places on well-being in the context of cancer care. Third places are service establishments beyond the home in which customers

regularly meet (Rosenbaum and Smallwood, 2013). Compared to third places, less attention has been given to the first place (the customer's home) and the second place (work),. These are particularly important, as they are the places where customers spend most of their time. Grönroos and Voima (2013) refer to these two places as the customer sphere and the place where the service provider and customer interact as the joint sphere. In the following sections, we will draw on different theoretical concepts related to place to understand how physical surroundings, social relationships, and cultural settings influence customer creativity. In particular, we refer to two specific places—the service setting and customer setting—and focus on how these two places influence customer creativity. These two settings are consistent with what Rosenbaum et al. (2007) refers to as the third place and the first place.

-Insert Table 2 here -

The influence of place on customer creativity

Place can inspire and influence an individual's creativity. Kristensen (2004, p. 91) stated: "Much cognitive work is 'situated.' Once we are there, we must act out the plan and make all kinds of situational adaptations as problems occur." Building on the notion that the surrounding setting is important for explaining creativity, different places should have different conditions for customer creativity (Amabile *et al.,*1996; Meusburger, 2009). To understand creativity in its context, rather than focusing on single variables, one must examine the interplay of different variables affecting creativity in different places (Meusburger, 2009; Simonton, 2000). The following section discusses factors related to place, including characteristics, customer roles, and individual factors.

Characteristics of places. Place characteristics influence creativity, and moving from one place to another changes the conditions for creativity (Meusburger, 2009). Kristensen (2004) argued that different places allow and restrict different cognitive processes, reducing or enhancing an individual's creativity. Similarly, Vargo and Lusch (2015) argued that value

co-creation should be considered within the context of specific rules, norms, and beliefs that enable or constrain actions. Depending on where a person is located, different channels of information, sets of tools, and resources (i.e. people, materials, facilities, or information) are available. McCoy and Evans (2002) found that visually interesting and highly complex places are favorable for creativity. Places that accept or even reward individuality and originality are more likely to accept variety in role behaviors and enable creativity. Individuals tend to be more creative when they have control over a situation and can choose how to solve a problem and thus being more empowered (Oldham and Cummings, 1996). Alternatively, in highly regulated, standardized, and conservative contexts, creativity and new ways of doing things can be challenging at both the organizational and the individual levels (Herzlinger, 2006). Similarly, while places that support autonomous, active task engagement can enhance creativity, highly controlled settings can constrain creativity (Amabile, 2001).

Customer role in relation to place. With respect to place characteristics, different settings imply different customer roles. It has been shown that places that support autonomous, active roles can enhance creativity, while highly controlled places that support passive roles can have the opposite effect (Amabile, 2001). When customers enter service encounters or interact with service providers, their social roles are strictly defined (John, 1996; Solomon *et al.,* 1985). Individuals adopt relatively standardized sets of behaviors and act from common, predetermined scripts (Solomon *et al.,* 1985). Thus, the customer role is not connected to a specific individual, per se, but to a situation (e.g. a medical appointment). Although social roles are situational, they are also determined by a setting's overall norms and values. Different settings require different customer roles and encourage different behaviors that can influence the conditions for creativity.

Individual factors in relation to place. Knowledge and motivation are important individual factors related to creativity (Amabile, 1983). Knowledge refers to one's

understanding of facts, principles, and opinions concerning various questions. To be creative, one must have some knowledge of the target area (Luo and Toubia, 2015). In the service setting, customers usually have less domain knowledge and control than the service provider (Grönroos and Voima, 2013). In the customer setting, by contrast, customers typically have greater domain knowledge and control than the service provider, and the service outcome is often beyond the service provider's control (Troye and Supphellen, 2012). In these places, customers solve problems by integrating resources using their knowledge (McColl-Kennedy *et al.,* 2017a). Knowledge can be gained by education, experience but can also be enabled by tools such as the internet and engaging with other customers online and offline. Motivation is another important influencer of creativity (Amabile, 1983). Individuals have different motivations for performing tasks: to reach an outcome separate from the activity (extrinsic motivation) or for the inherent satisfaction and novelty of the activity itself (intrinsic motivation) (Amabile *et al.,* 1996; Ryan and Deci, 2000). Intrinsic motivation can also refer to cases in which individuals seek enjoyment, interest, challenges, or self-expression in their work. Not surprisingly, individuals are most creative when they experience high levels of intrinsic motivation (Amabile *et al.,* 1996; Oldham and Cummings, 1996). However, a lack of intrinsic motivation does not completely hinder creativity. Individuals may engage in activities that would normally not interest them as long as they see the activities as having significant implications (Burroughs and Mick, 2004). When people are highly dissatisfied with their current situation, they are forced to act and think in new ways to solve the problem.

Patient creativity in the service setting compared to the customer setting

This section presents our overall hypothesis concerning customer (patient) creativity in different places (the service setting and the customer setting). In the following section, we elaborate on the factors affecting customer creativity in the service and customer settings and building on theories of creativity and the concept of place and predict how creativity differs

between the service and customer settings. As an overall hypothesis, we argue that the customer setting provides more favorable conditions for customer creativity than the service setting. This suggest that ideas that customers generate in the customer setting should score higher on the dimensions of customer creativity. In this study, these dimensions are originality, user value and clinical value (see section on method for details).

Service setting. The service setting is where most interactions between the service provider and the customers take place (John, 1996; Solomon *et al.,* 1985). Though the service setting is open to both patients and service providers (Grönroos and Voima, 2013), it is often highly standardized and the patient is expected to follow routines (Berry and Bendapudi, 2007) that typically inhibit individual creativity. Berry and Bendapudi (2007) concluded that patients, unlike most regular customers, are ill, under stress, and at a perceived disadvantage in knowledge and expertise. These circumstances often result in an adoption of the "sick role" (Parsons, 1951), in which the patient is vulnerable, dependent on the actions of the health-care provider, and "in need of help," and the health-care professional is there to "cure" the patient. This often results in a passive role for the patient (Berry and Bendapudi, 2007), in which the patient relies on others to solve problems. Such a role is less favorable for creativity (Amabile *et al.,* 1996). In addition, the stress of being hospitalized for surgery can negatively affect patients' motivation, cognitive abilities, and creative problem-solving (Amabile, 1988), reducing their intrinsic motivation to solve problems in the service setting. In terms of interactions between the patient and the health-care professional, given the deeply ingrained roles of the sick patient and the medical expert, hospitalized patients may have limited capacity to generate ideas that directly improve their clinical health. In addition, a patient in the service setting often has little domain knowledge or experience with medical practice (Berry and Bendapudi, 2007). Therefore, rather than thinking of a solution or taking action to solve the problem themselves, customers typically rely on the service provider.

Customer setting. The customer setting is usually closed to the service provider, such that the customer activities and outcomes are beyond the service provider's control (Troye and Supphellen, 2012). Compared to the relatively standardized service setting, the customer setting has much more varied characteristics. While service providers have some influence over what the patient does (e.g., through suggesting treatments or giving instructions), they have limited control over how the patient does it (McColl-Kennedy *et al.,* 2017b). Research has suggested that creativity is positively influenced by high autonomy and a sense of ownership and control (Amabile, 1983; Simonton, 2000). In other words, individuals are more creative when they perceive themselves as having choices in solving their problems (Oldham and Cummings, 1996). In addition, in the customer setting, individuals are responsible for their own recovery and cannot rely solely on the health-care provider (Lorig and Holman, 2003; McColl-Kennedy *et al.,* 2017b). Although patients may not be intrinsically motivated, they must solve problems, handle new situations, manage their illnesses, and integrate their individual resources: all active roles that may stimulate creativity (Amabile, 1983; Kristensen, 2004). Therefore, in the customer setting, customers cannot rely on the service provider's support and knowledge; instead, they must take on the responsibility themselves (Spanjol *et al.,* 2015).

METHOD

This study was designed to capture ideas created in different places: within the health-care domain (service setting) and within the patient's private domain (customer setting). To capture ideas in these different settings, a diary-based approach (Elg *et al.,* 2012) was used to gather authentic experiences and ideas in situ (i.e. in the situations in which they occurred) (Edvardsson *et al.,* 2012). This approach is considered more effective than simply asking customers about their wants and needs as this can be hard to recollect in retrospect. In a second step, the Consensual Assessment Technique (CAT) (Amabile *et al.,*1996) for assessing

customer creativity was used to evaluate the collected ideas. The CAT is suitable for comparing ideas, judging them independently, and rating them relative to other ideas (Amabile *et al.,* 1996; Magnusson *et al.,* 2016).

Participants

The participants were undergoing orthopedic surgery (hip replacement) in a public Swedish Hospital. This group was chosen for two reasons. First, hip replacement is a highly standardized process that follows several sequential steps within the service setting. Clinical knowledge is high, and standardized procedures are widely used. However, recovering from surgery requires effort and engagement and the average long-term recovery for hip replacement patients is approximately 6 months. Factors that affect recovery time is mostly related to customer effort in physical therapy, but also complications following the surgery and how well the body adapts. Because orthopedic surgery is typically a one-time procedure, all patients were new to the situation. Therefore, compared to patients of more complex care processes (e.g., oncology), involving greater variability in the experience and the contact with the health-care provider, the participants in this study shared similar experiences. Second, this customer group was particularly suitable for capturing ideas from different settings, since orthopedic surgery involves both a hospital stay (service setting) and post-surgery recovery at home (customer setting) in a relatively short time.

Data collection

The diary was separated into two parts: a recounting of the day's events and care contacts and a three-item list to capture specific ideas based on everyday situations. Following established practice on research using diaries (Elg *et al.,* 2012), all participants were given the same instructions and asked to write down reflections, ideas and solutions about their health situations and any health-related problems and contacts with health-care providers for 14 consecutive days. Their entries could include problems and ideas related to the service setting,

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but also new problems they experienced in the customer setting after surgery. Since the objective was to identify patient ideas, all ideas written in the diaries were extracted manually by two researchers. A large majority of the ideas were explicitly written in the idea field, while others were identified in the text. All ideas were analyzed and coded according to place (service or customer setting). Diaries were collected from 33 participants (53% men; average age = 67 years, 47 % female; average age =65) who generated 200 ideas in total (an average of 5.7 ideas per diary). Ideas covered both settings, although most ideas concerned the service setting (n = 142; customer setting: n = 58). Most of the patients were retired.

To further investigate differences in customer roles between the service and customer settings, all ideas were coded by the same two researchers according to the customer role (active/passive). This approach allowed us to further investigate the claim in previous research that the patient adopts a specific role in a specific setting and determine whether this role is mirrored in customer creativity. Ideas were broadly coded as active if the patient took action or was enabled to be active and passive if someone else took action or the situation did not enable activity. We also coded ideas according to their overall topic (e.g., medication, information, and health-care professionals' attitudes).

Evaluation of ideas

Amabile (1983) suggested that ideas should be assessed based on their novelty and value in a given context and that an idea is creative to the extent that appropriate observers independently agree it is creative. Based on criteria for evaluating creativity and innovation (Amabile *et al.,* 1996) and previous studies on idea evaluation (Magnusson *et al.,* 2016; Witell *et al.,* 2011), this study used three dimensions to evaluate customer creativity: *originality*, *user value*, and *clinical value*. *Originality* relates to an idea's perceived newness or uniqueness. This dimension corresponds to innovation literature suggesting that novelty or newness is essential for innovation (Amabile *et al.,* 1996). We include two dimensions of

value: *user value* and *clinical value*. *User value* relates to the estimated appropriateness and overall value of the idea when using the service. This dimension is based on the view that innovative ideas must be not only original and new, but also valued in a given context (Amabile *et al.,* 1996). *User value* refers to the value of an idea for its target group (Amabile *et al.,* 1996) and can encompass any aspect of a patient's life, such as psychological well-being, vitality, self-efficacy, and social functioning (Street *et al.,* 2009). *Clinical value* refers explicitly to the estimated value of an idea for the patient's physical health and recovery status; thus, it is a health-care-specific dimension of creativity. It can encompass disease markers (e.g. blood pressure), and functional capacity (e.g. the ability to walk) (Nelson et al., 1996; Street et al., 2009). This contextual dimension is important for determining to what extent patients can help to improve clinical health. While there may be some correlation between *user value* and *clinical value*, it is important to separate them for several reasons. Ideas with high clinical value for the patient might not always have high user value, since ideas with high clinical value may involve customer discomfort (Ryan and Deci, 2000), require significant effort from the customer (Sweeney *et al.,* 2015), or involve unwanted lifestyle changes (McColl-Kennedy et al. 2017a). Likewise, ideas with high user value do not always have high clinical value. For example, while interacting with one's grandchildren might have high user value for the patient, it has low clinical value.

Evaluation procedure

The evaluations were conducted by a panel of orthopedic nurses as expert judges (n = 5) from a different hospital but with experience in the same orthopedic procedure as the patients undertook. Experts can be defined as professionals with education, experience and knowledge in the subject they are assessing (Amabile *et al.,* 1996). Each panel member had at least three years of experience, and most had more than 10 years of experience with orthopedic surgery. This panel was chosen for several reasons. First, the nurses had substantial knowledge of the

health-care system, routines, and care planning. Second, they had the necessary medical knowledge and experience. Third, they spent considerably more time with patients than other health-care professionals (e.g. doctors).

In line with previous studies (Kristensson *et al.,* 2004; Magnusson *et al.,* 2003), the ideas were rated on a 10-point scale, anchored by 1 (lowest) and 10 (highest). The expert judges were informed about the project and told that participation was voluntary. The rating procedure was organized as a workshop, in which all expert judges received the same set of instructions. The judges rated all ideas individually, one dimension at a time. Each dimension took between 50 and 60 minutes to evaluate. Although theoretical support for the dimensions of originality and user value is extensive, creativity has most commonly been determined by simply adding the ratings for each dimension. However, this approach assumed that creativity was a linear combination of originality and user value: a potentially problematic method, as these are sometimes contradictory (Burroughs and Mick, 2004). Useful ideas are generally valued, but the more original an idea is, the more questions are raised regarding its usefulness (Amabile *et al.,* 1996). For these practical and theoretical reasons, and in line with previous empirical studies on creativity (Burroughs and Mick, 2004; Rosa *et al.,* 2014), the three dimensions were examined separately.

FINDINGS

First, the inter-judge reliability of each dimension of customer creativity was calculated (Cronbach's alpha) to test the concordance of the expert panel. Following Magnusson *et al.* (2016), the consequences of deleting the least homogenous judge for each dimension were investigated. One judge was removed from the panel, resulting in a more homogeneous panel. The judges' evaluations showed acceptable agreement for all three dimensions: *originality* (0.74), *user value* (0.71), and *clinical value* (0.72) (Rust and Cooil, 1994). The judges' individual ratings were averaged to conduct further statistical analyses (Amabile *et al.,*1996).

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Table 3 shows the results of assessing the ideas from the diaries according to *originality*, *user value*, and *clinical value*. Overall, ratings for *user value* had the highest average score of 7.86, followed by *clinical value* (5.25) and *originality* (4.98). Consistent with previous studies on customer idea generation (Kristensson *et al.,* 2004; Rosa *et al.,* 2014), absolute scores on the creative outcomes were higher for *user value* than for *originality*. In terms of correlations among dependent variables, *originality* showed negative correlations with *user value* (r = -0.56; p = 0.000) and *clinical value* (r = -0.34; p = 0.001). These findings are consistent with results from previous research, suggesting that highly original ideas are often perceived as less valuable (Burroughs and Mick, 2004; Rosa *et al.,* 2014). *User value* had a positive correlation with *clinical value* (r = 0.26; p = 0.001).

- Insert Table 3 here-

We used independent sample t-tests to test our hypothesis and determine whether patients' ideas concerning different places (service setting or customer setting) differed in outcome evaluation scores for *originality*, *user value*, and *clinical value*. The results revealed significant differences in customer creativity depending on place (Figure 1).

-Insert Figure 1 here-

Originality. The idea outcomes differed significantly in originality depending on place (t = -2.945, p = 0.004). The mean score was significantly higher in the customer setting ($M_{customer setting}$ = 5.71, SD = 2.33) than in the service setting ($M_{service setting}$ = 4.69, SD = 2.19). Thus, in our sample, patients provided more original ideas in the customer setting.

User value. The idea outcomes also differed significantly in user value depending on place (t = 3.224, p = 0.001). Contrary to initial predictions, the mean score was significantly lower in the customer setting ($M_{customer setting}$ = 7.470, SD = 1.16) than in the service setting ($M_{service setting}$ = 8.020, SD = 1.08). This finding shows that patients in our sample provided ideas with the highest *user value* in the service setting.

Clinical value. The idea outcomes also differed significantly in clinical value depending on place (t = 2.609; p = 0.010). Interestingly, the mean score was significantly higher in the customer setting ($M_{customer\ setting}$ = 5.71, SD = 1.61) than in the service setting ($M_{service\ setting}$ = 5.06, SD = 1.61). These results show that the patients in our sample provided ideas with the highest clinical value in the customer setting.

Additional test of customer role. A chi-square test showed a significant difference in customer role in relation to different settings (χ^2_{1df} = 98.540, p = 0.000), revealing that ideas with an active customer role were created mainly in the customer setting. Specifically, in the customer setting, 55 ideas were based on an active customer role, while only three were based on a passive role. By contrast, in the service setting, only 26 ideas were based on an active customer role, while 116 ideas were based on a passive customer role. This suggests that the customer role in a particular setting influences the customer's role in the ideas created.

DISCUSSION

Patients provided ideas in both settings, but they differed in their creativity depending on place. Our main hypothesis suggested that the customer setting provides more favorable conditions for customer creativity than the service setting. However, this hypothesis did not hold for all three dimensions of creativity. To summarize, the level of customer creativity was higher for *originality* and *clinical value* and lower for *user value* in the customer setting compared to the service setting. In the following section, we will discuss in detail how the three dimensions of creativity (*originality*, *user value*, and *clinical value*) varied with regard to place (service setting and customer setting). See Table 4 for empirical illustrations of ideas.

-Insert Table 4 here-

Consistent with our prediction, ideas scored lower in terms of *originality* and *clinical value* in the service setting than in the customer setting. This supports the earlier claim that the standardized care process and patients' passive role in this setting may prevent patients from

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providing creative ideas. In addition, patients preparing for and recovering from surgery might suffer stress, which can limit cognitive capabilities (Amabile, 1988). Moreover, as seen in prior research on customer roles (Berry and Bendapudi, 2007) and factors leading to improved clinical health (Street *et al.,* 2009), patients do not typically possess the medical expertise necessary for creativity that can directly affect their clinical health for highly standardized care processes. The passive customer role and lack of medical expertise were reflected in customer creativity in the service setting, i.e. the generated ideas in such a place resulted in ideas scoring low on originality and clinical value. Based on the hospital stay, one patient suggested changing the ward round routine because the current routine "feels outdated and compromises privacy." Another patient wanted "better instructions and information on where to go and in what order" when arriving at the hospital for surgery.

Contrary to our prediction, the results showed that ideas scored significantly lower on *user value* in the customer setting than the service setting. One possible explanation for *user value* scoring lower in the customer setting is that the effort for the patient solving their problems is generally high. Although experimenting with medication, changing routines, and engaging in rehabilitation exercises might eventually improve a patient's overall health, they might also cause short-term discomfort (Fineberg, 2013; McColl-Kennedy *et al.,* 2017a; Ryan and Deci, 2000). Therefore, ideas implying that customers must be active, put in effort, and change behaviors (mainly found in the customer setting) might be perceived as having lower user value than ideas in which customers rely on others. This argument is relevant to health-care because, although customer effort is generally high, the recovery process largely depends on customer actions (Creer and Holroyd, 2006). For example, one patient found strategies to cope with pain: "I need to rest, even if we have friends visiting. It's not fun, but I feel better." Similarly, another patient suggested that, when exercise feels difficult, "it helps to divide the walk into several shorter walks, instead of my regular long walk, but it takes longer time"

Further, motivations for solving problems and the available recourses are likely to differ from the customer setting to the service setting. This is consistent with the theory that certain situations reduce individual creativity (Burroughs and Mick, 2004).

In addition, it seems that patients' traditional roles in health-care affect the nature of the ideas developed in different places. Patients in the service setting were more likely to develop ideas involving passive customer roles, while patients in the customer setting were more likely to develop ideas involving active customer roles. This is interesting because it suggests that the surrounding place affects not only the dimensions of creativity, but also the advocated role of the customer (and the service provider). In the service setting, the ideas concerned issues that should be addressed by the health-care provider. For example, one patient felt overwhelmed by the information provided and reflected: "I would have liked it if I could have the information both in person, but also written down, as it was a lot to take in all at once." Another patient suggested that patients should be given their sleeping pills much later: "The last ward round was an hour after I was given the pill, very annoying as it woke me up." In line with previous suggestions (Berry and Bendapudi, 2007; Parsons, 1951), these results indicate that patients adopt the "sick role" in the service setting. However, it should be noted that not all ideas that were generated in the service setting involved a passive customer role. On the other hand, almost all ideas in the customer setting required the patient to be active. Alternatively, these ideas sought to enable the patient to be more active in daily life. One patient explained that walking his dog the day after surgery was challenging. He solved the issue by driving his car out into the woods and letting his dog off her leash: "The dog can walk herself, and I still get some fresh air." This suggests that the customer role differs depending on place.

Theoretical implications

This study extends prior research on customer creativity in several ways. First, while previous

studies have shown that customer creativity is valuable for innovation (Gustafsson *et al.,* 2012; Kristensson *et al.,* 2004), this research further shows that customer creativity is influenced by the place in which it occurs. By being among the first studies to test customer creativity in a field setting, this study shows that customer creativity differs in terms of originality, user value, and clinical value depending on place (service setting or customer setting). This is an important theoretical contribution, since previous research on customer creativity has largely been undertaken in experimental lab settings (Magnusson *et al.,* 2003; Kristensson *et al.,* 2004), ignoring customer creativity in the customer setting (in this case, the patient's home), where most customer creativity takes place. Interestingly, and contrary to our predictions, one place did not provide better conditions for creativity in *general*. Instead, the results indicated that different places are favorable for different dimensions of creativity, suggesting that place matters for customer creativity. Thus, our research extends previous research (Magnusson *et al.,* 2003) by providing further insights and explanations concerning where customers are more likely to provide ideas with high originality and user value. By studying customer creativity outside the boundaries of the firm, we gain a deeper understanding of where and how customers are creative (Amabile *et al.,*1996; Meusburger, 2009).

Second, while the active role of the patient has been increasingly acknowledged in such concepts as patient-centered care, shared decision making, patient participation, patient empowerment, self-management, collaborative care, and health-care value co-creation, the use of patients as a source of innovation has been limited (Snyder and Engström, 2016). Though there has been some recognition of patients as important actors for successful value co-creation in health-care, they have seldom been regarded as creative and have not been involved in the innovation process (McColl-Kennedy *et al.,* 2017b). With concepts built on an active patient, we can expect an increase in the involvement of patients in innovation

processes, but this will not automatically increase ideas built on an active role for the patient. The present research suggests that the place where customer creativity takes place affects not only outcomes, but also the advocated role of the customer (and the service provider). Customer creativity seems constrained by the social roles and predetermined scripts in the service encounter (Solomon *et al.,* 1985), that not only seem to limit the behavior in the ongoing health service, but also limit creative ideas for new health services. Previous research has suggested that front-line employees, such as nurses, can contribute customer knowledge to service innovation (Karlsson and Skålén, 2015). Extending this line of research, the present study suggests that, in addition to other important groups, patients represent an untapped source of creativity with first-hand knowledge and insights about the care process. Rather than having patients replace front-line employees, we suggest a complementary approach, in which patients and nurses are involved in development work together adopting roles favorable for customer creativity.

Third, previous research has called for an expansion of the dimensions for customer creativity (Magnusson *et al.,* 2003). By introducing a contextual dimension (health-care-specific) for evaluating customer creativity (clinical value), we show that customer creativity can influence one of the key health-care performance measures: improving customer physical health and recovery. Separating clinical value from user value assists in capturing ideas that offer not only high user value, but also high clinical value for customers' physical recovery. This result should encourage further research to identify new dimensions of customer creativity to understand the effects of different participants, methods, and places.

Managerial implications

This study also has several managerial implications. Given the opportunity, health-care customers can provide valuable ideas and solutions both within and outside the service setting. Concepts like patient-centered care, shared decision making, patient participation,

patient empowerment, self-management, collaborative care, and health-care value co-creation all suggest that customers should adopt an active role and co-create health services. However, when engaging in innovative activities in the service setting, patients are limited by their relative passive role. Thus, there is a need for new means of releasing patients' creativity, such as new methods of customer involvement (Witell *et al.,* 2011) or changes of where to involve the customer, suggesting that patients can contribute ideas built on an active customer role if brought out of the conference room. Depending on which contributions health-care providers are interested in, patients should be involved in different ways and different places. Customers can provide valuable ideas that may further enhance the customer experience, especially in the health-care service setting. However, to access original ideas, service providers should consider ways to help customers take on an active role, rather than be constrained by the traditional health-care setting. This study shows that it is time to move beyond focus groups towards customer involvement methods in which patients work together with health professionals in their homes to innovate health-care services.

Patients have extensive knowledge of their own health-care problems and treatments. Therefore, they can contribute unique information and experiences about how service provision can support health-care customers in their everyday lives. However, unlike customers in other service contexts, patients are not always able to implement their ideas and solutions due to a lack of ability, illness, or motivation, but also due to a health-care context over which they have limited control and access. This is especially true in this service setting. Therefore, health-care providers may need to support and aid idea implementation to improve health-care services and enhance customers' experiences.

Limitations and future research

The results of this study should be interpreted in light of some limitations. First, we investigated only one type of health-care service, which limits this study's generalizability.

Specifically, we explored customer creativity in the context of orthopedic care (elective hip replacement surgery). There are significant differences among service settings involving highly standardized care (e.g. a hip replacement), multiple high-level encounters over several years (e.g. chronic diseases), and emergency care. Since different contextual factors are likely to impact creativity, further research into different health-care services should be encouraged. In addition, the data in this study were collected in a single country. While not investigated in this study, culture, geography, and regulations can have major influences on creativity (Amabile *et al.,* 1996), and there is no reason health-care should be any different. In relation to the role of the customer, it can also be argued that there is a difference between the patient's view in private and public health-care systems (Williams, 1988) and that this difference could influence the conditions for customer creativity. In addition, age and experience with internet and technical solutions to health care problems could also be very interesting to investigate. By comparing and evaluating how different cultures impact customer creativity, we could further our understanding of the subject.

Moreover, this study evaluates customer creativity from the perspective of health-care professionals. Although though this approach is well grounded in theoretical models for assessing creativity (Amabile *et al.,* 1996) and a number of empirical studies (Magnusson *et al.,* 2016; Witell *et al.,* 2011), the objectivity and accuracy of professional evaluations can still be questioned. For example, health-care professionals might perceive highly original ideas as disruptive to their familiar procedures and traditions and reject them. Therefore, in assessing customer creativity, future studies could further investigate differences among expert groups, such as expert patients and other types of health professionals.

Finally, creativity is a dynamic process influenced by not only place, but also personal skills and knowledge (Amabile, 1983), and it is likely to develop over time. For example, research in other settings has found differences in the creativity of experienced and novice

customers (Magnusson *et al.,* 2003). Further investigation on how creativity develops over time and in different stages of the customer journey should be encouraged. In addition, future research should further consider individual factors, such as personality traits, knowledge level, experience, motivation, and contextual and cultural factors. In a field experiment, it is difficult to separate the relative importance of different factors, such as place, customer role, and individual characteristics. Future studies would benefit from examining the specific effects of these factors. We therefore encourage research into this important and rewarding line of research.

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Table 1 Different approaches to activating the patient

Concept	Discipline	Conceptualization	References
Patient-centered care	*Health research*	"Patients are known as persons in context of their own social worlds, listened to, informed, respected, and involved in their care—and their wishes are honored (but not mindlessly enacted) during their healthcare journey." (Epstein and Street, 2011, p. 101)	Berwick (2009) Gerteis *et al.* (1993) Mead and Bower (2000)
Patient empowerment	*Health research*	"[Patient] empowerment [can be defined] as both a process and an outcome. Empowerment is a process when the purpose of an educational intervention is to increase one's ability to think critically and act autonomously. Empowerment is an outcome when an enhanced sense of self-efficacy occurs as a result of the process." (Anderson and Funnell, 2010, p. 278)	Anderson and Funnell (2005, 2010) Aujoulat *et al.* (2007)
Collaborative care	*Health research*	"Care that strengthens and supports self-care in chronic illness while assuring that effective medical, preventive, and health maintenance interventions take place." (Von Korff *et al.,*1997, p. 1097)	Fihn *et al.* (2011) Gilbody *et al.* (2006) Von Korff *et al.* (1997)
Shared decision making	*Health research*	"An approach where clinicians and patients share the best available evidence when faced with the task of making decisions, and where patients are supported to consider options, to achieve informed preferences." (Elwyn *et al.,* 2010, p. 971)	Charles *et al.* (1997) Elwyn *et al.* (2012) Frosch and Kaplan (1999)
Self-management	*Health research*	"Whether one is engaging in a health promoting activity such as exercise or is living with a chronic disease such as asthma, he or she is responsible for day-to-day management." (Lorig and Holman, 2003, p. 1)	Bodenheimer *et al.* (2002) Lorig *et al.* (2008) Lorig and Holman (2003)
Patient participation	*Health research*	"Can relate to aspects of healthcare as diverse as decision making, self-medication, self-monitoring, patient education, goal setting, or taking part in physical care." (Longtin *et al.,* 2010, p. 53)	Cahill (1996) Gallan *et al.* (2013) Haidet *et al.* (2006)
Healthcare value co-creation	*Service research*	"Patients are seen as active co-creators of value with professionals and other actors integrating resources in the customer's service network. This may include being active in the production of care, learning and sharing information, being involved in diagnosis, disease and recovery, regulating emotions, forming relations and mobilizing resources." (McColl-Kennedy *et al.,* 2017b, p. 10)	Frow *et al.* (2016) Hardyman *et al.* (2015) McColl-Kennedy *et al.* (2012; 2017b) Spanjol *et al.* (2015)

Table 2 Conceptualizations of place

Author(s)	Term	Conceptualization	Question of interest	Discipline
Solomon et al. (1995)	*Service encounter*	Person-to-person interaction in a consumption setting	The influence of social roles on customer behavior and service encounters	Marketing
Bitner (1992)	*Servicescape*	The atmospheric or physical design of a consumption setting	The influence of servicescapes on customer and employee behavior	Marketing
Amabile *et al.* (1996)	*Social environment*	The environment in which people work and interact	The influence of social environment on creativity	Management
Barnett & Casper (2001)	*Social environment*	The immediate physical surroundings, social relationships, and cultural settings within which defined groups of people function and interact	The influence of social environment on health	Health
Tombs and McColl-Kennedy, 2003	*Social servicescape*	The contextual, physical, and social elements of the setting in which the customer purchases or consumes the service	The influence of social servicescapes on customer behavior and emotions	Marketing
Kristenson (2004)	*Physical space*	*Place* refers to the physical extent or territoriality, whether in the home or at work; *space* is the built environment, including shelter, confinement, and protection	The effect of physical space on creativity	Innovation management
Rosenbaum (2006)	*Place*	Comprises physical, social, and emotional features	How third places affect and become meaningful in people's lives	Service research
Grönroos and Voima (2013)	*Sphere*	Social, physical, temporal, and/or spatial dimensions of different contexts	The influence of different spheres on customer value creation	Marketing

Table 3 Ratings of Expert Panel

Dimensions	Explanation	Ideas	Mean	SD	α	Correlation coefficients		
						1	2	3
1. Originality	The newness or uniqueness of the idea	200	4.98	2.28	0.74	1		
2. User value	The value of the idea for the customer using the service	200	7.86	1.13	0.71	-0.56**	1	
3. Clinical value	The value of the idea for the customer's health and recovery status	200	5.25	1.63	0.72	-0.34**	0.26**	1

** Significant at the p < 0.01 level.

Table 4 Examples of ideas for different settings

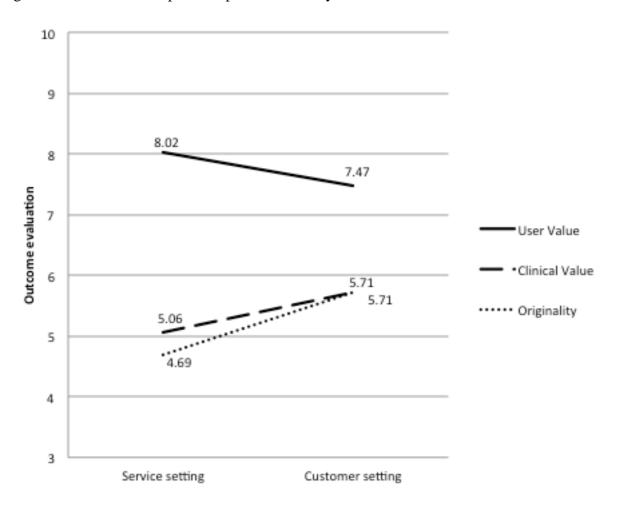| Place	Examples of ideas	Ratings		
		Originality	*User value*	*Clinical value*
Service setting	*I fully understand that the economy sets limits, but to be four people in the same room is not ideal. I liked my roommates but different sleep sounds undeniably disrupt your sleep.*	3.6	5.6	6.6
	Why can't they change the routines of ward rounds? Everyone was friendly but it just seems a bit outdated. A personal conversation would be better.	5.4	7.4	5.4
	Why not admit patients later in the evening? After 7 pm, if possible [for surgery next day].	8.8	7.2	2
	It was my time to go home. Had all the papers in my hand. Too much waiting before I was ready to go. Instead of four hours, this should be done in one hour. They need better coordination.	3.8	9.6	5
	It is incredibly important to have a personal and empathetic approach [from healthcare professionals]. To be seen and listened to.	2	9.4	8.2
	The doctors need to give more information about pain and swelling [after surgery], so you know what to expect and can get a prescription for painkillers. That this was a big operation and that experiencing great pain is normal.	2.4	8	7.2
	Would have liked some more pain relief, especially the first night after surgery.	1.8	9	7
Customer setting	*I would want to have a support network. I know that it is not a major thing to have a hip replacement, but despite this, it is the everyday questions I want answered. In my circle of friends, there is no one my age that has this type of problem.*	4.8	7.6	6.2
	You need to plan ahead for three months of rehabilitation on crutches. There are a lot of things you are not able to do or need help with during this time.	4.6	7.6	3.4
	Walk lots, but take several shorter walks rather than one long walk in the beginning.	5	7.2	6
	Take the morning medication earlier so it has time to work before walking the dog.	5.2	5.2	7.2
	When you have a lot of pain, like I have, it is often better with motion, as resting too much makes you stiff and that makes it even worse.	2.4	8.6	6.6
	To ease the pain in the hip during nighttime, you must have at least three pillows between your knees.	7.8	6.2	4.8
	It is important to push the limits all the time, without being stupid.	7.2	7.6	6.6

Figure 1 The influence of place on patient creativity