

SUCCESSFUL REPLICATION OF KNOWLEDGE IN THE GROWTH OF SERVICE ORGANIZATIONS: EVIDENCE FROM SPANISH HOTEL CHAINS

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ABSTRACT

Purpose: This work tries to identify the main factors affecting the success of the knowledge replication process in service firms when new units/outlets are created or acquired.

Design/methodology/approach: The quantitative approach of the study is based on a survey to the first general managers of new hotels integrated in Spanish hotel chains that implement a strategy of knowledge replication.

Findings: Transfer experience in the region, compatibility between the underlying cultural context of the knowledge and the recipients' culture, recipients' absorptive capacity, source's and recipients' motivation, and lack of adaptation in the transfer routines are key factors that influence several aspects of knowledge replication success in service firms.

Research limitations/implications: From an academic point of view, this work identifies the determinants of success in replication processes. Moreover, two dimensions in knowledge replication success have been identified: a functional dimension, and an economic one. Geographical and survey limitations must be considered.

Practical implications: Organizations that face a growth process where they want to replicate their corporate knowledge should consider several aspects that seem to be determinants of success in those projects.

Originality/value: Despite the prevalence of replication-based growth strategies in the service sector, there is a lack of research analyses about this phenomenon in the academic literature. The empirical-based research on knowledge transfer and service firms' growth is scarce and fragmented. This work provides an integrated view of factors affecting knowledge replication success in new organizational units from an empirical quantitative approach.

KEYWORDS

knowledge replication; intra-organizational knowledge transfer; firm growth; service firms

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1. INTRODUCTION

Growth is a traditional goal for service firms (Kirkwood, 2009) and in many research works the idea of firm growth as a desired objective is implicit (Masurel and van Montfort, 2006). In fact, recognizing an orientation towards growth is important in modern management approaches such as the balanced scorecard (Krishnan and Ramasamy, 2011). At the same time, exploitation, as opposed to exploration (March, 1991) is a dominant economic phenomenon of recent times in many industries (Szulanski and Jensen, 2008), including the service sector. As service firms grow and try to increase their market share or to cover new geographical markets in their core business, they usually set up units (acquired firms or from scratch). Challenging social and economic dynamics are showing the importance of intangible resources as key elements on which act for building managerial and business models (Caputo et al., 2018). For Ferreira, Mueller and Papa (2018), firms are seeing the prominence of managing knowledge if they are to remain competitive and grow. One of the strategies to deploy knowledge that many organizations implement in their growth process is the replication of their knowledge assets (Winter and Szulanski, 2002). With the goal of taking advantage of the knowledge that guides management processes and operations, these firms search to transfer their business practices to the units that they have integrated. Thus, replication of complex knowledge is critical for firms' successful growth (Kim and Anand, 2018).

The replication of an innovative business model has also become an increasingly important driver of organizational growth (Szulanski and Jensen, 2008). The premise that underpins this transfer approach refers to the fact of getting the highest appropriation of rents from their knowledge assets, replicating the formula to succeed that these firms have used or think they can achieve. Szulanski and Jensen (2008) underline that successful geographic replication of a business model is the primary growth strategy for a diverse and increasingly large number of organizations. For these authors this specifically applies to firms that grow by creating and operating a large number of similar outlets that deliver a product or perform a service. Many service firms have grown due to standardization which is usually linked to lower prices and a known and constant quality level (Carman and Langeard, 1980). The homogeneity in the outcomes, the maintenance of certain levels of quality or costs in the unit performance, the use and strengthening of the brand image, or the ease of controlling the organizational activities are some of the factors that can propel them to try to transfer their knowledge internally to units that has been recently integrated in the firm with the aim of setting 'clones' of the parts they

already have.

The academic literature dealing with the intra-organizational transfer of knowledge has been fruitful, mainly due to research on technology transfer and more recently under the theoretical development of the resource and knowledge-based views of the firm. Thus, since knowledge is a relevant organizational resource, which fuels productivity, growth, and survival (Szulanski, Ringov and Jensen, 2016), and since contributions on knowledge transfer have provided ideas and findings to better understand this phenomenon (e.g., van Wijk, Jansen and Lyles, 2008), the adoption of a knowledge-based framework to approach and study service replication in new units is particularly interesting and useful. Two additional conceptual arguments support this view: firstly, the study of the transfer of knowledge has relevant implications for service organizations planning for the start-up of multiple facilities and for competitive strategy (Darr, Argote and Epple, 1995); and secondly, the challenge of replication lies to a large extent in knowledge-related factors (Winter et al., 2012). Those factors are frequently related to technology, and in the service context technology is relevant in the emergence and management of service systems (Caputo and Wallezky, 2017). According to Pathak, Ashok and Tan (2020), technological advances have modified the mechanism of exchange of resources, and it also affects knowledge exchanges. Information technology enables knowledge transfer (Garavelli, Gorgoglione and Scozzi, 2002; Ashok, Narula and Martínez-Noya, 2016); nevertheless, it also poses disadvantages due to the misuse of resources (Pathak, Ashok and Tan, 2020).

Many research works on knowledge transfer have been conducted in recent years based on theories such as the knowledge-based view, organizational learning, network theory and social capital theory (Li et al., 2014). Nevertheless, the academic literature about knowledge or technology replication is surprisingly scarce. Brock and Yaniv (2007: 836) state that the chain form of organization implementing a replication strategy “is one of the most important, yet under-researched contemporary organizational phenomena”. According to Kim and Anand (2018), previous research has seldom unpacked the replication process, though this strategy is so important for many firms. In that sense, Bradach (1997) already criticized several works because they conceived chains as mere collections of units and not as complex organizations that are struggling to meet the challenges of uniformity and system-wide adaptation simultaneously. But as some studies in the general management field have shown (e.g., Szulanski, 1996; Szulanski, Ringov and Jensen, 2016), replicating knowledge is far from being unproblematic and cost-free. In that sense, many obstacles can hinder the replication of

valuable organizational knowledge, questioning the efficiency and effectiveness of the process outcomes. Moreover, growth is a strategy priority for service research as Ostrom et al. (2010) identify, though there is a lack of analysis about this phenomenon in the academic literature. In addition, Kirkwood (2009) finds that there may be many factors that are specific to businesses operating in the service sector regarding growth. That makes the identification of knowledge-related barriers that hinder or factors that ease the achievement of successful replication projects in growing service firms a relevant topic for researchers and practitioners alike.

A review of the literature shows that only partial or tangential research approaches to the aspects affecting knowledge replication processes and their success from a management perspective have been performed. Thus, Yaniv and Brock (2008) analysed the effect of organizational attention on replication success with data from three coffee chains. Winter et al. (2012) analyzed the influence of adaptation versus strict replication in the knowledge reproduction efforts of just one franchising organization. Garcia-Almeida and Yu (2015) explored the influence of some factors on transfer success but only for the international expansion and with a general transfer perspective. Kim and Anand (2018) addressed the replication process by analysing the degree of inter-unit connectivity, the extent of mirroring between the structure and the knowledge configuration, and coordination mechanisms, but through a simulation procedure and without empirical data from firms that have actually adopted a replication strategy. Regarding recommendations and implications for research on replication from a knowledge-based perspective, Yaniv and Brock (2008) stated that the role of knowledge management in the replication strategy of chains is largely unexplored and further research should focus on larger samples of chains. Kim and Anand (2018) recommend that future studies incorporate knowledge tacitness in the analysis and the potential lack of alignment of incentives between source and recipient agents (i.e., their motivational dispositions). Even more recently and regarding research gaps in knowledge management, Iddy and Alon (2019) stated that more direct knowledge-specific measures are needed for theory testing and theory building research on knowledge transfer. In that sense, a research gap in the identification of factors that partial studies or theoretical work in the literature has pointed out as relevant for knowledge replication success in new chain units in a holistic way seems to exist in the academic literature on management.

The research question of this work thus addresses which determinant factors significantly affect

the success of knowledge replication projects in units/outlets created or acquired by service firms in their growth process and integrated in the organizational structure. The creation or acquisition of units/outlets refers to the main and most prevalent growth strategy of service firms/chains: to build or set units from scratch in new locations, or to get units from other firms (including regular acquisitions or management contracts). The service firm attempts to replicate its practices and routines in those units in order to take advantage of its 'proven' organizational knowledge. Integrating concepts and ideas of a wide array of management fields and contributing to the development of the knowledge-based view of the service firm, the aim of this work is consequently the analysis of factors affecting knowledge replication in service organizations' newly integrated units. This work deals with a specific aspect of the intra-organizational transfer of knowledge but a key one with regard to the potential development of competitive advantages for service chain firms.

The study follows an interpretative approach. Interpretative studies outline that attributes used in performance are not primarily context-free but are situational, or context-dependent (Sandberg, 2000). Carayannis, Caputo and Del Giudice (2017) defend that it is necessary to rethink models and instruments which are no longer capable of handling the emerging challenges of context, but a key element in recent developments is knowledge. According to Caputo (2017), it is unclear what conditions affect information and knowledge sharing among different organized entities and the effects of a specific environment. In that line, this work presents several characteristics or elements that sets the context for unproblematic and effective knowledge replication projects and facilitate decision-making. By adopting a systems thinking (Caputo, 2017), the domain in which the replication processes in growing service businesses take place is analyzed. The knowledge economy can be observed as a system in which all the parts interact through the exchange and sharing of information (Caputo et al., 2017). Once knowledge has been created, it must be either brought into the firm or moved within the firm (Denford, 2013). Consequently, the results of this work aim to contribute to the development of the knowledge management field and help managers of service firms by providing key aspects to focus on in the pursuit of successful knowledge replication projects in a growth context.

In order to bridge the research gap, the conceptual foundations of the work and the potential determining factors of successful replication projects in units that service organizations integrate are reviewed, leading to setting several research hypotheses. The research method

mainly consists of a survey to managers in units set or acquired by Spanish hotel firms. However, the preparation of the survey questionnaire entailed a review of the literature, exploratory interviews, and an expert panel with two rounds of contacts. The data obtained in the survey is used to test the research hypotheses by a regression analysis, that leads to the main conclusions of this work.

2. KNOWLEDGE REPLICATION AND THE GROWTH OF SERVICE FIRMS

The emerging variety in social and economic dynamics requires the identification of new managerial pathways that combine different specialized knowledge to face the challenges of a dynamic scenario (Saviano et al., 2017). The application of reductionist and mechanistic views encounter barriers to explain organizational transformations (Basile and Caputo, 2017), such as the growth processes of service firms. For Del Giudice, Caputo and Evagelista (2016), organizations and decision-makers must develop instruments, models and tools able to support the decision-making process by addressing the identification of key variables and key actors involved in the organization's activities. The studies on knowledge management contribute to build and apply models, instruments, and approaches able to better support the understanding and managing of social and economic complexity (Caputo et al., 2019). In that line, the interpretative approach of this work analyses the knowledge field and the context of the growth of service firms in order to bridge the stated research gap by adopting a systemic perspective.

Knowledge refers to recognition and accumulation of expertise and skills related to critical thinking results (Mohammad, 2016). Meyer and Sugiyama (2007) view knowledge as a set of structural connectivity patterns where its contents have proven to be viable for the achievement of goals. Services are provided by using knowledge. Thus, knowledge-based practices are performed to offer a service, and service organizations possess repositories of knowledge (Argote, 2012). For Levitt and March (1988), knowledge is embedded in an organization's products and processes along with culture and norms, structure, etc., and it is also embedded in the organizational routines. Nelson and Winter (1982) define a template as a working example of organizational routines, which is related to "something that ought to be copied, such as an organizational practice being transferred because it consistently produces superior results" (Jensen and Szulanski, 2007: 1727). Ringov et al. (2008) provide examples of several service firms that have succeeded or failed to transfer a business template from one location to

another, including McDonald's or Super 8 Motels. Although competitive advantage comes from possessing unique knowledge, the value of knowledge resources is very low if they are not shared within the chain (Blomkvist, 2012; Iddy and Alon, 2019).

One of the most relevant knowledge management processes is knowledge transfer. For Argote and Ingram (2000), knowledge transfer in the organizational context is the process through which one unit is affected by the experience of another. Organizational knowledge transfer can be defined as the "process through which organizational actors exchange, receive and are influenced by the experience and knowledge of others" (van Wijk, Jansen and Lyles, 2008: 832). The concept of knowledge transfer refers to the mobilizations of knowledge from one or several sources (that possess the knowledge before the transfer occurs) to one or several recipients (that are expected to possess the knowledge after the transfer too). From the business perspective, the entities, which can participate in the internal transfers of knowledge as sources or recipients, can be individuals, groups or the organization as a whole (Ajmal and Koskinen, 2008).

Knowledge transfer is the core of knowledge management for efficient utilization of internal and external knowledge (Li et al., 2014). In order for knowledge to provide value for an organization, internal knowledge transfers must be considered as a key element of management (Bou-Llusar and Segarra-Ciprés, 2006). The relationship between knowledge transfer and competitive advantage is specifically addressed in the literature (e.g., Grant, 1996; Liao and Hu, 2007). In general, the value generated by successful practices "is often maximized by transferring them to as many relevant units as possible within the organization" (Szulanski and Jensen, 2008: 1733), despite the cost of knowledge transfer and the implementation problems. In the literature on firm internationalization, a wide stream of research justifies the idea of the internationalization process as a way to take advantage of the knowledge that a company has. This is so because firms take that 'supposed' superior knowledge to foreign markets and such internal transfers become crucial for the organizational success and even the reason for their existence (e.g., Caves, 1971; Regnér and Zander, 2011). That superiority is perceived in light of the so-called ethnocentric attitudes (Perlmutter, 1969), which imply the transfer of information and knowledge from the headquarters to the subsidiaries and the management of the foreign operations in the same way as in the home country market. Noorderhaven and Harzing (2009) empirically confirm that knowledge inflows from the parent company to the subsidiaries form the strongest knowledge stream.

Paulin and Suneson (2015) declare that knowledge sharing should not be ignored in order to explore knowledge transfer. According to Ipe (2003), knowledge sharing is basically the act of making knowledge available to other individuals within the organization. The concept of knowledge sharing assumes a relationship between at least two parties where one of them possesses knowledge and the other one acquires knowledge (Hendriks, 1999). Knowledge sharing is not opposed to knowledge creation since some knowledge sharing techniques seem to drive new product development (Yu, 2005) and it fosters individual creativity, especially when individuals have lower levels of skill development (Dong et al., 2017). The exchange of information among organizational employees is a paramount element of the knowledge-management process (Cabrera and Cabrera, 2002). Hansen (2002) analyses knowledge sharing in multiunit firms by using the concept of knowledge networks to find the reasons why only some business units are able to benefit from knowledge constructed in other parts of the organization. Networks provide firms with access to knowledge, resources, markets, or technologies (Inkpen and Tsang, 2005). Knowledge sharing has been also studied in academic fields as different as artificial intelligence and knowledge engineering where the use of ontologies is relevant for sharing knowledge among software entities (Gruber, 1995; Borst, 1997) or customer behavior and social networks (e.g., Bilgihan et al., 2016).

Knowledge replication can be considered the process of transferring knowledge with the aim of repeating the business model in a new part of the organization. Therefore, the base of the replication process is the idea of diffusing and implementing a set of practices and systems that is judged desirable in new organizational locations. Replication refers to the re-creation of a successful model within an existing organizational form (Szulanski and Jensen, 2008) and Kim and Anand (2018) see knowledge replication as the redeployment of knowledge from a source unit to a recipient unit. In some occasions, the knowledge to replicate has been the result of internal efforts to innovate, and sometimes the basic ideas of that knowledge has been publicly disclosed to increase the value of the company (Guidara and Boujelbene, 2016). Reproducing productive systems in multiunit firms means recreating a web of complex and imperfectly understood processes (Winter et al., 2012). In most cases the core of these practices and systems has been developed at the headquarters or at the home/first company locations. Knowledge replication can occur beyond the boundaries of the firm, and the process of knowledge transfer and replication in firm alliances has been studied in the literature on alliance learning (Wang and Nicholas, 2005).

Knowledge creation has contributed to the growth in the number of service firms and to the scale of their operations, which in turn has increased their economic impact (Van der AA and Elfring, 2002). Many service firms have a chain or multiunit structure, due to the fact that they offer their perishable services in many locations. Challenges such as the transition to a service-dominant logic and the affirmation of relationship marketing (Barile, Saviano and Caputo, 2014) have affected service chains and they devote many resources to analyze the characteristics of the service to replicate. In order to offer their services, these firms develop knowledge that exploit in the whole chain. Thus, service chains often aim to have their knowledge replicated in their units in order to obtain competitive advantages related to efficiency, calculability, predictability, and control (Ritzer, 2013). The literature on internationalization with global strategy support this strategic orientation of service chains, since a firm tends to go abroad to generate rents by exploiting its technology or brand name and assuming that the firm's key competencies always reside at the center (Ghoshal, 1987). Multiunit firms benefit from more effective incremental learning through the accumulation and transfer of knowledge across establishments (Audia, Sorenson and Hage, 2001). In the context of business services, Ashok, Day and Narula (2018) indicate that interactions provide access to knowledge residing within a firm's network and partners.

Kogut and Zander (1992) declare that technology transfer is a desired strategy in the replication and growth of the firm (whether in size or profits). Thus, knowledge replication lies at the heart of the issue of the growth of firms, because, as Nelson and Winter (1982) suggest, the replication of assets and capabilities is related to firm growth and profitability. For Von Krogh and Cusumano (2001), what drives a company's growth plan is its set of capabilities. This way, a possible strategic alternative to face growth is the integration of new organizational units (mainly through acquisition or greenfield operations) where the company wants to impose its traditional way of doing things. The advantages of exploiting the brand name, the homogeneity in the product, the need for coordination and control, etc. are interesting drivers to replicate knowledge in the growth process. According to Carman and Langeard (1980), some of the concrete reasons for market expansion by service firms are the exploitation of standardization achievement, along with better use of the existing logistical network and an image of reliability and consistency. Szulanski (1996) states that replication of organizational practices is an important mechanism for firm growth because a company that uses its own capabilities to compete in different markets is able to obtain advantages through rapid entry into new

businesses by ‘cloning’ its relevant operations. Managers or entrepreneurs that replicate a knowledge system within the boundaries of a firm can exploit the system’s advantages in a wide range of markets (Rivkin, 2001).

A service firm turns to replication as a strategy to enter or position itself in a market based on its “own recipe for success”. Despite the classical assumption of their heterogeneity, many services can be offered with a high level of homogeneity (Lovelock and Gummesson (2004). For Vargo and Lusch (2004) services can be standardized and the same output can be provided to many consumers in new locations. The essence of service standardization for growth reasons lies at the replication of knowledge from a source unit, department or outlet by using mechanisms such as standard operating procedures, training, and transferred staff. Reichwald et al. (2009) affirm that growth is achieved when quality services can be reproduced over time and in various locations. Adopting a descriptive approach and with a focus on the hotel sector, Ingram and Baum (1997: 72) emphatically underline that the “strategy of hotel chains can be described with one word, standardization”.

3. DETERMINANTS OF SUCCESSFUL KNOWLEDGE REPLICATION IN NEW ORGANIZATIONAL UNITS

Knowledge replication projects in the quest of growth by setting new units are not easy and problem-free. Teece (1977) showed empirically that the internal transfer of knowledge was not a simple process and that it could entail important costs. In the analyses that address knowledge transfer from a general view (often jointly with other knowledge management processes), success has been usually measured empirically using outcome variables such as financial results or increase in the knowledge stock of an entity. In a more specific review of the works that analyze success in knowledge transfer processes, it is possible to find additional aspects such as the effective adoption of the transferred practices, cost associated with the transfer, the required time to implement and absorb the knowledge, eventfulness of the process, operational quality, and performance using the transferred knowledge. (e.g., Teece, 1977; Reddy and Zhao, 1990; Jensen and Szulanski, 2007). In the knowledge replication context where an organization tries to ‘clone’ new units, such a wide range of ideas can be reduced to consider the specific elements of this process. Thus, one of the dimensions of success in the replication process must be the adjustment of the performance in the new unit with the operational and quality standards

that the ‘original’ or reference units have. As the process must be accomplished in the minimum possible time to appropriate the rents of the knowledge as soon as possible, another dimension of the success could be expressed as the needed time for the unit to work with the organizational knowledge. The financial aspect of the transfer process must be also included, due to the cost minimization needed for the new unit’s opening. Moreover, the employees’ satisfaction with the replicated knowledge is another approach to consider successful knowledge replications. These four dimensions (similarity, time, cost, satisfaction) can be used to address the assessment of a replication process in itself.

However, it is possible to observe empirically how some knowledge replication projects rank down under those criteria. In this sense, questioning and threatening the success of the knowledge replication process, several factors can influence the knowledge mobilization towards new units. After a thorough literature review, the factors with a potentially high impact on replication success are briefly discussed below.

3.1. Adjustment between knowledge tacitness of the practices and the information richness of the transfer mechanism

The characteristics of knowledge can match the ability and efficiency to transfer knowledge of the mechanisms used. The most recognized typology of knowledge in the management literature is the distinction between explicit and tacit knowledge (Polanyi, 1962; Ranucci and Souder, 2015). Explicit knowledge includes knowledge that can be transmitted through a systematic language, and it is generally captured, structured, codified and institutionalized in the form of procedures, manuals, policies, production schedules and forecast data; tacit knowledge is related to the kind of knowledge that can hardly be formalized or expressed, and it consists of mental models and schemas, apart from being difficult to express in language (e.g., García-Almeida and Ballesteros-Rodríguez, 2018; Hadjimichael and Tsoukas, 2019; López-Cabarcos, Srinivasan and Vázquez-Rodríguez, 2020). When replicating knowledge to a new unit, it is frequently necessary to transfer both explicit and tacit knowledge. Moreover, Noorderhaven and Harzing (2009) advise that any study of intrafirm knowledge flows must take the differences of explicit and tacit knowledge into account.

Boscari, Danese and Romano (2016) state that academic works on multinational corporations describe many mechanisms to transfer intra-firm knowledge and literature provides lists of

mechanisms. Several works have referred to the information richness framework as a valid approach to analyzing them (e.g., Subramaniam and Venkatraman, 2001). Information richness is related to the learning ability of communication (Daft and Lengel, 1986), so that rich communication mechanisms are able to overcome different perspectives and clarify ambiguous aspects to understand better and faster. In this sense, Lord (1997) presents a list of communication mechanisms adapted to the knowledge transfer context that vary in their ability to process rich information. Several works recommend tacit knowledge transfer through ‘face-to-face’ interaction (e.g., Noorderhaven and Harzing, 2009), and therefore by using rich communication mechanisms, without codifying it in documents, expert systems, etc. in order to minimize knowledge losses (Dixon, 2000).

Extrapolating ideas from Zack (1999) and Subramaniam and Venkatraman (2001), it would be adequate to transfer tacit knowledge with rich communication mechanisms; more explicit knowledge should be transferred by using mechanisms with a lower information richness ability due to their higher efficiency. The first hypothesis of this work addresses this adjustment between the knowledge to replicate and the richness of the transfer mechanism in a new unit of a service firm:

H1: The adjustment between the knowledge tacitness and the transfer mechanism is positively related to knowledge replication success.

3.2. Transfer experience

Another factor to include in this analysis is the experience that the organization has gained from previous replication projects to other units that it has integrated in the past. Learning begins with experience (Argote and Miron-Spektor, 2011). In the initial studies about organizational learning, the empirical research focused almost exclusively on the concepts and applications related to the ‘learning curve’ (Pisano, 1994), showing how organizations and their members show improvements in their performance repeating the same activity. More recently, the interest of organizational learning research contributes to the development of several research fields, including the outcome of learning, that is, knowledge (Argote and Miron-Spektor, 2011). In the context of setting up new units and replicating the organizational knowledge in them, experience can play a very important role. In fact, Kogut and Zander (1993) remark that one of the most persistent findings in technology transfer studies is the relevance of the previous experience that the source possesses. Thus, it is likely that an

organization that becomes more skillful in transferring knowledge is more capable of detecting transfer problems beforehand or to solve them in the next project on the basis of the different conditions faced (Barkema and Vermeulen, 1998). For Szulanski, Ringov and Jensen (2016), organizations often lack expertise in the management of knowledge transfer and frequently fail to realize its potential. This discussion enables to set a hypothesis about the influence of a higher degree of organizational experience at replication in new units:

H2: The experience in replication projects is positively related to knowledge replication success.

3.3. Recipients' absorptive capacity

When studying the factors influencing a successful knowledge transfer it is important not to omit the recipients' absorptive capacity, which refers to prior knowledge the individuals -and units and organizations- possess (Cohen and Levinthal, 1990). According to Cohen and Levinthal (1990), organizations, or the individuals, need previous related knowledge to assimilate and use new knowledge. This premise adopts a capital importance in the learning process, since to learn (and absorb) something new a team or an individual must already possess enough related knowledge. The concept of absorptive capacity has been internalized in many revisions of theories and conceptual models despite its relative recent appearance in the organization field (Volberda, Foss and Lyles, 2010). Teece (1977) stated that older firms, with their qualified manufacturing workers, would probably be more capable of understanding and applying knowledge to produce a new product or to use a new process, a question that has also been corroborated empirically regarding knowledge transfer in later studies (e.g., Szulanski, 1996). After their literature review, van Wijk, Jansen and Lyles (2008) conclude that absorptive capacity plays a crucial role in increasing intra-organizational knowledge transfer. All these ideas can be directly extrapolated to knowledge replication in new units, since local employees' prior knowledge can play a relevant role in understanding and using the new knowledge absorption:

H3: The recipients' absorptive capacity is positively related to knowledge replication success.

3.4. Compatibility between the underlying cultural context of the knowledge and the recipients' culture

If the values that sustain the organizational knowledge are not compatible or contradict the values of most employees in the new unit, knowledge replication can be hampered. The link between organizational culture and knowledge management has been the topic of many research works (Al Saifi, 2015), and culture can be an enabler of knowledge transfer (Goh, 2002). In the context of success of knowledge transfer projects, the difference or incompatibility between the source's and recipients' cultural frameworks can have consequences in the reception, interpretation and internalization of the knowledge on the part of the recipient agent. Several studies have focused on cultural similarities or differences between partners regarding knowledge transfer (van Wijk, Jansen and Lyles, 2008). Many of those works stress that if recipients are not distant to the cultural elements that characterize the knowledge source/sender or they have a similar social context, the exchanges and the dynamics aimed to share it are much easier (e.g., Brown and Duguid, 1998; Gupta and Govindarajan, 2000). This idea is explained by the possibility that the recipient's mental models filter the entry of knowledge and information, and thus produces additional misunderstandings because such knowledge does not match the 'normal' or logical references from his/her view. Success of a knowledge replication project in a new unit could hence require the compatibility between values and other cultural elements underlying the knowledge to transfer and the cultural framework of the recipients in the new unit (e.g., García-Almeida et al., 2011):

H4: The cultural compatibility between the knowledge and the recipients is positively related to knowledge replication success.

3.5. Source's and recipients' motivation

Managing motivation is crucial in knowledge transfer projects (Osterloh and Frey, 2000). In the transfer process it seems obvious to address the relevance of motivational dispositions of participating agents, mainly sources and recipients. The analysis of the motivation that an individual (source) has in order to provide knowledge should start by recognizing what several authors (e.g., Dixon, 2000) have outlined: people are naturally willing to share knowledge in the work context. However, certain obstacles can hamper this desire. Lin and Lo (2015) indicate that the ways to motivate employees to share knowledge are increasingly capturing academics' and practitioners' attention. So, a person or a group can feel and show reluctance or even fear to transfer knowledge due to the possibilities of losing their property, undermining their position of privilege, power or superiority or even being fired (Szulanski, 1996; Gupta and Govindarajan, 2000). Employees could hoard knowledge due to the competitive advantage

that this would give them (Milne, 2007), though trust and group identification will encourage positive attitudes toward knowledge sharing and in turn foster knowledge-sharing behaviors (Cabrera and Cabrera, 2005). Though some of those analyses have been made in a context of emergent, voluntary knowledge transfers, knowledge replication in new units has an imperative nature, thus mitigating many of those motivational problems. Nevertheless, Chang, Gong and Peng (2012) state that expatriate motivation regarding knowledge transfer and solving difficulties in the transfer process may play a critical role in the successful transfer of knowledge.

The higher or lower degree of motivation that the recipients experience can also have a major influence on several aspects of the knowledge transfer process, and specifically on knowledge replication to new units. In this sense, Szulanski (1996) declares that the recipients' motivational reluctance can appear in multiple activities during the transfer projects. Some reasons for the lack of motivation that a recipient could experience are the rejection of external knowledge ('not invented here' syndrome) (e.g., Gupta and Govindarajan, 2000), or cultural misunderstandings that can originate very negative feelings towards the assimilation of the new knowledge. The perceived validity of the knowledge to be transferred, the organizational prestige or reputation, and the friendly relationship between source and recipient are other factors that the literature addresses regarding the motivation to assimilate knowledge. As Ko, Kirsch and King (2005) find, the recipient's motivation is a significant aspect to explain knowledge transfer. The discussion in this section allows for setting two hypotheses:

H5: The source's motivation is positively related to knowledge replication success.

H6: The recipients' motivation is positively related to knowledge replication success.

3.6. Adaptation of the knowledge transfer and content

Another aspect of interest is whether the efforts to adapt the replication process to the context of the new unit increase success, despite the implicit idea of validity that knowledge replication entails. Reddy and Zhao (1990) in their literature review about the process of the international technology transfer observe that most multinational organizations do not adapt when transferring. However, Williams (2007) describes the tension between exact replication and adaptation that characterizes the organization's decision when deciding to transfer knowledge.

The need for adaptation/translation conceptually stems from the differences between the source and recipient units' characteristics and contexts, since during the transfer some unexpected problems about national, organizational, unit or individual aspects can arise, demanding the adaptation of the transfer process, content and methods. Ansari, Fiss and Zajac (2010) indicate that there are technical, cultural and political elements of fit/misfit between practices and adopters. According to a practice-context congruence perspective, Boscari, Danese and Romano (2016) defend that training, sense giving and pressure are actions that can also contribute to reduce incongruences between an adopter's contextual conditions and the transferred knowledge. In this sense, there is empirical support to relate the adaptation processes to improvements in partial aspects of the transfer success (e.g., Leonard-Barton and Sinha, 1993). In fact, Von Krogh and Cusumano (2001) consider that in a replication context it is important to get a trade-off between standardization and adaptation. Consequently, the last hypothesis of this work is presented:

H7: The adaptation of the knowledge transfer and content is positively related to knowledge replication success.

In a graphical way, Figure 1 describes the potential influence of the seven aspects identified as determinants of knowledge replication success in new units of service firms.

[Insert Figure 1 here]

4. METHOD

In order to empirically identify significant factors that affect knowledge replication success in service firms when new units/outlets are created or acquired, a survey to managers in new units of hotel firms was carried out. The context of this work is the Spanish hotel chains. Due to the complexity of the hotel industry, it is usually considered an adequate setting for research on services in general (Ordanini and Parasuraman, 2011). Based on the research question and the theoretical framework, the unit of analysis of this work is the knowledge replication process in a new organizational unit. Thus, the empirical study focuses on the process by which a hotel chain replicates all or a substantial part of the knowledge needed by a new unit (i.e. hotel) to operate.

Based on the unit of analysis, the population had to be formed by the complete knowledge replication process that hotel chains undertook in their new hotels. The basic concept of hotel chain adopted in the work is an “organization that operates three or more hotels or motels” (Ingram, 1996:89). Spanish chains that integrated new hotels in Spain or abroad in a two-year period were identified. It was done through the hotel listings of every Spanish hotel chain obtained from Hostelmarket, a regular Spanish publication on the sector, and complemented with hotel chain data from the Internet. Due to their nature as networks or associations of firms (Slattery, Roper and Boer, 1985), hotel consortia were excluded; however, consortia members that were hotel chains were considered for the population. Ninety-five hotel chains were found with growth in the specified terms. Those chains were contacted (especially through the CEO, the Human Resource manager, or the Operations manager) to know if they met a basic strategic requirement for the study: that they had transferred or attempted to transfer the corporate knowledge of pre-existing units significantly to the new units. After obtaining a valid answer from members of all the chains, seventy-eight hotel chains were classified as knowledge transferors. Although the basic forms of hotel affiliation to chains are ownership, leases, management contracts and franchises, this last option was not included in the population since it is appropriate to treat franchising as quasi-market transactions due to the characteristics of the operation (Erramilli, Agarwal and Dev, 2002). Based on the intra-organizational nature of this study, the population of new hotels was then refined to identify only those integrated in chains that significantly replicate their knowledge. The final population for the study encompasses a final amount of 359 internal knowledge replication processes in new units, that is, 359 new hotels in Spain and abroad.

The questionnaire was mainly developed from the measurement scales found in the literature, but also with thirteen exploratory interviews in Spain (4) and Cuba (9) performed in order to adequate the scales to knowledge replication and the hospitality context, and with an expert panel composed by seven hotel chain managers and three academics. The main goals of the exploratory interviews and the expert panel were related to complement and improve the questionnaire by refining the measures obtained from the academic literature and providing some input for the questions. Thus, the exploratory interviews allowed to adapt the question terminology to the managerial practice, along with providing information about the replication dynamics in the sector. The expert panel provided the main hotel practices and the transfer mechanisms in order to measure the variable ‘Adjustment between knowledge tacitness of the practices and the information richness of the transfer mechanism’.

The scales were used with a 7-point Likert format. In the questionnaire, the scales of knowledge replication success, the recipients' absorptive capacity, the source's and recipients' motivation, and the transfer adaptation were presented in a duplicated format for the two operational areas: lodging, and food and beverage. This approach was decided in order to get a closer assessment of the studied topics and due to the variations observed in the exploratory interviews. The questionnaire was written in Spanish and English. Both versions of the questionnaire were pilot tested in a small sample of subjects (five hotel managers in Spain and four in France) to establish that the questions and the survey process was clear.

As for the specific questions of the questionnaire, the dependent variable (knowledge replication success) was measured with a scale of four items. Three of those four items were adapted from the empirical study by Szulanski (1996) and one of them was developed from the work by Winter and Szulanski (2002). The four items were formulated as opponent sentences in a seven-point Likert scale regarding (1) similarities in service quality characteristics to operate and with other hotels [very different – identical fashion] , (2) time to transfer [a long time – very quickly], (3) cost of the transfer [low – high], and (4) new employees' satisfaction with the working practices [very dissatisfied – very satisfied].

Regarding the independent variables, the literature also provided theoretical or empirical basis for the scales of absorptive capacity, cultural compatibility, source and recipient's motivation, and adaptation. Absorptive capacity was measured with four items adapted from Szulanski (1996); a sample item is "How would you rate the level of skills required in order to comply with the chain practices that these employees had?". The scale of cultural compatibility comprised three items: two of them were adapted from Lane, Salk and Lyles (2001) and the third one was generated from the theoretical guidelines by Martín Bello (2002); a sample item is "Due to the characteristics of the recipient employees, the philosophy and the values behind the chain working practices were easily acceptable to them". The scales of source' motivation and recipient's motivation comprised three items each. All the items were adapted from Szulanski (1996); a sample item of the scale of source' motivation is "Source employees were very willing to train the recipient employees", and a sample item of the scale of recipient's motivation is "Recipient employees showed great interest in being trained and in learning the chain's systems and practices". The scale of adaptation was constructed with three items inspired by McArthur (1998); a sample item is "In terms of adapting to the circumstances of

this hotel and to the characteristics of its employees, have there been any changes in the practices to be used in this area? [few changes – many changes]”.

From a learning perspective, Barkema and Vemeulen (1998) measure a firm’s local experience with the number of previous entries in a host country. That same approach has been used to measure experience in this work, but with four items due to hospitality particularities: total openings, openings in the country of the new knowledge transfer, openings in the same category/brand in that country, and openings in the zone/region.

The measurement of variables for the adjustment between knowledge tacitness and the information richness of the transfer mechanisms entailed a thorough process. The members of the expert panel described above participated in two-round contacts to define the list of practices and transfer mechanisms. The practices to analyze referred to lodging on the one hand, and food and beverage on the other. Some other functional areas (e.g., marketing, accountancy) were excluded because they tend to be strongly centralized in some chains, depending on their strategic-structural configuration. Moreover, engineering operations tend to be very different in the aftermath of the hotel opening/conversion with regard to the ordinary functions in this area. Seven broad lodging and food and beverage practices were identified (for example, ‘Booking and overbooking solution process’ and ‘Food planning, production and preparation’), along with seven transfer mechanisms (from ‘Procedures manual’ to ‘Corporate personnel or from other hotels/units of the chain moved to the hotel for more than a month or permanently’). In the questionnaire, a seven-point Likert scale of knowledge tacitness with three items integrated from the works by Bresman et al. (1999) and Subramanian and Venkatraman (2001) was set for each of the seven knowledge-based practices; a sample item is ‘Formulating and understanding this practice in written documents is.... [very easy - very difficult]’. The transfer mechanisms were ordered from 1 to 7 based on their information richness according to Daft and Lengel (1986) and Lord (1997), and respondents were asked to indicate the main mechanism used to transfer each of the seven knowledge practices. A summary of the variables, the main approaches for their measurement, and the support from the academic literature is displayed in Table 1.

[Insert Table 1 here]

The first hotel manager was selected as the key informant for the study, since this figure is vital in the integration process. In some cases, the first hotel manager was substituted by another manager with general responsibility who has also led the opening/conversion. The key informant (i.e., responsible manager of the opening) for all the hotels in the population (359) was identified and attempts were made to contact all managers. So a self-selection sampling was used. However, in several cases that contact was not possible (the manager has left the company, etc.). In the initial contact, the goal and the relevance of the study was explained and collaboration to participate in the survey was requested; the preferred method to send the questionnaire was also asked. In the questionnaire, a short introduction assured data confidentiality and asked for accuracy in the responses, and the option to get a report with the main results was offered. The questionnaire was sent via email, ordinary mail and in some cases via fax, and it was self-administered and returned. A second reminder contact was made after two weeks of the first one. As a result of the fieldwork, 106 valid questionnaires were obtained and they form the final sample of this work. The response rate of the study is hence 29.5%. After applying the formula to calculate the margin of error with the finite population correction factor, the margin of error is 8% at a confidence level of 0.95.

Data were analysed using IBM SPSS Statistics software. After integrating variables and reducing the dimensionality of the scales through factor analyses and computing a new variable (as explained in the results section), the research hypotheses were tested with regression analysis.

5. RESULTS

The test of the research hypotheses sheds light on the research question of this study. Before commenting the results of that test, it is important to address the techniques used to reduce the dimensionality of the scales and to create some variables. The item integration for the duplicated scales mentioned above (lodging, and food and beverage) was performed according to the number of employees working in each area. The psychometric assessment of the scales was performed, so all measures were analyzed for validity and reliability. The results revealed high levels of validity and reliability for all the constructs. Specifically, Cronbach's alphas were computed and all of them exceeded 0.6, and some of them were even higher than 0.9.

To reduce the dimensionality of the scales, exploratory factor analyses were conducted, enabling the refinement of the scales. With regard to the success of the knowledge replication projects, two different factors emerged (see Table 2). On the one hand, the first factor was related to a functional dimension of replication success, which refers to the adjustment of the performance in the new unit with the operational and quality standards of similar units in the chain, to the time for the unit to work with the organizational knowledge, and to the recipient agents' satisfaction to operate with that knowledge. On the other hand, the analysis also produced a second factor that is primarily related to the economic dimension of knowledge transfer success, that is, the costs associated with the transfer process.

[Insert Table 2 here]

Exploratory factor analyses were also conducted for the scales of independent variables. The main results of those factor analyses, along with the Cronbach's alphas obtained from the scales, are shown in Table 3. One factor was extracted for each of the following scales: cultural compatibility, recipients' absorptive capacity, source's motivation, recipients' motivation and transfer adaptation.

[Insert Table 3 here]

The variable 'adjustment between the tacitness of knowledge and the transfer mechanism' was calculated in the following way: first, for the seven practices that were identified an index of its tacitness was created using as weights the factor loadings obtained in the exploratory factor analyses. Then, the numeric value associated with the main transfer mechanism used for that practice, which is a measure of the information richness of that transfer mechanism, was subtracted from that index. At last, the average of the absolute value of those differences was computed. Notice that this variable should be understood as a measure of 'disadjustment': the higher its value, the greater the differences between the practice tacitness and the information richness provided by the transfer mechanisms.

The hypothesis test was conducted through stepwise multiple regression analysis using values of $p \leq 0.06$ to enter variables in the equation and $p \geq 0.10$ to remove them. Table 4 displays the regression results.

[Insert Table 4 here]

The regression results are the basis for clarifying the research question through the hypothesis test. As a general comment, no hypothesis is completely accepted since no independent variable simultaneously explains the functional and economic dimensions of success in the replication projects. This finding is important since it shows that the achievement of knowledge replication success in units of service firms should be addressed differently in function of the dimension or element considered. The first hypothesis (H1), which deals with the adjustment between the tacitness of knowledge and the transfer mechanism, cannot be accepted because in the regression analysis the variable that measures the disadjustment does not show a significant influence on replication success. The explanation for this finding could lie in the routines generated to transfer knowledge (Desyllas et al., 2018) in the service firm. These replication routines can be institutionalized in time with independence of the knowledge type to transfer.

Hypothesis 2 (H2) is partially accepted. The organizational experience closer to the analyzed integration project (*i.e.*, the number of prior openings/conversions in the zone where the new unit is located) contributes to reducing the costs of the replication project. This is in line with the consistent findings of the technology transfer (Kogut and Zander, 1993) that underline the existence of a learning curve. However, prior experience in the country, and specifically in the similar category, and even the total number of replication projects do not seem to exert a significant effect on replication success.

Knowledge recipients' absorptive capacity reveals as the most powerful factor when explaining the economic dimension of success. This finding confirms the relevance of this aspect found by Szulanski (1996). Nevertheless, the recipients' absorptive capacity does not exert a significant influence on the functional dimension of replication success. These results allow for the partial acceptance of the third hypothesis (H3).

The influence of the compatibility between the cultural context of the incorporated unit and that of the transferring knowledge on the replication success is clear with regard to its functional dimension, since this cultural compatibility is the independent variable with a higher explanatory power. In the inter-organizational context, Bacon, Williams and Davies (2019) find that the lack of cultural consistency between organizations may therefore discourage internal dissemination of the transferred knowledge within the recipient organization.

However, the influence of this variable on the economic dimension is not observed. Thus, hypothesis 4 (H4) is only partially accepted.

According to the regression results, the motivational disposition of the source agents as well as the recipients' motivation are determinants of the functional dimension of knowledge transfer success. This is coherent with recent research on the impact of motivation on knowledge transfer (e.g., Kong, Ciabuschi, Martín, 2018). Regarding the economic dimension, there is only a direct association between this dependent variable and the recipient agents' motivational disposition as their correlation shows. Consequently, hypotheses 5 (H5) and 6 (H6) are partially accepted.

Adaptation in the process and content of the transfer exerts a significant influence on both the functional and economic dimensions of replication success, but with an unexpected negative sign. That leads to reject hypothesis 7. The explanation for such a result could be found in the literature on technology transfer. Reddy and Zhao (1990) assert that multinational corporations seldom adapt because of the dysfunction it causes and the costs it generates. In this sense, efforts to adapt could entail an uncertainty about the outcome to achieve and mean a loss of the process guide that has been consolidating in the organization. Moreover, the costs that adaptation demands are often seen as a barrier to implement possible changes. In the knowledge transfer field Williams (2007) contends that on one hand organizations replicate more when their knowledge is characterized by causal ambiguity and must be copied exactly, and on the other hand they tend to adapt more when their organizational knowledge depends on context and must be changed for the new setting. Thus, when firm members do not understand the root causes of firm performance or the interaction between individual activities, they may opt for sticking to the orders and simply reproducing the tasks and content they have already implemented in other units.

Figure 2 presents a model that shows the empirical results in a graphical way, and provides a summary of the empirical findings on the determinant factors that significantly affect the success of knowledge replication projects in service firms when new units/outlets are created or acquired. These determinant factors can be described in light of the two component dimensions of the success of knowledge replication projects: the functional dimension (related to satisfactory operational and quality standards of the new unit, speed in the replication process, and recipients' satisfaction) and the economic dimension (related to cost efficiency).

On the one hand, the factors that affect the functional dimension of knowledge replication success are the cultural compatibility between knowledge and recipients, the motivation of source and recipient individuals, and the lack of adaptation in the knowledge content and transfer (due to the negative sign of this influence). On the other hand, the factors that influence the economic dimension of knowledge replication success are the organization's prior experience in replications, the recipients' absorptive capacity, and the lack of adaptation in the replication projects.

[Insert Figure 2 here]

6. CONCLUSIONS

This work has shed light on the understanding of knowledge replication in service organizations, and specifically on the identification of the factors that affect replication success in their growth process. In this final section of the work, several ideas about the academic and managerial implications, the limitations of the work and potential future research, and the concluding remarks of the paper will be presented.

6.1. Theoretical and managerial implications

From an academic point of view, this work explores a field that is characterized by few studies. Several scientific implications can be extracted from this study. In that sense, the first academic implication is the scientific verification of the prevalence of the knowledge replication strategy followed by service firms in their expansion process, despite theoretical recommendations oriented to adaptation to local circumstances that several recent works have made. In addition, a major academic implication of this work is that knowledge replication in service firms is not a problem-free process, as several factors affect the achievement of the strategic knowledge-based advantages that firms want to benefit from. A relevant, additional implication in this line is the identification of two dimensions in knowledge replication success: a functional dimension that comprises the level of similarity with the knowledge template, the recipient's satisfaction, and the transfer time; and an economic dimension which deals with the costs associated with the transfer process. This work has also shown that depending on the dimension

or aspect of success to be analyzed, there are different determinant factors that have a higher degree of relevance. Thus, knowledge replication success should not be addressed from a one-dimensional perspective.

Due to the nature of the determinant factors affecting successful knowledge replication, another implication of this work is that intended, planned transfers such as replication projects are very different from emergent knowledge transfers discussed in the literature of knowledge sharing. In that sense, adaptation and motivational aspects that are paramount for emergent transfers such as avoidance of knowledge hoarding are not so relevant for replication projects. In addition, another relevant aspect is that growth processes are another specific context that is characterized by certain particularities and merits special research attention, since recipient employees are new in the firm and arrive to new organizational settings where one of the major tasks is to understand, accept and implement the replicated knowledge. Thus, the growth orientation introduces pressures and challenges that planned intra-firm transfers whose recipients are current organizational members do not face since they tend to experience fewer cultural divergences.

From a managerial perspective, managers in service firms that face a growth process where they want to replicate their corporate knowledge should consider several relevant aspects that seem to be determinants of success in those projects. In this sense, managers can evaluate different growth options regarding the situation of the potential expansion possibilities against the determinant factors identified in this work. The evaluation analysis would provide an ex-ante assessment on which units are in more favorable positions to achieve success in the replication process. This assessment should be addressed from a double perspective: on the one hand, the evaluation of obstacles to achieve a fast and smooth implementation of the knowledge that allow for satisfactory operations and service standards in the new organizational outlet/unit; and on the other hand, the specific costs linked to the process of ‘cloning’ the organizational knowledge with acceptable organizational standards in the new unit under the firm umbrella. The evaluation in both dimensions would complement strategic, marketing, and financial criteria in the selection of new organizational locations/opportunities, and would contribute to make more solid, effective growth decisions. In this sense, managers would minimize or at least consider the risks of failure or problems and higher costs derived from mergers, acquisitions and other growth options conducted with knowledge replication

objectives that present ex-ante problems due to the lack of conditions from the successful replication perspective.

Another interesting managerial implication of this research is related to the better planning and preparation of the replication process. Managers in early stages of the growth process should develop routines and guiding processes to transfer knowledge that allow for dealing with the uncertainty of the replication in new settings, and become a standard for the chain growth. From the technical point of view, it is important to keep a rigorous planning of the opening/conversion process, which allows for the setting of integration routines, especially in organizations with a strong orientation or possibilities of growth. In this line, managers can identify where successful replication is going to encounter obstacles on an a priori basis. This process could enable the identification of key aspects, solutions to problems before they appear, and the control of a project with a high degree of uncertainty and complexity. Hence, they can assign resources and design actions to minimize the negative effects that some low degrees of relevant factors that characterize the situation of the replication project could cause.

In connection with the general implication for managers of service firms, the findings of this work allow for pointing out several recommendations. As cultural aspects are important to achieve a performance similar to the organizational quality standards as soon as possible and to keep an acceptable working atmosphere, the organization should accomplish several tasks on this issue. So, a first idea stemming from this analysis is the need to assess the cultural background of the area of the new unit as well as its organizational culture (in case of acquisitions, mergers or some other form of control of units that operated previously). Staff selection, a key activity in human resource management, should give a high priority to the psychosocial aspects, looking for profiles that fit or are compatible with the organizational values. In addition, the organization routines of the integration should enable the simplification and assimilation of the cultural background that underpins the corporate practices.

Another aspect to address in this section is the incentive system, due to the relevance of the participant agents' motivation. The organization should pay attention to the employees who perform the transfer/training tasks, providing development opportunities, rewards according to their skills, and attractive conditions for promotion/expatriation. With regard to those employees who did not work in the organization (recipients), the organization has to support them with a human resource system that avoids rejection or indifference towards the

organizational practices. Managers should be especially careful when facing a conversion, since knowledge recipients in the acquired unit could show the ‘not invented here syndrome’; the explanation of the underlying logic of the firm knowledge oriented to its validity is required in those contexts. Moreover, the firm should consider their reward system, taking the competitors in the area as a referent. The relationships between source and recipient employees could be a vital element to enhance the effective transfer of knowledge, as the literature points out (*e.g.*, Szulanski, 1996).

Another aspect to consider refers to the significant impact that the recipients’ prior knowledge has on the costs associated to the replication process. In that sense, staff selection in the hotel industry usually emphasizes this dimension, searching candidates that fit in job positions; so, the academic training, prior experience, skills, etc. entail economies in these projects. Another source of higher costs in replication projects seems to be the lack of close experience in the context of the new unit. If the organization integrates a new unit in a zone where its presence is not important, there can be a significant increase in the costs of the replication. The lack of direct and different referents about the knowledge to implement, the possible inadequacy of the methods with the local situation, etc., along with the logical source staff transfers, etc., are likely effects to consider.

6.2. Limitations and future research

It is important to outline the main limitations of this work. The use of a questionnaire to collect the data and its implementation with one key informant can limit the understanding of the studied phenomena without being able to capture its dynamic development, though certain aspects have been mitigated with the methodological design and with the selection of the informant that usually has got the wider perspective in the integration process. Moreover, the empirical context of the research is the hotel sector so the generalization to other service sectors should be done with caution. In the same line, the research analyses Spanish firms, so the application of the findings to firms from other geographical areas would also need caution. In addition, the replication processes analyzed in this research are the initial ones, when a unit/outlet is integrated in the firm structure; however, additional knowledge replication projects such as the implementation of innovative processes or products or the change of firm practices due to new strategic priorities or opportunities in units/outlets that have been in the organizational structure for a longer time have not been considered.

Future research should be conducted in other service sectors where chain firms operate. In line with Singh, Ang and Leong (2003), the replication of this study in the same industrial context (i.e. the hotel sector) but in a different geographical scope would increase research validity and would also provide interesting findings for comparison. Deep qualitative analyses on the role of adaptation on the replication success would also be very interesting due to the literature support that this factor has received. The analysis of some other knowledge replication processes (e.g., diffusion of organizational innovation, change or updates of practices) that can affect the whole multiunit service firm would be of great interest too.

6.3. Concluding remarks

This research has addressed knowledge replication in service firms from a knowledge-based view and has identified determinant factors that influence the success of replication projects in the organizational expansion. Knowledge replication is a key strategy for many service firms, as many companies want to take advantage of their knowledge basis in their growth strategy. As this knowledge has defined the successful recipe to compete in home or initial markets under top managers' opinions and mental frameworks, it becomes 'proven' and a key tool to conquer new markets through the establishment of new units or production centers. Despite the uncertainty of the environment and the interaction with different customer profiles, some service firms rely on the significant transfer of knowledge towards the new operational centers as a way of generating income. In fact, knowledge replication is probably seen as a way to face the uncertainties generated in a growth process and to further appropriate the rents of the corporate knowledge. Furthermore, this knowledge strategy is widespread in the service industry as a means to assure control and guarantee a certain level of quality. In the hotel industry, replication is a prevalent strategy, as this study has found. The prevalence of the standardization strategy contributes to question the classical heterogeneity assumed to characterize all services (Loveloek and Gummesson, 2004; Vargo and Lusch, 2004), since the essence of some services can be provided following a repeated pattern though variations in the situation and service complements/accessories.

According to the differentiation of the dimensions of knowledge replication success identified in this work, the factors to bear in mind with regard to functional aspects are especially the cultural compatibility, the source's motivation, the non-adaptation of the transfer and the

recipients' motivation. In the same way, organizations concerned by the economic success of knowledge replication processes should consider that several factors seem to explain it: the recipients' absorptive capacity, the prior openings/conversions in the zone, and the non-adaptation of the transfer. An overview of the results shows the relevance of human aspects in these knowledge replication projects.

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FIGURE 1

Model of determinant factors affecting knowledge replication success and research hypotheses

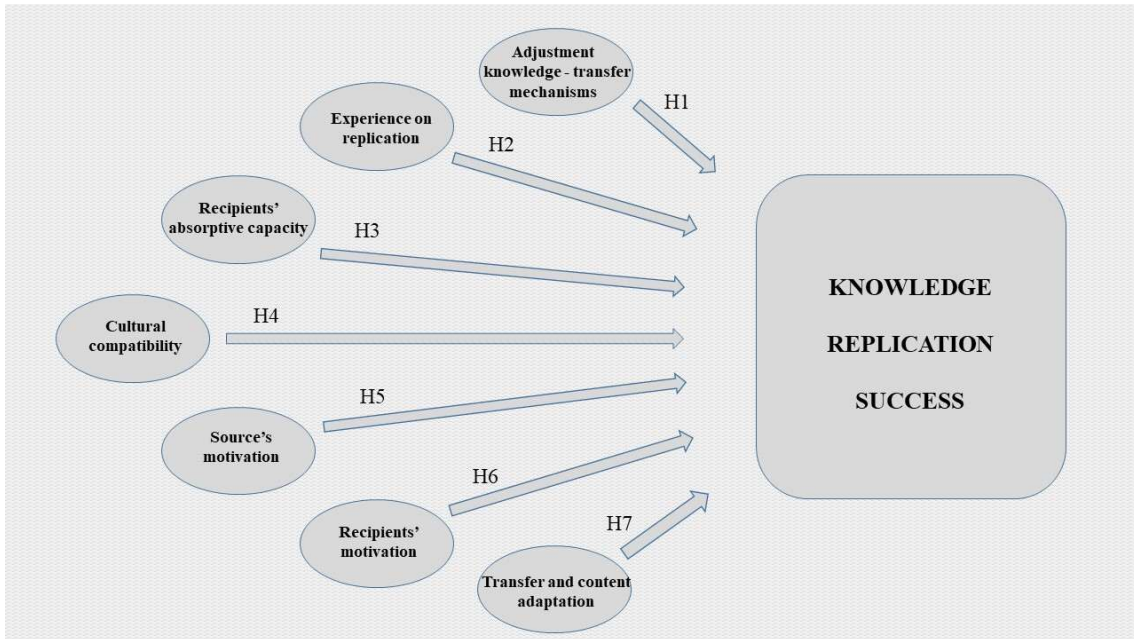


FIGURE 2

Model of determinant factors affecting knowledge replication success and research hypotheses

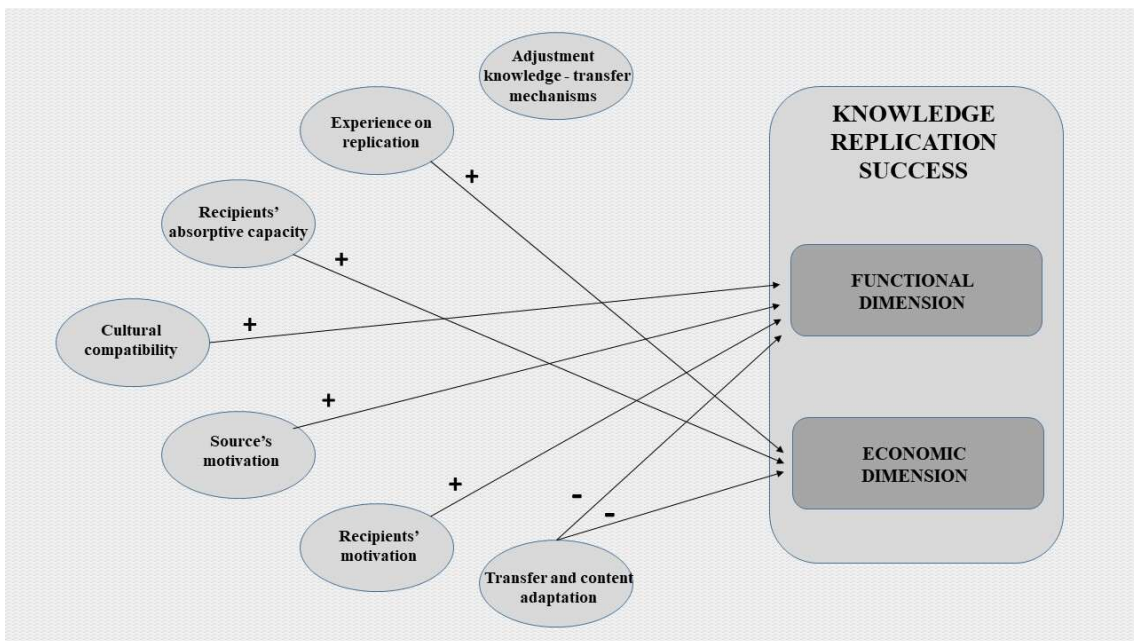


TABLE 1
Summary of the measurement of the variables

VARIABLE	APPROACH FOR THE MEASUREMENT	SOURCE IN THE ACADEMIC LITERATURE
Knowledge replication success	Academic literature Exploratory interviews	Szulanski (1996); Winter & Szulanski (2002)
Adjustment knowledge-transfer mechanism	Expert panel Academic literature	Bresman et al. (1999); Subramanian & Venkatraman (2001); Daft & Lengel (1986); Lord (1997)
Experience on replication	Academic literature Exploratory interviews	Barkema & Vemeulen (1998)
Recipients' absorptive capacity	Academic literature	Szulanski (1996)
Cultural compatibility	Academic literature Exploratory interviews	Lane, Salk & Lyles (2001); Martin Bello (2002)
Source's motivation	Academic literature	Szulanski (1996)
Recipients' motivation	Academic literature	Szulanski (1996)
Transfer and content adaptation	Academic literature Exploratory interviews	McArthur (1998)

TABLE 2
Results of the exploratory factor analysis for the variable Knowledge replication success

KNOWLEDGE REPLICATION SUCCESS		
Item	Factor 1 load	Factor 2 load
Degree of similarity (characteristics or service quality) to equivalent hotels in the chain	0.804	-0.444
Time before the hotel began to operate using the chain's basic standards	0.785	0.070
Costs to achieve the basic standard of operation [reversed]	0.061	0.878
Employees' satisfaction with the chain's working practices	0.746	0.129
Percentage of variance explained	45.589	27.971
Eigenvalue	1.824	1.119
Kaiser-Meyer-Olkin measure of sampling adequacy		0.595
Bartlett's test of sphericity		69.918 (0.000)
Cronbach's alpha		0.616

TABLE 3
Cronbach's alpha values and main results of exploratory factor analyses for independent variables

	VARIABLES				
	Absorptive capacity	Cultural compatibility	Source's motivation	Recipients' motivation	Transfer adaptation
Cronbach's alpha	0.852	0.722	0.952	0.930	0.893
Number of factors extracted	1	1	1	1	1
% of variance explained	69.664	64.243	91.571	88.031	82.714
Eigenvalue of factor extracted	2.787	1.927	2.747	2.641	2.481
KMO	0.726	0.648	0.746	0.699	0.701
Bartlett's test	194.766 (0.000)	66.075 (0.000)	345.297 (0.000)	285.569 (0.000)	209.658 (0.000)

TABLE 4
Multiple regression results with standardized estimates

VARIABLES	KNOWLEDGE REPLICATION SUCCESS			
	Model 1 [Functional dimension]		Model 2 [Economic dimension]	
	<i>Beta</i> coefficient	(<i>t</i> signif.)	<i>Beta</i> coefficient	(<i>t</i> signif.)
Disadjustment tacitness/information richness	-0.059 (0.456)		0.042 (0.665)	
Experience: Total openings	-0.016 (0.839)		-0.137 (0.161)	
Experience: Openings in country	-0.042 (0.613)		-0.005 (0.966)	
Experience: Openings in country of sim. categ.	0.009 (0.916)		-0.118 (0.239)	
Experience: Openings in zone	0.093 (0.229)		0.197 (0.047)**	
Recipients' absorptive capacity	0.001 (0.990)		0.213 (0.038)**	
Cultural compatibility	0.325 (0.000)***		-0.136 (0.194)	
Source's motivation	0.299 (0.000)***		-0.020 (0.840)	
Recipients' motivation	0.179 (0.044)**		0.075 (0.500)	
Transfer adaptation	-0.227 (0.009)***		-0.192 (0.056)*	
<i>R</i> ²	0.484		0.168	
Adjusted <i>R</i> ²	0.461		0.141	
<i>F</i>	21.103 (0.000)		6,123 (0.001)	

* p<0.10. ** p<0.05. *** p<0.01.