

The role of Absorptive Capacity and Organizational Unlearning in the link between Social Media Use and Service-Dominant Orientation.

Abstract

Purpose – This paper aims to study the relationship between the knowledge obtained in social networks by firms together with the firms' knowledge absorptive capacity and organizational unlearning as influencers of service-dominant (S-D) orientation, as well as the mediating role of absorption capacity and organizational unlearning in this process.

Design/methodology/approach – The sample amounts to 101 responding companies, obtained from the SABI database. The companies belong to the service sector in Spain and have at least 50 employees and 5 years or more of existence in the market. The model was estimated through PLS-SEM with smartPLS software 3.2.6.

Findings – The results show that the use of social media is very important for firms to acquire knowledge and capabilities that help them to become service-dominant oriented. In addition, absorptive capacity and unlearning processes are dynamic capabilities necessary to transform the knowledge acquired in social media as well as to become service-dominant oriented.

Research limitations/implications – Companies' managers draw conclusions that can generate great value, while better meeting the needs and desires of the market, the more knowledge is obtained. In addition, the use of the knowledge generated in this process will reduce the risk of sudden changes in the market.

Practical implications –The more knowledge is obtained better companies' managers can draw conclusions that can generate great value, while better meeting the needs and desires of the market. Also, the use of the knowledge generated in this process will reduce the risk of sudden changes in the market.

Originality/value – This is one of the few studies trying to study the antecedents of service-dominant orientation and the first to study the direct effect of social media use, and the direct and indirect effect of absorptive capacity and organizational unlearning on service-dominant orientation as dynamic capabilities.

Keywords: Absorptive capacity, Social media, Organizational unlearning, Service-dominant orientation

Paper type: Research paper

Introduction

The resource-based view (RBV) of the firm has been a very influential framework to understand how competitive advantage is sustained over time (Eisenhardt and Martin, 2000). According to this view, firms differentiate themselves based on their valuable, rare, inimitable and nonsubstitutable resources (Wernerfelt, 1884,1995). Teece et al. (2007) extended RBV theory to dynamic markets highlighting the importance of dynamic capabilities (the ones by which firms “integrate, build and reconfigure internal and external competencies to address rapidly changing environments” (516)). These capabilities are the drivers of new sources of competitive advantage by allowing recombining pre-existent resources (Teece et al., 2007). According to Grant (1996), knowledge resources are especially relevant for dynamic markets and to achieve competitive advantage in those markets.

More recently, service-dominant logic, introduced by Vargo and Lusch (2004), emphasizes value creation on “continuous service delivery” as a lens to approach competition (Lusch et al., 2008; Maglio and Spohrer, 2008). Within the Service-Dominant Logic framework, value creation is

obtained when resources from actors are integrated and service (application of knowledge and skills) is exchanged (Vargo and Lusch, 2016; 2017). The operant resources, those capable of acting upon other resources, such as knowledge and skills, became the foundation stone for competitive advantage (nowadays designated as strategic benefit (Vargo and Lusch, 2016)). According to Nenonen, Gummerus and Sklyar (2018:573) “dynamic capabilities are operant resources, working upon other operand and operant resources that allow actors to systematically influence resource integration and institutions”.

In the SD-Logic (SDL) approach to value co-creation, SD-Orientation (SD-O) is a concept developed by Karpen et al. (2012) that allows the operationalization of SD-Logic by identifying the relevant capabilities needed to operationalize the fundamental promises of SD-Logic (Karpen et al., 2012). SD-Orientation represents firms’ ability to establish value in service exchange with their partners and according to Lusch et al. (2008:5) “effective competing through service has to do with the entire organization viewing and approaching both itself and the market with a service-dominant (S-D) logic.”

SD-O is formed of six capabilities (Karpen et al., 2012), namely, the individuated interaction capability, which represents a firm’s ability to understand the actor’s individuated integration processes as well as the context and desired outcomes; the relational interaction capability, which is the ability to enhance relationship building by establishing emotional and social connections with network partners; the ethical interaction capability, which is the ability to instill confidence in partners concerning non-opportunistic behavior; the empowered interaction capability, that is, the ability to provide the necessary conditions for partners to design and define the context and nature of the exchange; the developmental interaction capability, which means the ability to provide partners with the knowledge and information necessary for the exchange process; and the concerted interaction capability, which is the ability to synchronize resource integration processes with partners.

When trying to integrate RBV theory and dynamic capabilities theory with SDL through SD-O a question comes to mind: How do resources and dynamic capabilities relate with SD-O?. In Karpen et al. (2015), SD-O is studied as an antecedent of trust, perceived value, affective commitment, repurchase intention, firms’ performance and financial performance. However, concerning the antecedents of SD-O, evidence is scarce and only Alves et al. (2020) have studied the components of intellectual capital (human capital, social capital and organizational capital) as antecedents of SD-O. A S-D oriented firm needs, for instance, to provide value propositions that respond to value partners’ expected and prioritized experiences, to establish two-way communications and dialogue that help to satisfy their desires and establish social and emotional links with value partners. Furthermore, it needs to allow value partners to co-construct their experiences, capture and understand its value partners’ knowledge and ideas about future experiences as well as understanding value partners’ creation activities and how the firm can best fit into these activities (Karpen et al., 2012). In this sense, there might be several other antecedents of SD-O. For instance, if the firm wants to establish two-way communication channels and social links with its partners, tools such as social media might help to accomplish this as firms’ use of social media is related to improvements in communication, collaboration and knowledge transfer among individuals (Bharati et al., 2014). In a similar vein, if a firm wants to understand partners’ value creation activities and figure out how best to fit into them, it needs capabilities related to knowledge acquisition, assimilation, transformation and exploitation as those included in absorptive capacity (Marabelli and Newell, 2014). It also

needs to innovate, and rethink itself, something related not only to absorptive capacity but also to unlearning processes that allow new knowledge to be implemented (Snihur, 2018).

The aim of this research is to understand the nomological relationships of the SD-O construct. More specifically, to understand whether social media use, absorptive capacity and organizational learning affect the SD-O construct. As far as our knowledge, until now only the work of Alves et al. (2020), studied antecedents of SD-O, namely, the influence of intellectual capital.

This study responds to the call for more studies on the relationship between SD-Oriented and possible antecedents (Karpen et al., 2015), but also to the call of Wilden et al. (2017) on the need for research on the integration of service-dominant logic and dynamic capabilities. In this sense, this research contributes to theory by helping to understand better the nature of SD-O, its antecedents and its relationship with RBV theory, and therefore, to improve knowledge of value creation processes, SD-Logic and dynamic capabilities. It also contributes to practice by showing which capabilities a firm needs to develop and put in practice to be service-dominant oriented and consequently achieve better performance.

In the first section, the paper presents the theoretical review including the hypothesized relationships and the proposed research model. The second section contains the methodology used in the empirical analysis as well as the results obtained. The third section discusses the results referring to previous work. The fourth section presents the conclusions, with the last section presenting the limitations and future lines of research.

1. Theoretical background

1.1. Social media use and organizational capabilities

For a firm to be S-D oriented, it needs to be able to establish individual interaction with value partners to understand their individual needs and expectations. It also needs to provide information, establish dialogue and promote feelings of closeness and affection, facilitate social links and provide an opportunity for partners to give suggestions, to allow them to control their experience, among several other capabilities (Karpen et al., 2012; and Karpen et al., 2015). In this connection, social media, which are Web 2.0 based applications (e.g., YouTube, Twitter, Facebook, Yammer, Instagram, and LinkedIn) that allow multidirectional communication (Kaplan and Haenlein, 2010), seem to be a good tool to help a firm to become service-dominant oriented. Social media systems use several technological tools that facilitate interaction and information exchange (Bharati et al., 2014; Cao et al., 2016), serving also as repositories that allow searching for, and access to information (Kim and Johnson, 2016; Cao and Ali, 2018).

Social media has been used for broadcasting, dialogue, collaboration, knowledge management and sociability (Schlagwein and Hu, 2016), but also to gauge marketplace reactions (Jansen et al., 2009), engage customers (Lipsman et al., 2012) and manage customer relationships (Michaelidou et al., 2011). At the same time, innovation and value creation requires the acquisition of knowledge in company relationship networks (Jiménez-Jiménez, MartínezCosta, & Sanz-Valle, 2014) that can be obtained through social media.

According to Ooms et al. (2014), social media provide connectedness (allowing a large number of individuals to connect), also boosting socialization and the opportunity for network partners to share similar interests. At the same time, they foster cross-functional interaction (reducing

organizational boundaries and hierarchical lines) and receptivity, increasing the number and variety of receptors and the information exchanged.

As social media can provide connectedness, facilitate socialization, provide an opportunity to share information within the firm and with value partners, it can help to develop capabilities PAGE 922 j JOURNAL OF KNOWLEDGE MANAGEMENT j VOL. 26 NO. 4 2022 such as establishing individual interaction with value partners, providing information, establishing dialogue, providing opportunity for feedback, among other benefits, and therefore help firms to become S-D oriented. Consequently, and since no previous studies have studied the effect of social media use on SD-O, we propose that:

H1: Social media use positively influences a firm's SD-O.

Social media use has been proven to influence employee performance (Mäntymäki and Riemer, 2016), dynamic management practices, enhanced innovation, knowledge sharing, collaboration and communication (Ali-Hassan et al., 2015), and also to leverage explorative, transformative and exploitative learning (Hu and Schlagwein, 2013). Therefore, it might help to achieve certain organizational capabilities related to learning processes such as organizational unlearning and absorptive capacity.

According to Aledo-Ruiz et al. (2017), organizational unlearning emerges as a mechanism that occurs when organizations need to modernize knowledge and knowledge structures, such as protocols and others that due to the passage of time have become obsolete. Tsang and Zahra (2008) define organizational unlearning as a process that involves two basic stages: first, discarding those previously adopted business ideas, procedures or beliefs which have become obsolete, confusing, redundant or useless, and second, understanding new beliefs, norms, values or procedures that are better for the current competitive environment. In this way, organizational unlearning leads to abandoning old ways of doing things in the organization with the purpose of introducing new methods. Organizational unlearning is a way to remove expired elements from organizational memory (Akgün et al., 2003; Baker and Sinkula, 1999; Nonaka et al., 2001). Some researchers (e.g. Becker, 2010; Cegarra-Navarro et al., 2014) have pointed out that unlearning can be operationalized through three different processes as follows: consciousness, which is the process through which someone realizes that rules, routines or processes are obsolete. This can be done by identifying own mistakes or errors; giving up, which allows individuals not to make old mistakes, specifically when they happen involuntarily; relearning, which means having the ability to learn new things, where someone doing something new (for example, a new process) is, in fact, unlearning and abandoning the old.

Organizational unlearning facilitates companies' acquisition of new knowledge about technological development and consumers' needs and facilitates the task of developing new effective products/services that can adapt to rapid market changes (Iansiti, 1995; Akgün et al., 2006). Unlearning represents a major factor in adaptive capabilities that enable companies to creatively replicate changes in technology, knowledge and the environment (Hedberg, 1981; Nystrom and Starbuck, 1984; Markoczy, 1994; Starbuck, 1996). Akgün et al. (2007^a, 2007^b) point out that unlearning is a process of adaptation where new knowledge and knowledge structures replace obsolete knowledge and knowledge structures. A context of unlearning can be inserted in the organizational structure, originating and sustaining a culture in which individuals consciously grasp new skills and knowledge, generating the opportunity to analyze and investigate both existing and new knowledge (Azmi, 2008). In this way, organizational unlearning means the organization can prepare the necessary foundations for the acquisition and

generation of new knowledge (Wang et al. 2013). As the researchers Zhao et al. (2013) state, workers can achieve organisational unlearning making easier for firms to modernise processes and obsolete paths at the company level. In the same vein, organisational unlearning is a valid orientation through which firms modify their practices (Akgün et al., 2007).

Taking into account Wensley and Cegarra-Navarro (2015) we propose that organizational unlearning can be approached indirectly as the structuring and growth of measures of what they have recognised as a "context of unlearning". According to Azmi (2008), an unlearning context could consist in the company generating and favouring a culture in which individuals consciously obtain new capacities, skills, and knowledge generation, while simultaneously, providing the time and the opportunity to inspect and investigate the knowledge used in the company as well as the new ones.

The interactive nature of digital media not only makes it easier for companies to share and exchange information with their customers but also to share and exchange information among themselves (Thackeray et al., 2008). Social media tools have an important role in transforming the firm's characteristics, varying its limits and distance from knowledge, and by making it more efficient and effective in certain environments (Afuah and Tucci, 2012; Bogers, Afuah, and Bastian, 2010; Jespersen, 2010). When organizations use social media correctly for different tasks, such as marketing, customer relations or searching for information, this is likely to have a positive impact on the organization. Therefore, we propose H2:

H2: Social media use positively influences organizational unlearning.

According to Oliva and Kotabe (2019), in a business context, it is understood that knowledge management is an organizational practice aligned with the concepts of dynamic capabilities. Oliva and Kotabe (2019, p. 1839) define knowledge management as "an organizational discipline that aims to acquire, transform, store, use and discard knowledge that is important in generating value for the organization" (Teece, 2007; Easterby-Smith and Prieto, 2008; Oliva, 2014; CegarraNavarro et al., 2016).

Knowledge in an organization originates from both inside and outside the firm (Martelo-Landroguez and Cegarra-Navarro, 2014). Although so much of organizational knowledge seems to come from external evaluations and observations, organizations have to make use of internal experience, expertise, and processes to interpret this external knowledge and to convert this knowledge into an explicit form that those firms can reuse (Ortega-Gutiérrez et al., 2015).

In this study and according to Cegarra-Navarro et al. (2016), absorptive capacity involves the combination of components that allow firms to create new knowledge about events, trends, and relationships in the organization's external environment by sharing information with its stakeholders such as when their customers interact with the company through social networks (Ortega-Gutiérrez et al., 2015).

Lane et al., (2006 p. 856) conceptualize absorptive capacity as a process that includes:

(1) recognizing and understanding potentially valuable new knowledge outside the organization through exploratory learning, (2) assimilating valuable new knowledge through transformative learning and (3) using the assimilated knowledge to create new knowledge and commercial outputs through exploitative learning.

Schlagwein and Hu (2016), using this same process-focused structure of absorptive capacity, found that absorptive capacity is supported by social media use when used for internal broadcasting, external and internal dialogue, internal knowledge management and internal

collaboration support. The process of learning and the creation of new knowledge are seen as firms' responses to a changing economic and institutional environment (Del Giudice and Maggioni, 2014).

Absorptive capacity demands interaction among individuals, understanding of knowledge demands, effective and convincing communication among individuals and strong ties among them and social media tools can support these dimensions of absorptive capacity (Cao and Ali, 2018). Social media use has been shown to foster knowledge transfer and collaboration in a systematic way (Ammirato et al., 2019). It has also been found to raise connectedness, socialization techniques and cross-functional interaction and receptivity, requirements of absorptive capacity processes. Social media has also been associated with knowledge transfer and knowledge acquisition (Ammirato et al., 2019), which according to Zahra and George (2002) are components of absorptive capacity. Absorptive capacity "is the capacity to recognize the value of new external information, assimilate it and apply it to commercial ends" (Cohen and Levinthal, 1990 p. 128). It is both the stock of prior knowledge and the ability to acquire and absorb new knowledge (Roberts et al., 2012). According to Zahra and George (2002), absorptive capacity is a dynamic capability that influences the firm's ability to create and organize the knowledge necessary to build other organizational capabilities.

Therefore, we propose H3.

H3: Firms' social media use positively influences absorptive capacity.

2.2. Absorptive capacity, organizational unlearning and service-dominant-orientation

As already mentioned, SD-O requires certain capabilities to be implemented. Two dynamic capabilities that can antecede SD-O are absorptive capacity and organizational unlearning. The value of organizational unlearning in contributing to innovation has generated much attention from researchers and professionals (Martin de Holan and Philips, 2004; Akgün et al., 2006; Tsang and Zahra, 2008). As Becker (2008) states, the ability to unlearn is a key factor to compete successfully in dynamic and complex markets through the constant development of novelties. Organizational unlearning is considered as one of the main skills necessary to leave behind the old mental models, one of the main drawbacks for innovation and to deploy a capacity for constant innovation in companies (González et al., 2012; Ortega et al., 2015; Cepeda-Carrion et al., 2015). Unlearning and relearning take place in the absorption process (Rushmer and Davies, 2004) and the literature indicates that corporations may also have more innovative capabilities when they are more market-oriented (Jiménez et al., 2008; O'Cass and Ngo, 2007; Theoharakis and Hooley, 2008).

Cepeda et al. (2012, p. 1552) state that "the replacement of old knowledge could be essential for organizations that want to create new products or services that require new points of view and ideas." Without an adequate unlearning context, new knowledge cannot be acquired (Cegarra-Navarro et al., 2014). As being SD-oriented involves being able to anticipate partners and customers' individual needs and develop value propositions that can fit their lives, the organization needs to learn from their inputs and feedback and challenge itself to innovate and develop value propositions. From the above, we present the following hypothesis:

H4: Organizational unlearning positively influences SD-O.

Another important dynamic capability is absorptive capacity, which is viewed as a firm's capability on which other organizational capabilities can be built (Zahra and George, 2002). According to various authors (Ben-Oz and Greve, 2015; Lowik et al., 2016; Martelo-Landroguez and Cegarra-Navarro, 2014), absorption capacity has been studied by dividing it into two subsets, based on the studies of Zahra and George (2002). These two subsets are potential absorption capacity (PACAP) and realized absorption capacity (RACAP). PACAP refers to the acquisition and assimilation of new knowledge while RACAP includes the transformation and exploitation of knowledge. It refers to the results obtained as a result of combining current knowledge with new knowledge.

Cohen and Levinthal's (1990) original conceptualization limits absorptive capacity to a function of the company's previous knowledge, which does not encompass the richness of the construct (Lane et al., 2006). The research from Zahra and George (2002) continues and expands the studies of Cohen and Levinthal (1990) by considering absorptive capacity as a multi-dimensional construct that includes the acquisition, assimilation, transformation and exploitation of knowledge (Balle et al., 2020). The current study focuses on this conceptualization of absorptive capacity as a multidimensional construct, which has been used widely in previous research linked with other organizational capacities and dependent variables such as performance, innovation and value.

According to Makadok (2001), absorptive capacity can be considered a resource that enables firms to effectively manage and exploit other resources. For instance,, Wieneke and Lehrer (2016) found that absorptive capacity is needed to make sense of the information generated by consumers on the multiple social media platforms. In addition, knowledge absorption generates capabilities that are added to the company by producing a unique configuration of resources (Knight and Cavusgil, 2004).

Absorptive capacity has been proven to relate to firms' level of innovation (Cohen and Levinthal, 1990, Lane, Koka and Pathak, 2006, Scuotto, Giudice and Carayannis, 2017), employees' innovative behavior (Kang and Lee, 2017), new product development (Chen and Chang, 2019) and performance (Lane, Koka and Pathak, 2006; Litchenthaler, 2009; Zhang et al., 2020). The systemic relationship found between innovation and knowledge management can generate value that can create and perpetuate a sustainable competitive advantage for companies. (Du Plessis, 2007). However, no previous work has studied the influence of absorptive capacity on SD-O.

As mentioned previously, SD-Oriented is a set of capabilities that allows a firm to insert value in service exchanges (Karpen et al., 2012), , that is, when exchanging resources with partners or customers. To create value with partners and customers, the firm needs individual interaction with its value network, to build emotional and social relationships and empower its value partners so that they can design and define the context and nature of the interaction, and it needs to be able to synchronize resource integration processes with partners (Karpen et al., 2012). Absorptive capacity, following Makadok (2001) and Wieneke and Lehrer (2016), can help to achieve these capabilities and therefore SD-O. Absorptive capacity, through its dimension of external knowledge acquisition and internal knowledge dissemination, can, for instance, help the firm understand partners and customers' needs and expectations, as well as develop adjusted offers and provide essential information to these stakeholders. Therefore, we propose the following hypothesis:

H5: A firm's absorptive capacity positively influences its SD-O.

2.3. The mediating role of absorptive capacity and organizational unlearning

Becker (2008) highlights that the main argument to encourage and commit to organizational unlearning is that it facilitates getting new information and current behaviors, as well as being a mechanism that provides change and innovation.

By using social media, companies can build relationships with existing and new customers and form communities that cooperate interactively to detect and understand problems and generate solutions for them. As suggested by Prahalad and Ramaswamy (2004), the value creation process is changing from a vision focused on the product and the company to a personalized experience of “informed, networked, empowered and active” consumers increasingly creating value simultaneously with the organization. The joint processes of exchange of data, information and knowledge in the digital domain by individuals greatly help to increase co-creation actions and the significance of users as possible generators of value for firms and organizations in general (Henkel and von Hippel, 2005; Prahalad and Ramaswamy, 2003). Virtual communities are the main area of joint contribution to co-creation. Customers represent a core pool of knowledge (Baldwin and von Hippel, 2011; Barczak, 2012) and social media use helps to develop co-creation initiatives (Burghin et al., 2011; Antorini et al., 2012). Marketers around the world continue to spend significant sums of money on social media platforms to engage with customers through individual and community processes that co-create value with customers (Carlson et al., 2019).

The literature shows organizational unlearning as a dynamic cycle within corporate entrepreneurship (Baron, 2004; Loasby, 2007), where a previous knowledge base is required to attract new knowledge (Cohen and Levinthal, 1990). However, to acquire this new knowledge that will help to provide innovative value propositions, social media are useful as this provides the opportunity for customers and partners to give feedback and insights that will help new learning and consequently give a better answer to customers’ and value partners’ needs, i.e. being service-dominant oriented. The following hypothesis captures this argument:

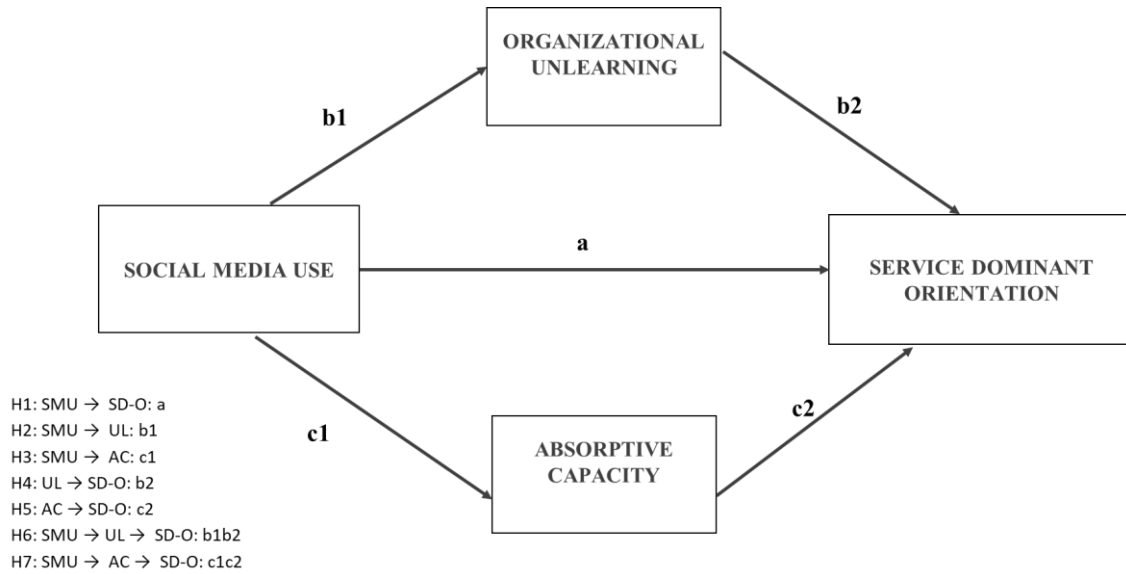
H6: Organizational unlearning positively mediates the relationship between social media and SD-O.

The use of social media, through its characteristics of connectedness, socialization tactics, cross-functional interaction and receptivity (Ooms et al., 2014), favours dynamic management practices, effective learning practices, innovation, knowledge sharing and collaboration (Ali-Hassan et al., 2015; Lefebvre et al., 2016; Ammirato et al., 2019) as well as explorative, transformative and exploitative learning (Hu and Schlagwein, 2013). Therefore, it might influence SD-O as all of these, directly or indirectly, might contribute to the SD-O capabilities previously mentioned and as proposed in H1. However, as suggested by Wieneke and Lehrer (2016), absorptive capacity is needed to make sense of the information generated by consumers on multiple social media platforms. Several studies have shown that absorptive capacity is an important mediator between external knowledge, organizational forgetting and outputs such as innovative performance (Moilanen et al., 2014) or business value (Zhang et al., 2020). Based on this, and since no other research has studied the mediating role of absorptive capacity between social media use and SD-Orientedness, we propose the following hypothesis:

H7: Absorptive capacity mediates positively the link between social media use and SD-O.

The proposed hypotheses and the research model that will be tested are in Figure 1

Figure 1: Proposed research model



3. Method

3.1 Data collection and sample

Service companies are an appropriate setting to test and confirm empirically the different proposals in our proposed research model. Those subject to analysis in this study are Spanish service firms. Firms whose main activity is services are characterized differently from those that principally exchange goods, with there being a high degree of interaction and contact among people, between consumers and companies providing services.

This intense interaction between customers and companies in their relations is one of the main reasons for selecting the sample for this study since these relations are generally longlasting. Besides, services become a key platform for value co-creation, since two or more individuals usually work together to achieve a higher outcome.

The data were acquired from the SABI database, which contains data of Spanish and Portuguese companies, a total of 2.5 million firms. We selected 308 service companies with over 50 employees and 5 or more years of activity.

Via e-mail, these companies were invited to participate in the study by completing the questionnaire elaborated. This process of sending out and receiving the questionnaires took place between November 2018 and February 2019, with 101 valid questionnaires being obtained (a response rate of 32.79%). The characteristics of the sample are shown in Table 1.

3.2 Measures

The study adopts a composite form for all constructs in our model. Social media use (SMU), was estimated as Mode B composite, and the rest of the composites of the proposed model (i.e. organizational unlearning (OU), absorptive capacity (AC) and service-dominant orientation (SD-O) were estimated in Mode A. The reason for adopting a composite structure for our model's constructs is that all of them have been considered as human design tools to measure or operationalize latent variables that are not easily measured (Henseler, 2017). The SMU indicators modeled as Mode B composites imply that they are not necessarily correlated, and consequently, traditional reliability and validity assessments are inappropriate and illogical for a Mode B composite (Bollen, 1989; Hair et al., 2019). A composite is a type of latent variable that consists of a combination of indicators without error term (Hair et al., 2019).

Table 1: Characteristics of the sample

Characteristics	Companies
Size of company (number of employees)	
50 - 100	65
101 - 200	26
201 - 500	8
+500	2
Age of companies (years from foundation)	
5 - 10	21
11 - 25	52
26 - 50	24
+50	4
Service areas	
Health	12
Education	9
Tourism	26
Financial	19
Consulting	14
Others	21
Total sample	101

To measure SMU, this study adopted the one-dimensional scale of Tajvidi and Karami, (2017) of seven items and tested in service companies. The scale asks companies about how much they use social networks. To measure absorptive capacity (AC), we use the multidimensional scale of Jansen et al. (2005). This scale has four dimensions, based on prior studies by Zahra and George (2002), including potential absorptive capacity respectively. This scale has two dimensions of PACAP: acquisition (AC) and assimilation (AS) of new external knowledge and two dimensions of RACAP: the transformation (KT) and exploitation (KE) of new external knowledge. To assess OU, this study adopts the multidimensional scale of three dimensions by Cegarra and Sanchez

(2008). The consolidation of emergent understandings was measured through six items: the examination of lens fitting (ELF) through five items, and the framework for changing individual habits through seven items. To assess SD-O, the current work adopted the multidimensional scale by Karpen et al. (2012). The scale has 6 dimensions and 26 items. The dimensions are relational interactions (RI) with five items; ethical interaction (ETI) with three items; individuated interaction (II) with six items; empowered interaction (EMI) with three items; concerted interaction (CI) with three items and developmental interaction (DI) with six items. All scales are seven-point Likert type scales.

In the Appendix are shown all the items used in this study for the measurement of the constructs.

3.3 Data analysis

In our model, because all measures are operationalized as composites (Rigdon, 2016; Henseler, 2017), we decided to use partial least squares structural equation modeling (PLS-SEM) to test the proposed research model and the hypotheses. The reasons for this are as follows: First, the study uses composites estimated in Mode A and Mode B (Rigdon et al., 2017, Hair et al., 2019); second, it adopts an explanatory approach according to Henseler (2018). A two-step process has been indicated to assess models in an explanatory way with PLS-SEM, (Hair et al., 2019), that is, assessment of the measurement model and assessment of the structural model.

According to Chin (1998), we used a bootstrap procedure, to find the significance of indices. With bootstrapping, we can determine the significance of path coefficients and weights, and loadings of indicators for each composite (i.e. latent variable). We use the SmartPLS 3.2.6. (Ringle et al., 2015) software for data analysis and to test the two mediation effects of the proposed model, we follow the procedure described by Nitzl et al. (2016) and Cepeda-Carrión et al. (2017).

A good measurement model estimated in Mode A should demonstrate sufficient reliability and validity. The most appropriate measures of internal consistency reliability are r_A , Jöreskog's rho and Cronbach's alpha (Henseler et al., 2015). Following Nunnally (1978), reliability values (i.e. rho and alpha) as low as 0.7 indicate suitable reliability in the early stages of research, higher values such as 0.8 or 0.9 should be used in more advanced research, exceeding the common threshold values. The AVE (average variance extracted) serves as a measure of unidimensionality (Fornell and Larcker, 1981), and the Heterotrait-Monotrait Ratio (HTMT) criterion provides evidence of discriminant validity (Hair et al., 2014). As neither the Fornell-Larcker criterion nor the assessment of the cross-loadings allows users of variance-based SEM to determine the discriminant validity of their measures, this study uses the HTMT ratio of correlations as an approach to assess discriminant validity in variance-based SEM (Henseler et al., 2015). In relation to Mode B composites (SMU in this study), the multicollinearity of the indicators of the composite estimated in Mode B must be assessed (Hair et al., 2019). The variance inflation factor (VIF) is the measure used for it. According to Hair et al. (2019) this value should not exceed 3.3.

3.4 Results Measurement model

3.4.1 Measurement model. The results show that the measurement model meets all the commonly stipulated requirements. First, the individual items are reliable because all standardized correlation weights between indicator and composites are greater than 0.7 (Table 2). Second, because all consistent measures (Cronbach's alpha, consistent reliability and Dijkstra and Henseler's rho) are greater than 0.8 (Table 2), the model satisfies the prerequisite of

construct reliability (Hair et al., 2019). Table 3 shows the weights and VIF of the Mode B composite indicators (SMU), no VIF overcomes 2.8, far away of 3 threshold suggested by Hair et al. (2019). Furthermore, the scores for AVE exceed the threshold of 0.5 (Table 4) for unidimensional composites, and these latent variables therefore achieve convergent validity.

Table 2: Indicators' correlation weights

Constructs	AC	OU	S-D O
AC	0,912		
AS	0,910		
KE	0,936		
KT	0,929		
CH		0,949	
CNR		0,934	
ELC		0,971	
CI			0,937
DI			0,953
EMI			0,931
ETI			0,918
II			0,920
RI			0,941

Notes: AC: absorptive capacity; OU: organizational unlearning; SD-O: service dominant orientation

Finally, all the analyzed variables attain discriminant validity, as the table of the HTMT criterion indicates. All HTMT indices are lower than 0.9 (Henseler et al., 2015) (Table 5).

3.4.2. Structural model According to Henseler et al. (2009), bootstrapping (5,000 resamples) produces standard errors and t-statistics to measure the statistical significance of the path coefficients and confidence intervals. As PLS-SEM is a non-parametric technique, the percentile bootstraps at the 95% confidence interval are presented in Table 6. This table shows that all the

Table 3: Weights and VIF

Items	Weights	VIF
SMU1	0,413	2,776
SMU2	0,187	2,717
SMU3	-0,235	1,483
SMU4	0,149	1,884
SMU5	-0,173	1,305
SMU6	0,257	1,951
SMU7	-0,197	1,281

Notes: SMU: social media use items

Table 4: Construct reliability and convergent validity coefficients.

Constructs	AC	OU	S-D O
Mean	5,93	5,96	5,82
SD	1,01	1,04	1,21
CA	0,941	0,948	0,970
rho_A	0,942	0,950	0,971
CR	0,958	0,966	0,976
AVE	0,849	0,906	0,871

Notes: Mean = the average score for all the items included in this measure; S.D. = standard deviation; CA = Cronbach's alpha; CR = composite reliability; AVE = average variance extracted. AC: absorptive capacity; OU: organizational unlearning; SD-O: service dominant orientation

Table 5: HTMT

Constructs	AC	OU	S-D O
AC			
OU	0,861		
SD-O	0,811	0,897	

Notes: AC: absorptive capacity; OU: organizational unlearning; SD-O: service dominant orientation. For discriminant validity, diagonal elements should be larger than off-diagonal elements.

effects tested (direct and indirect) are supported. Figure 2 presents the final estimated model.

4. Discussion

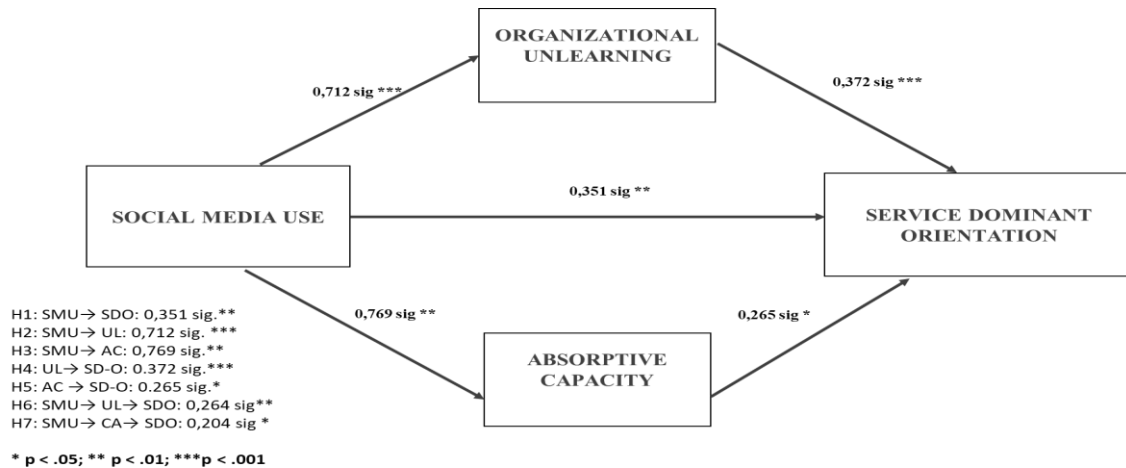
For a firm to be service-dominant oriented, certain capabilities need to be in place (Karpen et al., 2012), and to build those capabilities firms' resources, both operand and operant, are important (Vargo and Lusch, 2016). This research shows how certain capabilities help to build service-dominant oriented firms.

Table 6. Construct effects on endogenous variables (incl. lower and upper limits of 95% confidence interval)

Effects on endogenous variables	Path coeff.	Confidence intervals (95%)		Significance of effect (p-value)	R ² of dependent construct
		5%CIlo	95%CIhi		
SMU→SD-O (H1)	0,351 (**)	0,186	0,556	Yes (0,005)	0,839
SMU→OU (H2)	0,712 (***)	0,634	0,828	Yes (0,000)	0,507
SMU→AC (H3)	0,769 (**)	0,706	0,865	Yes (0,002)	0,591
OU→SD-O (H4)	0,372 (***)	0,141	0,589	Yes (0,001)	0,839
AC→SD-O (H5)	0,265 (*)	0,041	0,490	Yes (0,019)	0,839
Indirect effect					
SMU→OU→SD-O (H6)	0,265 (**)	0,102	0,453	Partial mediation	
SMU→AC→SD-O(H7)	0,204 (*)	0,034	0,379	Partial mediation	

Notes: SMU: social media use; AC: absorptive capacity; OU: organizational unlearning; SD-O: service dominant orientation. * p < .05; ** p < .01; ***p < .001

Figure 2. Estimated causal relationships in the structural model



These results reveal how social media use is an antecedent of service-dominant orientation, as proposed in H1. Therefore, when organizations make appropriate use of their social networks, they demonstrate a greater ability for customer orientation, as they can have much greater interaction with them. Although no previous study had tested the relation proposed in H1, these results are seen to agree with what is proposed in other studies, namely, those by Ooms et al. (2014) proposing that social media use allows connectedness, helps to gauge marketplace reactions (Jansen et al., 2009), engage with customers (Lipsman et al., 2012), or manage customer relationships (Michaelidou et al., 2011), showing that social media use can develop capacities that facilitate activities related to SD-O. Here social media use can be considered a capability that is necessary to achieve other capabilities such as individual interaction with value partners. As mentioned by several researchers, social media allow multidirectional communication (Kaplan and Haenlein, 2010) and serve as repositories of information (Kim and Johnson, 2016; Cao and Ali, 2018), thus helping to develop individual interaction with value partners and to gauge their needs and expectations. However, social media use by itself might not be enough to achieve other SD-O capabilities.

The results also confirm H2. This relationship is revealed to be very high as SMU influences OU. This means that firms can learn from their own clients in the process of interacting with them on social networks, and in this way be able to abandon old routines and ways of doing things that no longer build value. This agrees with the results of previous studies suggesting that social media use can leverage explorative, transformative and exploitative learning, and as such, organizational unlearning (Hu and Schlagwein, 2013). Organizational unlearning facilitates companies' acquisition of new knowledge about technological development and consumers' needs and facilitates the task of developing new effective products/services that can adapt to rapid market changes (Iansiti, 1995; Akgu'n et al., 2006), thus facilitating the synchronization of resource integration processes with partners, and finally, SD-O.

Furthermore, the results show that social media use positively influences absorptive capacity, a result in line with Schlagwein and Hu (2017), who found that absorptive capacity is supported by social media use when used for internal broadcasting, external and internal dialogue, internal knowledge management and internal collaboration support. Organizations can gain knowledge about their customers and matters that concern them through social media use and therefore focus on those matters to build greater value (H3).

Until now, the results have shown that social media use (and not social media by itself) can be considered a dynamic capability able to influence SD-O, as well as absorptive capacity and organizational unlearning.

However, organizational unlearning and absorptive capacity are also capabilities that by themselves have a positive influence on SD-O, as proven by H4 and H5. The results confirm H4, finding a positive influence of OU on SD-O demonstrating that when companies exchange old routines for new ones and apply new knowledge to replace what has become obsolete, there is a positive influence on SD-O improving the company's capacity to be customer-focused. Although so far, no study has provided evidence of this relation, it can be stated that, as mentioned by Cepeda et al. (2012), Buchen (1999) and Assink (2006), substituting old knowledge with the new is essential to generate new ideas for products and services and innovate, something that is essential to become S-D oriented. The results also demonstrate and confirm H5, finding a positive influence of AC on SD-O. Therefore, organizations that carry out appropriate knowledge management through absorbing new knowledge and the subsequent processes of transforming and exploiting it manages to improve their SD-O (Makadok, 2001; Wieneke and Lehrer, 2016), shown to be an important antecedent of business results (Karpen, 2015).

As for the results of the proposed hypotheses about indirect effects, bootstrapping was used to be able to test the mediating hypotheses H6 and H7 (Preacher and Hayes, 2008). Specifically, H6 proposes an indirect relation between SMU and SD-O via OU, and according to the results obtained, the mediation proposed is significant (Table 5 together with Figure 2) confirming H6. In this case, we have partial and complementary mediation, as both the direct effect between SMU and SD-O and the indirect effect through mediation are significant and the sign of the direct effect and the sign of the result of multiplying the path coefficients of the indirect effect (b_1 and b_2) are the same (Hair et al., 2016; Nitzl et al., 2016; Cepeda-Carrion et al., 2017). It is therefore shown that social media use is important for the process of organizational unlearning, providing knowledge that helps to develop joint ideas and actions with valuable partners (Henkel and von Hippel, 2005; Prahalad and Ramaswamy, 2003), which, in turn, will allow the company to be service-dominant oriented.

Concerning the indirect relation between SMU and SD-O via AC (H7), the results also show that this mediation is significant, since the product of the path coefficients ($c_1 \times c_2 = 0,769 \times 0,265$) gives a result of 0.204, thereby confirming H7. The mediation is also partial and complementary for the same reasons as in the case of H6. Therefore, social media are platforms of information, socialization and connectedness (Ooms et al., 2014), which favor dynamic learning management practices, innovation, knowledge sharing and collaboration (Ali-Hassan et al., 2015; Lefebvre et al., 2016; Ammirato et al., 2019) that need to be worked on, internalized and disseminated through mechanisms for learning and the generation of new knowledge (absorptive capacity), which is very important for SD-O.

Karpen et al. (2015) described SD-O and some of its consequences. However, until now, there is very little evidence regarding the antecedents of SD-O. Our results shed some light on this gap. The results have shown that some dynamic capabilities, namely, social media use, absorptive capacity and unlearning organization are very important for SD-O as predicted by the proposed hypotheses. SD-O requires the firm to be able to respond to value partners' expected and prioritized experiences, to establish two-way communications and dialogue that help to satisfy their desires and establish social and emotional links with value partners. This can be helped by

using social media information and interaction possibilities. Also, by being able to transform the information acquired through social media into new value propositions that fit the value partners' expectations and needs (AC). This also implies being able to abandon old values and routines to comply with new needs and expectations (OU). Furthermore, all these dynamic capabilities seem to allow the firm to coconstruct experiences with partners, as well as to capture and understand value partners' knowledge and ideas about future experiences and how to best fit into these activities.

5. Conclusions and contributions

The purpose of this research is to gain a more comprehensive understanding of the SD-O construct. To this end, we have worked with independent variables such as social media use, absorptive capacity and organizational unlearning that could affect the aforementioned construct, to understand the background of SD-O.

The results show that the use of social media by the firms studied influences the capacity to be service-oriented. By using social media, firms have access to information about their customers and their market, they can establish relations with their customers, collaborate with their value partners and gather new ideas and knowledge, which through their absorptive capacity and organizational unlearning are transformed into capabilities that allow the company to be S-D oriented.

This study responds to the call for more studies on the relationship between SD-Oriented and possible antecedents (Karpen et al., 2015) but also to the call by Wilden et al. (2017) regarding the need for research on the integration of S-D logic and dynamic capabilities. The results contribute to greater knowledge about SD-O and its operationalization as SD-O by showing the importance of some antecedents, namely, social media use, absorptive capacity and organizational unlearning. It shows, therefore, that both social media use and absorptive capacity, as well as organizational unlearning, can be considered as antecedents of S-D orientation and dynamic capabilities as they reinforce the firm's strategic advantage. In this sense, it also helps to relate dynamic capabilities to SD-O.

For companies, the results show the importance of using these knowledge platforms, as well as how they can use them, to feed their organizations systematically with new, external knowledge that can renew internal knowledge and encourage innovation in terms of developing new value propositions adapted to their clients and partners' needs.

Service companies are characterized as knowledge-intensive organizations, where the ability to use and transform knowledge into innovative services or products becomes the key to explaining their performance variations (Heirati and Siahtiri, 2019). Therefore, through the appropriate use of social networks, companies can acquire and generate highly relevant knowledge that allows them to improve their services or develop new innovative services. Through collaboration between companies and their customers and also with other stakeholders, mutual learning is encouraged where new ways of doing things are introduced, new routines are created or simply new needs and new services are detected and new offers developed.

Additionally, we must take into account that it is not enough to acquire this new knowledge, but that companies must be able to transform and exploit it where and when necessary. Companies that are capable of acquiring new knowledge from the interaction with their customers on social networks have no guarantee that this new knowledge will be transformed and exploited

(Martinez-Caro et al., 2020). Therefore, service companies must be able to exploit the acquired knowledge and new learning and thus become service-oriented companies with the ability to co-create value with their customers (Karpen, 2015).

6. Limitations and future lines of research

The service firms selected provide enough diversity for an initial empirical study to explain the influence of social media use on service orientation and how absorptive capacity and organizational unlearning mediate this influence. The relatively small sample is a limitation but a response rate of 33% is quite good. For an initial empirical study on this topic, it can be argued that analyzing data from 101 valid questionnaires is sufficient. More importantly, post-analysis of power statistics revealed that the estimations are not affected by the sample size. Having data from only one country is a limitation, despite the sample including a wide range of firms differing in size and age, as well as firms in different service industries.

This study is also limited to the influence of the use of social media, absorption capacity and organizational unlearning on S-D orientation, and other backgrounds can be studied, namely customer value, the intellectual capital dimension and other knowledge management capacities. Also, with service-dominant orientation being formed of various capacities (Karpen et al., 2012, 2015), this research did not deal with how each of the antecedents studied influence each of the capacities forming service-dominant orientation. This could be studied in the future to determine whether their influence is the same on each. Future studies should use data from firms in many countries and over a longer period. Additionally, the sample size could be increased.

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Appendix: Research model measurement scale

Construct		items
SMU	SMU1	My company often uses Facebook to communicate with its customers, suppliers and partners.
	SMU2	My company often uses Twitter to communicate with its customers, suppliers and partners.
	SMU3	My company often uses Youtube to communicate with its customers, suppliers and partners.
	SMU4	My company often uses Instagram to communicate with its customers, suppliers and partners.
	SMU5	My company often uses blogs to communicate with its customers, suppliers and partners.
	SMU6	My company often uses LinkedIn to communicate with its customers, suppliers and partners.
	SMU7	My company often uses Tripadvisor to communicate with its customers, suppliers and partners.
AC	ACK1	The employees of a department interact with senior management to acquire new knowledge.
	ACK2	The employees in one area regularly visit other areas or departments.
	ACK3	Information is collected by informal means (meals with friends from other departments, talks with colleagues...)

	ACK4	Other areas of our company are not visited. (the other way round)
	ACK5	It is common to organize meetings with third parties to acquire new knowledge.
	ACK6	Employees meet regularly with external professionals such as IT advisors or consultants.
	AS1	We are very slow to identify changes in the market (e.g. new laws,) (the other way around)
	AS2	New opportunities to serve customers are quickly identified.
	AS3	We quickly analyse and interpret changes in new trends coming from the environment.
	AS4	We quickly analyse and interpret changes in our clients' needs.
	KE1	There is a clear understanding of how the unit's activities should be improved
	KE2	Customer complaints fall on deaf ears.
	KE3	There is a clear division of roles and responsibilities.
	KE4	There is constant consideration of how best to exploit knowledge.
	KE5	There are difficulties in developing new services.
	KE6	Employees have a common language regarding the new services.
	KT1	The consequences of changes in customer needs on new services (e.g. adaptation of the service schedule) are usually considered.
	KT2	New information on the needs of customer is archived for future use.
	KT3	The value of new knowledge acquired over existing knowledge is understood.
	KT4	Employees rarely share work experiences with each other.
	KT5	The opportunities arising from new knowledge are rarely taken.
	KT6	We meet regularly to discuss the development of new practices.
OU	CEU1	The firm is open to new ideas and ways of doing things.
	CEU2	The firm is constantly undertaking new projects.
	CEU3	The firm recognises the value of new information and is able to interpret it.
	CEU4	The company adopts employees' suggestions in the form of new routines and processes.
	CEU5	The firm collaborates with employees in solving problems and contingencies.
	CEU6	The company is concerned that the way to respond to unforeseen events is known to all.
	ELF1	The company easily identifies problems (new ways of doing things,...).
	ELF2	The company easily identifies the mistakes of its colleagues.
	ELF3	The company listens carefully to customers (e.g. complaints and suggestions).
	ELF4	The employees share information from complaints and claims with their superiors.
	ELF5	The company tries to reflect on and learn from its own mistakes.
	CIH1	My company supports employees in identifying their own mistakes.
	CIH2	My company supports employees in recognising unwanted attitudes.
	CIH3	My company supports employees identifying inappropriate behaviour.
	CIH4	My company supports employees in recognising ways of reasoning or arriving at appropriate solutions.
	CIH5	My business supports employees changing their behaviour.
	CIH6	My business supports employees changing their attitudes.
	CIH7	My business supports employees changing their thinking
SD-O	CI1	What mechanisms have you implemented to understand how you customers and partners extract and build value from your offerings?
	CI2	What actions have you developed in order to immerse in your customers and partners value creation activities?
	CI3	How do you ensure interconnection of internal activities with external activities?
	CI4	How do you ensure your interfaces and interactions are not burden, complex, hassling, time consuming and time-wasting for your customers and partners?
	DI1	How do you train your partners and customers to make better use of the resources you provide them?
	DI2	How do you stimulate your customers and partners so that they engage in more stimulating experiences?
	DI3	I do your stimulate your customers and partners to make smarter decisions?

	DI4	What type of information do you provide to your customers and partners to help them make smarter decisions?
	DI5	What type of complimentary knowledge and resources do you provide to your customers and partners to help them make smarter decisions?
	DI6	How do you ensure your contact points have the needed knowledge and competence to advise, help and direct you customers and partners?
	EMI1	How do you encourage your partners and customers to individualize their experience and their way of interaction with you?
	EMI2	How do you involve your partners and customers in actively co-producing their experience?
	EMI3	Which mechanisms do you implement in order to learn and retain knowledge from your customers and partners?
	ETI1	What procedures do you implement in order to become transparent with your partners and customers?
	ETI2	Do you make them aware of the risks and disadvantages of your offerings?
	ETI3	What kind of procedures do you implement in order to avoid asymmetry of information with your partners and customers?
	II1	In which way do your partners contribute to your value proposal?
	II2	In which way do your costumer contribute to your value proposal?
	II3	In which way do you think your partners and your costumers use the resources you provide them in their lives and processes?
	II4	How do you know your customer's desired experiences?
	II5	How do you study your partners' desired experiences?
	II6	Which mechanisms do you have to grasp the environmental and contextual factors that impact your partners and costumers resource integration processes?
	II7	In which way do your partners contribute to your value proposal?
	RI1	How do you stimulate two-way communication with your partners?
	RI2	How do you stimulate two-way communication with your customers?
	RI3	What procedures do you use to avoid overwhelming communication with your partners and customers?
	RI4	What type of processes do you have in order to build closeness and affection with your customers and partners?
	RI5	How do you facilitate links among your partners and customers that are like-minded?

Notes: SMU: Social media use; AC: Absorptive capacity; UO: Organizational unlearning; SD-O: Service dominant orientation. ACK: Accumulation knowledge; AS: Assimilation knowledge; KT: Knowledge transfer; KE: knowledge exploitation; CEU: The consolidation of emergent understandings; ELF: The examination of lens fitting; CIH: The framework for changing individual habits; CI: Concerted interaction capability; DI: Developmental interaction capability; EMI: Empowered interaction capability; ETI: Ethical interaction capability; II: Individuated Interaction Capability; RI: Relational Interaction Capability