

The Effect of Upper Echelon Human and Social Capital on Dynamic Service Innovation Capabilities

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Abstract

Taking the point of strategic leadership perspective based on the upper echelons theory, this theoretical paper aims to contribute to the existing knowledge in the field of service innovation, by exploring the antecedents of dynamic service innovation capabilities at the top management team (TMT) level which may contribute to an increase in the level of service innovation. Theoretical approaches of service innovation, dynamic innovation capabilities, upper echelon, social and human capital theories were assessed leading to an integrative model focusing on the determinants of dynamic innovation capabilities at top management team level. TMT human capital intensity, TMT internal advice seeking and TMT external advice seeking behaviours were identified as the determinants of dynamic service innovation capabilities at TMT level. Further, the literature survey revealed that the impact of these variables on service innovation capabilities is influenced by other factors such as TMT heterogeneity, internal connectedness and external connectedness. The value of this paper is that it links the upper echelon perspective to a dynamic capability view of the firm, and then to a service innovation perspective by proposing a set of TMT level determinants of dynamic service innovation capabilities.

Key words: Services, Service innovation, Dynamic service innovation capabilities, Upper echelons, Decision seeking behavior, Human capital intensity.

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Introduction

Though innovation as a field of study has existed for several decades, the main focus of innovation research was primarily concerned with innovations related to technological artifacts or, in other words, products (Evangelista, 2000; Miles, 2000; Drejer, 2004; Howells, 2006; Ostrom et al., 2010). Little scientific knowledge has, however, been acquired concerning the innovation process inherent in the development of new services (Drejer, 2004; Adams et al., 2006; Nijssen et al., 2006; Spohrer, 2008, Hertog et al., 2010; Popelbub et al., 2011; Doner et al., 2011), in spite of services being said to be different from manufacturing. These differences pertain mainly to the specific characteristics of services, i.e., their intangibility, co-production with customers, simultaneity, heterogeneity and perishability (Lovelock et. Al., 2004; Gronroos, 2000; Batson, 1979; Fitzsimmons and Fitzsmmons, 2000). These characteristics affect the development process of services and make them unique. This uniqueness has resulted in researchers concluding that current theory and understanding of the strategies and tactics for developing new services is inadequate in spite of there being several theories to understand the same in the manufacturing sector (Menor and Roth, 2007, Kindstro, 2010; Doner et al., 2011; Chae et al., 2012; Poppelbub et al., 2011, Hertog et al., 2010, 2012).

As a result of the uniqueness of the service development process, service innovation has recently gained recognition as a unique research field (Kindstro, 2010; Hertog et al., 2010; Ostrom et al., 2010, Popelbub et al., 2011) and it has been supported by many researchers (Spohrer and Mallo, 2008; Meffert and Bruhn, 2009; Hertog et al., 2010; Ostrom et al., 2010; Popelbub et al., 2011). They also suggest the need for different skills in the management process. Furthermore, this is supported by the fact that many attempts to develop new services using product-centric innovation theories are found to be unsuccessful (Smith et al., 2007; Spohrer and Mallo, 2008; Ostrom et al., 2010). Thus, scholars are calling for a wider range of research in service innovation and new service development. It needs new and service-specific approaches to model, predict and optimize service innovation (Stauss, et al., 2008; Chae et al., 2012; Poppelbub, 2011).

The emerging field of dynamic capabilities which is based on a resource-based view provides a new perspective from which to approach service innovation. According to this perspective, to be able to develop new services continuously, firms must develop dynamic service innovation capabilities that can enable service innovation (Hertog,

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et al., 2010, 2012; Fischer, et al., 2010). Service innovation and its associated dynamic capabilities are a key concern for many firms today, and some researchers cite them as key drivers of consistent high performance over time (Gallouj and Weinstein, 2007; Poppelbub, 2011). An understanding of these capabilities is an important first step in being able to reap the benefits of future service innovation; without it, a firm risks becoming trapped in activities delivering ever decreasing returns (Gallouj and Weinstein, 2007; Poppelbub, 2011; Teece, 2007).

Unfortunately, the research stream regarding dynamic service innovation capabilities is relatively new and still under lively scholarly debate (Dodgsson et.al., 2008;Gallego et al., 2012, Popelbub et al., 2011;Kindstro et al., 2012).The tendency to discuss innovation capabilities in a product- and technology-development context (Eisenhardt and Martin, 2000; Lisboa et al., 2011; Teece, 2007) often leads to neglecting the service context and it is necessary to extend this theory to service-related aspects (Hertog et al., 2010; Popelbub et al.,2011;Kindstro et al., 2012). Ambiguity, vagueness of constructs, conflicting views, and lack of empirical data are still common and represent challenges in explaining a company's competitive advantage in its entirety (Agarwal, 2009; Hertog et al., 2010; Ordanini, 2011; Popelbub et al.,2011). Further, despite the extensive debate about its importance, there is still limited understanding of "how" organizations develop dynamic service innovation capabilities. Thus, as an emerging area of research, several calls for a theory of how to develop dynamic service innovation capabilities have been issued (Hertog et al., 2010; Pam et al., 2012; Popelbub et al., 2011; Kindstro et al., 2012). Antecedents -determinants- that lead to the development of these capabilities within service-centric firms will be examined within this research.

Further, assuming that firms can draw on these antecedents across different levels to build dynamic capabilities, several important but underexplored questions arise, such as: Where is the locus of the antecedents to firm-level dynamic capabilities? Does the locus lie within individual employees, within the top management team, within the firm, or within the industry? The handful of research that highlights organizational and individual level factors (Teece and Pisana,2007; Tripass, 2000; Verona, 2003; Ethiraj et al., 2005) generally discount TMT and contextual factors. Little research has been done to examine the role of top managers in building these dynamic service innovation capabilities (Alxiew et al.,2010; Kindstro et al., 2012). As the core team of the firm, TMT's innovative activities have not been given sufficient attention (Danneels, 2008; Haynie et al., 2009). Theoretical research mainly focuses

on an analysis of the constituents of the team and its attributes as well as the relevance and influence process while TMT's role in building dynamic innovation capabilities has been rarely probed and analyzed (Dai et al., 2012; Awa et al., 2011). Therefore, the main research question to be answered in this study is:

What are the key determinants/antecedents at TMT level which permit service firms to build dynamic innovation capabilities that can facilitate service innovation?

In answering this question, the present researcher proposes a framework of organizational service innovation capabilities which produces an overarching structure that can link different theoretical units into a coherent whole (theoretical triangulation). Theoretical triangulation involves using factors from different theoretical perspectives concurrently to examine the same dimension of a research problem (Hopper and Hoque, 2006; Hoque and Hopper, 1997). This approach creates theory from the extant situation, rather than forcing the data to a particular theory (Covaleski et al., 1996; Hopper and Hoque, 2006; Humphrey and Scapens, 1996). The primary strength of theoretical triangulation is its ability to look deeper and more broadly at a particular dimension or a phenomenon. Specifically, using one theoretical perspective can decrease the number of alternative explanations for a dimension or phenomenon. Thus, each construct of the framework of this research paper is supported by a distinct theory: service innovation capabilities by the dynamic capability theory, TMT human capital intensity by a combination of the upper echelon theory and the human capital theory and TMT advice seeking behavior by a combination of the upper echelon and the social capital theory.

The study makes several contributions. First, by providing a comprehensive description of antecedents or determinants of dynamic service innovation capabilities, it tries to open up the 'black box' of dynamic innovation capabilities and extends the existing dynamic service innovation capability theory (Hertog et al., 2010, 2012). Second, the proposed model offers a TMT level picture of dynamic service innovation capabilities which encompasses explicit identifiable factors suggesting that dynamic innovation capabilities are not vague and fuzzy abstractions but specific processes which can be further, theoretically and empirically, explored. It illustrates the need to analyze the top management team when investigating the antecedents of dynamic service innovation capabilities. Therefore, the other distinctive literature that pertains to service innovation is that of the upper echelon

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theory. This theoretical view argues that organizational outcomes are the result of the behaviour and strategic choices of the organization's senior executives (Hambrick, 2007). Dynamic innovation capabilities are treated in the upper echelon literature as a compositional property of top management teams. Heterogeneous TMTs (Top Management Teams) are able to combine multiple perspectives and information from their members into new innovative combinations, thus creating an advantage over homogeneously composed teams (Simons et al., 1999; Van Knippenberg et al., 2004). Although both the dynamic capability view and the upper echelon theory offer insightful propositions with regard to these aspects, it is striking that there is a lack of research that combines the two perspectives. Third, this paper explores differential effects of external and internal dimensions of organizational social capital. Although scholars have urged a study of the effects of both external and internal organizational social capital together, few studies have actually done so (Adler & Kwon, 2008; Gupta et al., 2010). Hence, this paper contributes to the social capital theory by examining both dimensions at the TMT-level. Finally, this study provides deeper insights into service innovation through dynamic innovation capabilities and factors that construct these innovation capabilities.

The rest of this paper is structured as follows: In the subsequent section, the theoretical background is presented, beginning with service innovation theories and concluding with the development of the dynamic capabilities construction in an attempt to diminish the mystery surrounding the concept of dynamic service innovation capabilities. The same section briefly reviews the resource-based theory, upper echelon theory and extant literature on determinants of dynamic service innovation capabilities. The third section delineates the proposed theory, the concept indicator model, along with propositions. The paper concludes with a brief discussion of the theoretical, practical and research implications of this theory.

Literature Review

Service Innovation

The literature provides a wide variety of definitions of "services". While some definitions highlight services as an activity or performance in order to solve a specific issue of the customer (e.g., Gronroos, 1990; Kotler, 1999), others describe services as a bundle of competencies that have to be delivered (e.g., Gadzey et al., 1995). The more recent literature emphasizes the interaction of service customers and service producers (Gronroos, 2007). The present paper, being in line with Hertog

et al. (2010), defines services as an experience or a solution for a specific issue of a customer. This definition includes all the elements of services that innovation can give rise to and therefore is applicable to the whole service industry. It is thus suitable for the present study.

The term 'innovation' comes from the Latin's *innovare*, which means "to make something new" (Tidd et al., 2005). The definition, however, has developed over time and been interpreted in very different ways (Sauber and Tschirky, 2006). Schumpeter in 1934 defined innovation as a radical activity that results in a new element or new combination of all elements (Sauber and Tschirky, 2006). Being one of the first definitions, it was not specific enough; it explained that any shift in the production function was to be seen as an innovation. Witte came up with a more holistic definition in 1973 by saying that innovation is the first use of an invention, not necessarily emerging from research and development, but also encompassing processes from business administration and social science (Sauber and Tschirky, 2006). Using this definition instead meant that an innovation could arise from other departments than research and development, and also from outside the organization. The definition marked important progress in defining and developing the innovation process as it was seen as an eye-opener concerning the improvement of internal processes (Sauber and Tschirky, 2006). Rogers (2003) provides a more precise definition: innovation is an idea, practice, or object perceived as new by an individual or an organization. Further, Amara et al., (2008) explained that the advantages resulting from innovation processes are not only led by major and radical innovations, but also by increasing their frequency and novelty, be it small or large. However, most innovation research appears interested primarily in technological innovations or new product development (Droege et al., 2009).

Some studies addressing innovation in the service sectors reflect an impetus from a technologist perspective, such as the technological taxonomy of services (Miozzo and Soete, 2001). Other studies emphasize distinctive features of service sectors and adopt a service-oriented perspective that focuses on non-technological forms of innovation (Sundboet al., 2007). In general, existing studies of innovation in the service sector consist of either assimilation, demarcation or synthesis approaches, depending on their basic assumptions about the similarity between manufacturing and services (Coombs and Miles, 2000; Droege et al., 2009). Service innovation has recently gained recognition as a unique research field (Droege et al., 2009; Spohrer, 2008). Thus, the demarcation approach seems to gain prominence in

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service innovation research. Ostrom et al. (2010) define service innovation as “creating value for customers, employees, business owners, alliance partners, and communities through new and/or improved service offerings, service processes, and service business models.” Their arguments not only highlight the importance of understanding the practical implementation of service innovation but also clearly point to three types: new service concept, process, and business model. In 2010, Hertog and others defined service innovation as a new service experience or service solution that consists of one or several of the following dimensions: new service concept, new customer interaction, new value system/business partners, new revenue model, and new organizational or technological service delivery system. According to these researchers, a service business can innovate every single dimension, or a combination of the several dimensions previously outlined. Thus, this definition has been selected for the purpose of this research. The significance of these dimensions, as well as the interactions between them, will vary across individual service innovation and firms.

Strategic Management of Service Innovation – Resource-Based View and Dynamic Capability View

Many models of innovation at the firm level have attempted to improve research consistency. These models have incorporated a variety of theoretical positions, including institutional theory, cognitive theories, transaction cost economics, socio-technical approaches, market orientation and resource-based view (Saubert and Tschirky, 2006; Wikhamn and Knights, 2012; Vazques et al., 2001; Wernerfelt, 1984). Each theory contributes a piece to the innovation puzzle. None can paint a complete picture. An accepted comprehensive and systematic framework guiding managers toward successful innovation does not yet exist.

Recently, some alternative frameworks have aimed at addressing the shortcomings of existing service innovation models. Stevens and Dimitriadis (2005), for instance, propose a NSD model that focuses on organizational learning. Den Hertog et al. (2010) draw from dynamic capability theory to identify six dynamic service innovation capabilities. Kindstrom et al. (2009) and Fischer et al. (2010) also refer to dynamic capability theory in order to explain how manufacturing companies can extend their solution portfolio through service innovations. Therefore, one of the more promising theories to evolve in the strategic management field over recent years is the dynamic capability view which was based on the resource-based view (RBV) of the firm.

(Teece, 2007; Dosi et al., 2001; Prahalad and Hamel, 1990). RBV states that a firm will outperform competitors when its resources meet the VRIN-criteria: valuable, rare, inimitable and non-substitutable (Amit and Schoemaker, 1993; Barney, 1986, 1991; Dierick and Cool, 1989; Hamel and Prahalad, 1994). An important critique is that RBV only provides explanations and guidance in static situations (Bowman and Ambrosini, 2003). When circumstances change, new configurations of resources will gain favour and the strength of current asset positions can disappear. The DCV is an answer to these critiques. As an extension of the resource based view (RBV), the dynamic capability view (DCV) is based on the idea that competitive advantage can be assigned to both the resources and capabilities a firm possesses (Wernerfelt; 1984; Barney, 1991).

Teece & Pisano (2007) further developed the area proposing dynamic capabilities theory as the “subset of the competences/capabilities which allow the firm to create new products and processes and respond to changing market circumstances”. An explicit examination of innovation is usually omitted in the discussion of dynamic capabilities. However, as a key mechanism for organizational growth and renewal, innovation is implicitly central to the theory (Hertog, 2010; Popel, 2011). Dynamic capabilities theory is thus well-suited to the study of service innovation for a number of reasons. First, there is no special focus on technology. For example, research and development is but one resource among many available to the firm. This facilitates the development of a holistic model of organizational innovation. Second, the innovation process may just as easily relate to the development of new products as it can to new services, processes, systems or even business models. Innovation capability, being one of the dynamic capabilities, is proposed as a higher-order integration capability, that is, the ability to mould and manage multiple capabilities.

Innovative capability refers to a firm’s ability to develop new services and/or markets, through aligning strategic innovative orientation with innovative behaviours and processes (Wang & Ahmed, 2004). In line with this, Bell (2009) defines innovation capabilities as the “capabilities needed to imagine, develop and implement new configurations of product and process technology and to implement changes and improvements to technologies already in use”. The present paper, in line with Teece et al., (2007), Dodgson et al., (2008) and Hertog et al., (2010), define dynamic service innovation capabilities as bundles and patterns of skills used by firms to formulate and implement an innovation strategy involving the creation, extension and modification of those resources used for innovation. They are hard to transfer and imitate the

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capabilities which firms possess to develop, (re-)shape, (dis-) integrate and (re) configure existing or new resources and operational capabilities. Hertog et al. (2010) proposed a set of six higher order abilities: dynamic service innovation capabilities (DSICs); sensing user needs and technological options, conceptualization, bundling, co-producing and orchestrating, scaling and stretching, and learning and adapting. These are needed to successfully offer existing and potential clients a new service experience or solution and market it in a sustainable fashion, thus swiftly adapting to a firm's changing environment. Organizations possessing these innovation capabilities have the ability to integrate the key capabilities and resources of their firm to successfully stimulate innovation.

Determinants of Dynamic Service Innovation Capabilities

The increasing importance of service innovation for many firms and the fact that changes in the external environment can reduce the value of current innovation capabilities together generate the imperative to extend discussions about the dynamic capabilities framework (Den Hertog et al., 2010; Fischer et al., 2010). However, a common denominator for the determinants of dynamic innovation capabilities does not exist for service-centric firms. (Hertog, 2010, Popel, 2011, Gallego et al., 2010). Eisenhardt and Martin (2000) suggest that antecedents to dynamic capabilities, which they describe as “processes to integrate, reconfigure, gain, and release resources—to match and even create market change,” can be found at the individual, TMT, firm, network level or contextual levels (Zollo and Winter, 2002). Extant research generally focuses only on one level of analysis (mainly the firm level) while neglecting other levels of analysis, thus opening the door for spurious findings. When studying the determinants of dynamic capabilities, researchers generally analyzed firm level factors, such as physical and monetary resources, competencies, processes, and routines (Barney 1991, Henderson and Cockburn, 1994; Nelson and Winter 1982, Peteraf 1993), while neglecting individual-level factors. The handful of researchers who highlight individual-level factors as an antecedent to firm-level dynamic innovation capabilities (Lacetera et al., 2004; Zucker and Darby, 1997; Zucker et al. 1998, 2002) generally discount firm - TMT and contextual - level effects. Little research has been done to examine TMT and contextual level factors that determine dynamic innovation capabilities. Recent theoretical contributions (Herstale, 2007; Hertog et al., 2010, 2012; Popelbub et al., 2011) have identified serious problems with dominant innovation capability approaches. According to these researchers, service-oriented firms where capabilities come from and which

influence factors exist, and whether these factors are internal or external to the firm are not discussed among scholars.

Table 1 shows the multi-criteria analysis of the main dynamic capability-based frameworks that were found in the literature and it is important to note that there is not a single framework that really meets the fourth criterion: determinants of dynamic innovation capabilities.

Table 1: Multi Criteria Analysis of Dynamic Capabilities

Frameworks	Criteria 1 Capability performance relationship	Criteria 2 Capturing all capabilities	Criteria 3 Applicability to the service sector	Criteria 4 Determinants of dynamic capabilities
Teece (2007)	Not explicitly	Yes	No	Firm level and Individual Level
Protogre (2008)	No	Yes	No	No
Ambroshani (2009)	Not explicitly	Yes	No	No
Ordinini (2011)	Yes	No	Yes	No
Agrawal (2009)	Yes	No	Yes	No
Poppelpub et al., (2011)	Not explicitly	Yes	Yes	No
Hertog et al., (2010, 2012)	Yes	Yes	Yes	No

Source: Author

As this overview shows, a common denominator for determinants of dynamic capabilities does not exist for the service sector and TMT level factors have never been discussed. In the quest for a framework that allows the present researcher to explore the determinants of dynamic innovation capabilities, it is essential to find the best-fitting framework (the right mix of capabilities) rather than an absolutely optimal set. The framework which was developed and tested by Hertog et al. (2010, 2012) has sufficient originality to be a good subject for further research. In fact, it meets the criteria of capturing all elements of innovation, as well as being suited to services. The PdH-framework consists of two pillars: a typology of service innovations, and a set of dynamic capabilities. Both were built on theoretical and empirical literature, and will be discussed in the next section.

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Hertog and others (2010; 2012) include the creation of new service experiences and service solutions as the ultimate goal of service innovation of the 6D-model. The idea that the essence of producing a service is to provide a solution or an experience can be traced to several authors (Goldstein et al., 2002; Groenroos, 2007). According to this view, a new service experience or service solution can consist of a new service, a new service portfolio and/or a new service process that individually or in combination defines a new way of creating value for the customer. The majority of these services propositions are co-created by the client and the provider. The degree of novelty – as with goods-based innovation – may differ from new to the firm, new to the industry, new to the country or new to the world (Hertog, P.D., et al., 2010). Further, Hertog et al. (2010) proposed a set of six higher order abilities called dynamic service innovation capabilities (DSICs); sensing user needs and technological options, conceptualization, bundling and unbundling, coproducing and orchestrating, scaling and stretching, and learning and adapting. Together, these abilities stretch over a wide range of competences, processes and other forms of resources that are crucial for the improvement and renewal of the services a firm delivers. Many years of empirical and theoretical research form the basis for the set of dynamic capabilities Hertog et al. (2010) developed and the present researcher extends this model by adding TMT level determinants of the above dynamic innovation capabilities.

Upper Echelon Theory and Innovation Capabilities

The notion that the characteristics of senior management or the upper echelon of an organization can influence the decisions made and practices adopted by an organization dates back to the early upper echelon theory (Hambrick and Mason, 1984). Hambrick and Mason argued that managers' characteristics (e.g., demographic) influence the decisions they make and therefore the actions adopted by the organizations that they lead. They suggest that this occurs because demographic characteristics are associated with the many cognitive bases, values, and perceptions that influence the decision making of managers. Several studies have supported the relationship between upper echelon characteristics and organizational strategies and performance (Lee and Park, 2006; Ordaz et al., 2005; Bantel and Jackson, 1989; Wiersema and Bantel, 1992; Dahlin et al., 2005; Dwyer et al., 2003).

The dynamic capabilities perspective, at its core, emphasizes the key role of top managers in adapting, integrating, and reconfiguring organizational skills and resources to match changing environments (Eisenhardt and Martin, 2000; O'Reilly

and Tushman, 2008; Teece, Pisano et al., 1997). Dynamic capabilities emphasize the ability of senior managers to seize opportunities through the orchestration and integration of both new and existing assets to overcome path dependence (O'Reilly and Tushman, 2008). Because top management teams frequently differ from one another in the 'quality and versatility of their services' (Kor and Mesko, 2008), these differences affect how top managers build, integrate, and reconfigure organizational resources and capabilities (Adner and Helfat, 2003), which, in turn, generate vital differences in organizations' strategic choices (Kor and Mesko, 2008). Indeed, O'Reilly and Tushman (2008) posit that senior team capability may be a key discriminator between those firms that thrive as environments shift versus those that do not. Although researchers concur that in pursuing innovation, top managers must manage contradictions and conflicting goals, ensure effective team process, engage in paradoxical thinking, and fulfill multiple roles (Raisch et al., 2009), what has been missing is an understanding of the specific attributes that underlie TMTs' impact on innovation capabilities. Thus, one of the core arguments is that TMTs' characteristics and certain behaviours shape their ability to sense opportunities for innovation, and seize them through combining, integrating and reconfiguring exploitative and explorative resources. Building on this foundational logic this researcher suggests that three core attributes (TMT human capital intensity, TMT internal advice seeking behaviour, and TMT external advice seeking behaviour) underlie TMTs' impact on dynamic service innovation capabilities.

Hypotheses and the Conceptual Framework

TMT Human Capital Intensity and Dynamic Innovation Capabilities

For the purpose of this theoretical paper, human capital intensity can be defined as the knowledge and experience of the top management team (Becker, 1964; Cabrera and Cabrera, 2003). Further, human capital intensity embodies both the general and specific human capital of top managers (Becker, 1964). General human capital consists of background education and training that is not unique to a particular firm, industry, or related industry. Specific human capital, on the other hand, represents work experiences that are specific to a particular position, function, firm or industry.

Previous studies have utilized the educational level of TMT as an indicator of the team members' abilities (Bantel and Jackson, 1989; Wiersema and Bantel, 1992; Boeker, 1997). They posit that higher levels of education should be associated with a high

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degree of cognitive complexity. Ginsberg (1990) argued that cognitive complexity is associated with a team's capacity to confront the uncertainty of the environment and to make decisions to stimulate renewal and change in an organization. This author claims that cognitive complexity can be inferred from the educational level. Therefore, highly educated TMT would be more aware of the need for innovation and change (Bantel and Jackson, 1989; Wiersema and Bantel, 1992); able to process more information faster; capable of discriminating among a wider variety of stimuli and signals (Wiersema and Bantel, 1992); and capable of rigorously analyzing highly complex problems with multiple dimensions (Bantel, 1993; Herrmann and Datta, 2005).

Numerous previous studies have found a positive association between high educational level and positive attitudes toward innovation and strategic change (Bantel and Jackson, 1989; Grimm and Smith, 1991; Wiersema and Bantel, 1992, Schoenekeret al., 1995; Cameloet al., 2005; Herrmann and Datta, 2005).

Because service innovation capabilities frequently entail complex information processing demands (Lubatkin et al., 2006), the authors argue that the level of top managers' human capital intensity is a core driver of firms' innovation capability. Top teams with strong endowments of human capital also bring a broad repertoire of problem-solving competences and associated solutions which might contribute towards efforts to introduce new services. Beyond contributing to the ability of top managers to sense opportunities for new services, a large stock of human capital might enable top managers to seize and transform opportunities for true innovation.

Teams with higher levels of human capital have abundant experience working in different positions and functions throughout the firm that better enable them to handle the resource management processes in mobilizing, coordinating, and integrating exploitative and explorative innovative activities (Sirmon, et al., 2007). Given their intimate familiarity and tacit knowledge of resources (Kor, 2003), experienced teams are well positioned to mobilize the resources and capabilities needed to support innovation activities. Finally, top managers with strong human capital, particularly those with experience across different functional areas, should be better able to fulfil the multiple, often competing, roles (Floyd and Lane, 2000) and engage in the paradoxical thinking associated with the service innovation capabilities. Taken together, these arguments constitute the human capital proposition stated formally:

Proposition 1: The level of human capital intensity of top managers will be positively associated with the level of the firm's dynamic service innovation capabilities.

Advice Seeking Behaviour of Top Management Team

The central proposition of social capital literature in this theoretical paper is that innovation capabilities can be facilitated by structures of relationships between top managers. These structures are conduits for new resources and are resources themselves (Adler and Kwon, 2002; Bourdieu, 1986; Burt, 1992, 2005; Nahapiet and Ghoshal, 1998; Portes, 1998). The social capital mechanisms are active at multiple levels: individual, group, inter-unit, and inter-organizational. Nahapiet and Ghoshal (1998) define social capital as "the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit". Nahapiet and Ghoshal (1998) argued that because of social capital, organizations possess a unique advantage over market forms with regard to coordination of the creation of new knowledge. Specific structural, relational, and cognitive characteristics of the relations among individuals and among units within organizations can facilitate the processes of exchange and combination of resources and thus account more for new knowledge creation than innovation. The researcher refers to the value of relationships and the potential they have for resource exchange and combination as the "organizational social capital". The literature has distinguished internal social capital, or "bonding", from external social capital – "bridging" (Adler & Kwon, 2002) depending on whether the focus is on the structure of relations within an organization or with other actors outside of it.

At the top management team level, organizational social capital is represented by the construct top management advice seeking and is linked with dynamic innovation capabilities. At this level, the value of integrating the two theoretical perspectives is especially pronounced. Although some works have studied the involvement of senior executives in service innovation, little has been said about the value of their relationships (Podolny, 2005; Young, et al., 2001). Research has shown that senior executives' social networks differ substantially from those of non-managers in terms of network size, the closeness of the ties and membership of outside organizations (Carroll and Teo, 1996). As executives act on the basis of personalized interpretations of the strategic situations they face (Hambrick, 2007; Hambrick and Mason, 1984), it is appropriate to assume that these interpretations reflect the TMT members' experiences with their immediate social environment. To account for such

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experiences, research has put forward the concept of advice seeking, defined as the formation of opinions, attitudes, and judgments through deliberate information exchange with other individuals (Bonaccio and Dalal, 2006; Sniezek et al., 2004). Top managers also operate at the boundary of the organization and maintain contacts both within and outside their organization, which justifies the need for studying both their external and internal advice seeking behavior.

TMT External Advice Seeking and Dynamic service Innovation Capabilities

External advice seeking may be beneficial to facilitating service innovation as an organizational outcome as it enables top managers to span organizational boundaries and gain new external knowledge. External advisers that possess specialized knowledge can affect top managers' cognition with regard to possibilities for new learning alliances, technological transfers, and knowledge exchange (Kaplan et al., 2003). The more actively a top manager seeks external advice, the wider is the array of opportunities to acquire and assimilate knowledge that is not yet known by TMT members and that will improve abilities of sensing user needs, conceptualization of new service concepts and bundling and unbundling. For instance, Cao et al. (2006) argued that CEO turnover, and arguably of any other senior executive, would have negative consequences for the firm's exploration due to the loss of the external social capital resources that they possess. In addition to spanning organizational boundaries, external advice can be instrumental in coping with resistance to radical organizational changes that accompany innovation. Seeking external advice can facilitate the effort of top managers to provide legitimacy for particular innovation strategies. For instance, external managers can be consulted for the purpose of training employees to work with unfamiliar technologies, managing the process of change or substantiating the necessity of the intended shift towards innovation (Gable, 1996; Ko et al., 2005). Hence, this researcher predicts that top managers' external advice seeking enables organizations to pursue dynamic service innovation capabilities.

Proposition 2: Top managers' external advice seeking behaviour will be positively associated with the firm's dynamic service innovation capabilities.

TMT Internal Advice Seeking and Dynamic Innovation Capabilities

Top managers may also use internal advice seeking to leverage innovation that departs from existing services and markets. Firstly, by allowing for internal consultation, a climate of openness to daring new ideas is created. Under the frame of trust that internal advice seeking creates inside the organization (Inkpen and Choudhury, 2005; Sniezek and Van Swol, 2001), the process of idea generation (conceptualization) is catalyzed. If top managers have established a pattern of seeking advice internally, other organizational members would be more willing to share their ideas, especially when their ideas could be seen as unconventional or when proposing new ideas that diverge greatly from their existing job description and function. Prior studies have suggested that this type of consultative mode for decision making creates a positive atmosphere for the development of dynamic innovation capabilities (Somech, 2006; Vroom and Yetton, 1973). Not seeking internal advice may seal off opportunities for potentially valuable initiatives stemming from within the organization itself. Secondly, top managers that look for inputs from other organizational members have the ability to form more feasible, as opposed to bold but unrealistic, service innovation strategies. Seeking internal advice makes top managers more aware of the existing skills and capabilities of the firm and that may prove crucial to the implementation of innovation strategies. Trying to implement radical service diversification, for instance, may fail because the top managers did not foresee a mismatch between the required and available resources or competences needed to supply and market new services (Grant, 1996; Wernerfelt, 1984). Consulting functional specialist managers to undergo thorough analyses of new ideas and suggestions may provide useful feedback and criticism (Menon and Pfeffer, 2003) and highlight important details about the implementation phases of radically new service development projects or process improvements.

Proposition 3: Top managers' internal advice seeking behaviour will be positively associated with the firm's dynamic service innovation capabilities that can facilitate service innovation.

The Moderating effect of TMT Heterogeneity

TMT heterogeneity refers to the differences among team members in demographics and important cognitive aspects, values and experiences. In contrast, homogeneity refers to similarities among team members in the above characters (Simons et al.,

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1999; Van Knippenberg and Schippers, 2007). Team heterogeneity includes many dimensions such as age, team tenure, degree of education, functional experience, culture, sex, and nationality (Ping, 2007). The research on TMT heterogeneity under the guidance of the upper echelons theory is based on the premise that TMT heterogeneity has an impact on the social dynamics of the team members including frequency of communication among team members, communication effect, integration degree and coherence, thereby determining organizational performance. Along this route, scholars argue that heterogeneous TMT has a strong problem solving capability (Hinsz et al., 1997; Van Knippenberg et al., 2004; Van Knippenberg and Schippers, 2007). Hambrick and Mason (1984) assumed that TMT heterogeneity means cognitive differences and this team can obtain information from different sources (e.g. customers, suppliers, employees) and different opinions on the problem from team members. This difference in opinions would lead the team to discuss and analyze new opportunities and threats in the external environment and the advantages and disadvantages of different alternatives. Therefore, TMT could make high quality decisions and obtain a greater capability to solve problems (Simons, 1995; Ping, 2007).

For the propose of this research, heterogeneity refers to the degree to which there are differences along the functional background dimension in the composition of a group (Simons et al., 1999; Van Knippenberg and Schippers, 2007). The principal arguments put forward with respect to functional heterogeneity rest on the idea that managers with different kinds of functional experience will probably possess different types and levels of knowledge, as well as different perspectives and attitudes toward the issues requiring TMT decisions. Some authors argue that functional heterogeneity stimulates wider discussion and debate about different ways of focusing the activities of the company, and this leads to more innovative, higher quality solutions (Bantel and Jackson, 1989; Hambrick et al., 1996). Executives with different functional experiences will probably possess different types and levels of knowledge and different perspectives and attitudes (Hambrick and Mason, 1984; Bantel and Jackson, 1989). Functional diversity will have a positive effect on innovation capabilities, both of which require a combination of skills and knowledge (Leonard and Sensiper, 1998; Iansiti, 1993; Calori et al., 1994). Other authors argue that functional diversity stimulates group discussion and disagreement, which leads to more innovative and higher quality solutions (Ghiselli and Lodahl, 1958; Hoffman and Maier, 1961; Hambrick et al., 1996; Lant et al., 1992). Diversity of approaches can be a basic resource for companies because it stimulates the opportunity to

learn. When diversity causes disagreement over opportunities, threats, or the future development of markets, TMT members become aware of and accommodate more perspectives, and they develop other courses of action. All of this can promote more innovative vision and action in companies (Bantel and Jackson, 1989; Lant et al., 1992; Miller et al., 1998). Functional diversity causes conflict over work-related aspects and subjects. This conflict produces enriched problem analyses and diverse solutions, creating a positive effect on innovation capabilities (Pelled, 1996; Ancona and Caldwell, 1992; Sessa and Jackson, 1995; Milliken and Martins, 1996).

Proposition 4: TMT heterogeneity moderates the relationship between TMT human capital intensity and service innovation capabilities so that TMT human capital intensity is more positively associated with service innovation capabilities as TMT heterogeneity increases.

Regarding external advice seeking and service innovation capabilities, this researcher expects that the benefits of using external advice in generating service innovation will be amplified when TMTs are heterogeneous. Because the external networks of heterogeneous TMTs are less overlapping, external advice seeking provides a wider range of possible unique information inflows (Granovetter, 1973; Reagans et al., 2004). Heterogeneous TMTs are able to connect to a larger pool of potential external advisers from various areas of expertise (Hambrick, 1994), and enhance their ability to create novel strategic combinations for generating service innovation (Hansen, 1999). Rather, homogeneous TMTs would likely regard information from external contacts as redundant, causing them to remain insensitive to environmental changes and external threats. In addition to this, the cohesiveness associated with homogeneous TMTs (Coleman, 1988) can contribute to the development of social control mechanisms that can stifle attempts at radical thinking and ideas. Therefore, even though senior executives may increase their external advice-seeking behaviour, they will face difficulties in putting more radical and unconventional proposals on the table and thus would prefer to conform to the status quo. With regard to integrating acquired external advice, heterogeneous teams also have a larger absorptive capacity (Cohen and Levinthal, 1990; Van den Bosch et al., 2003). Members of such teams come from varying knowledge backgrounds and are able to recognize patterns in idiosyncratic ways and to contribute with multiple interpretations on a single piece of advice. Such heterogeneity leads to the creation of more original and valuable innovative ideas than, in comparison with, if senior executives with similar backgrounds were to pool their ideas (Van den Bosch et al., 1999). A homogeneous

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TMT may not seek external advice that is difficult to comprehend or to relate to their existing knowledge base, thereby limiting the potential for service innovation.

Proposition 5: TMT heterogeneity moderates the relationship between TMT external advice seeking behaviour and service innovation capabilities so that TMT external advice seeking behaviour is more positively associated with service innovation capabilities as TMT heterogeneity increases.

Further, this researcher also argues that TMT heterogeneity enables TMTs to apply internal advice more effectively to pursue service innovation. The availability of heterogeneous skills and knowledge among TMT members often implies that different perspectives are represented at a higher hierarchical level within organizations (Ibarra, 1995; Podolny and Baron, 1997). Ideas for developing service innovation often originate from lower organizational ranks in the form of minority dissent on established procedures and ways of doing things. A heterogeneous TMT means that various minorities are likely to have representation at the highest level in the organization. The opportunity to connect with a similar individual from TMT increases the minorities' willingness to share information (Burt, 1982; Tsai and Ghoshal, 1998). A lack of representation, on the other hand, lowers the probability of accepting novel ideas (De Dreu and West, 2001). If heterogeneity is low, such organizational members are likely to consider themselves excluded and being on the periphery, with their proposals lacking impetus and legitimacy.

When there is a diversity of top executives' prior related knowledge, increasing the level of internal advice seeking can lead to more original interpretations to seemingly non-radical and incremental improvements suggested by the internal advisers (Cohen and Levinthal, 1990). Heterogeneous TMTs, therefore, have a stronger ability to assess the feasibility of new ideas because the members of heterogeneous TMTs are each in dialogue and relate to different internal advisers. In comparison with homogeneous TMTs, the variations in the pool of advisers to heterogeneous TMTs is much larger. Such TMTs have a higher capacity to assimilate and incorporate highly specialized and tacit information from their internal advisers into their decision making (Hansen, 1999). Hence, internal advice that flows towards heterogeneous TMTs is richer and contributes to their advantage over homogenous TMTs with regard to the contributions to a firm's service innovation capabilities.

Proposition 6: TMT heterogeneity moderates the relationship between TMT internal advice seeking behaviour and service innovation capabilities so that TMT internal advice seeking behaviour is more positively associated with service innovation capabilities as TMT heterogeneity increases.

The Moderating Effect of Internal Connectedness

Internal connectedness is defined as the integration and collaboration of various functional areas (or departments) within an organization as a way of enhancing communication and information to better meet the organization's goal (Narver and Slater, 1990). These work-related ties inside the firm are likely to have higher frequency, emotional intensity, intimacy and reciprocal services (Granovetter, 1973) due to the commonality of organization context, including established formal structures, communication channels, formal and informal initiatives that bring people together. It describes the ability of different functional areas to accommodate disparate views and work around conflicting perspectives and mental models by putting aside functional interests for the betterment of the organization as a whole. The researcher posits that internal connectedness represents a key form of the internal social capital of an organization. Social capital theory captures the idea that networks generate value through providing greater access to social resources such as contacts and relationships that can, in turn, help to achieve a given goal (Nahapiet and Ghoshal, 1998). Although most studies define social capital as a resource external to a given organization, it can also be argued that organizations possess internal sources of social capital (e.g., Tsai and Ghoshal, 1998). As explained by Florin and others (2003), just as social capital theory seeks to explain the dynamic relationship between different social entities, the same logic can be applied to explain the different mental and cognitive models held by diverse TMT members. In other words, a social resource that is both embedded in an organization and serves as a complementary asset in getting the most out of TMT diversity can be regarded as a form of internal social capital (Florin et al., 2003). Seibert et al., (2001), drawing on social capital theory, have shown that an individual's career success can be explained by their use of internal social resources, such as contacts in other functional areas and contacts with senior level members in one's organization. It can be viewed as a means to foster greater communication, collaboration, and cohesiveness, thereby enhancing the relationships between groups possessing different functional knowledge, experience, and education. Furthermore, internal connectedness paves the way for building trust and commitment between TMT members from diverse backgrounds,

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thus strengthening the bonds and relationships among TMT members.

The researcher believes that the quantity and quality of communication and collaboration, which are derivatives of internal connectedness, will fill the void by strengthening the relationship between TMTs' internal decision making and innovation capabilities. In short, internal connectedness is akin to a dynamic capability. It facilitates the transformation of disparate and piecemeal cognitions of human capital into an integrated and cohesive bundle of resources that can be used to foster innovativeness (Eisenhardt and Martin, 2000; Teece et al., 1997). Stronger ties allow for the transfer of more complex knowledge (Hansen, 1999), which is an ingredient of service innovation capabilities.. High levels of internal connectedness allow people to freely exchange complex ideas. It supports unorthodox ideas and propositions that challenge the status quo to be developed and used in the innovation processes, thereby creating a fertile environment for innovation. The higher diffusion capacity of internally well-connected firms leads to a higher probability that a good innovative idea is identified, conceptualized, backed and implemented (Nerkar and Paruchuri, 2005).

Proposition 7: Internal connectedness moderates the relationship between TMT internal advice-seeking behaviour and service innovation capabilities so that TMT internal advice seeking behaviour is more positively associated with service innovation capabilities as the level of internal connectedness increases.

The Moderating Effect of External Connectedness

As explained by Ahuja (2000) and Powell (1996), top managers reach out for knowledge beyond their scope of existing activities in their struggle to overcome the boundaries of their current geographical and technological contexts through external networks. Firms use alliances, mobility of inventors, and social networks of scientists to execute distant knowledge searches that cross these contexts (Ahuja, 2000; Rosenkopf and Almeida, 2003). Powell et al. (1996) provide support for the hypothesis that in industries characterized by complex and rapidly expanding knowledge bases, the locus of innovation lies within a network of learning composed of incumbent firms, new entrants, research institutions, and universities rather than within the boundaries of individual firms. Thus, to build new capabilities within an emerging technological paradigm, service firms frequently need to leverage their external networks to source new ideas, technologies, methods, etc. Further,

interaction with suppliers, customers, public assistance organizations, industry associations and the like can provide missing external inputs into the learning process which the firm itself cannot provide easily. Interaction may take place for the purpose of gathering information about technologies and markets, and also for obtaining various other inputs to complement the internal learning process, such as external staff training, parts and components, consulting services, and R&D grants (Dodgson, 1993; Edquist, 1997; Panda and Ramanathan, 1996). Intensive interaction with customers and suppliers is thought to be particularly beneficial (Lundvall, 2008; Håkansson, 2009). Networks can provide access to knowledge and resources that are not readily available via market exchanges (Gulati 1999, Gulati et al. 2000). The ability to leverage external networks to adapt to a rapidly changing environment is emphasized by Teece et al. (1997) and Eisenhardt and Martin (2000) as one possible manifestation of dynamic innovation capabilities.

Proposition 8: External connectedness moderates the relationship between TMT external advice-seeking behaviour and service innovation capabilities so that TMT external advice seeking behaviour is more positively associated with service innovation capabilities as the level of external connectedness increases

Dynamic Service Innovation Capabilities and Service Innovation Performance

This theoretical perspective posits that a firm's ability to "integrate, build, and reconfigure internal and external competences to address rapidly changing environments" lies at the centre of its capability to innovate (Teece, et al., 1997: 516). To be able to develop new services continuously and comprehend the underlying business logic of service provision, firms must develop dynamic capabilities (Teece, Pisano and Shuen, 1997) that can enable service innovation (Hertog, et al., 2010; Fischer, et. al., 2010; Martin and Horne, 1992). They not only seek to adapt a firm's resource base to evolving customer demands and market trends such as an increased demand for services, but also allow firms to shape their environment through innovation and collaboration with their customers and other key actors (Teece, 2007). Further, dynamic innovation capabilities facilitate not only the ability of an organization to recognize a potential technological shift, but also its ability to adapt to change through different innovation dimensions (Hill and Rothaermel, 2003). For example, being one of the capabilities, sensing capability refers to the management of different sources of information and knowledge that need to be

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translated into leading problems and unmet service needs before a more focused conceptualization of new service solutions follows in the next phase. Most service innovations are an answer to a perceived unmet need of actual or potential customers or translating a technological option into a service proposition. Systematically or more haphazardly looking for and interpreting signals in the real world, i.e., having some sort of intelligence function in place, is key to innovation (Teece, 2007) and for service innovators in particular (Hertog et al., 2012). Likewise, in 2012, Hertog and others established positive relationships between these dynamic service innovation capabilities and service innovation performance after conducting a survey of 8000 firms. Following this line, the current study proposes the following proposition:

Proposition 9: The level of a firm's dynamic service innovation capabilities will be positively associated with service innovation performance.

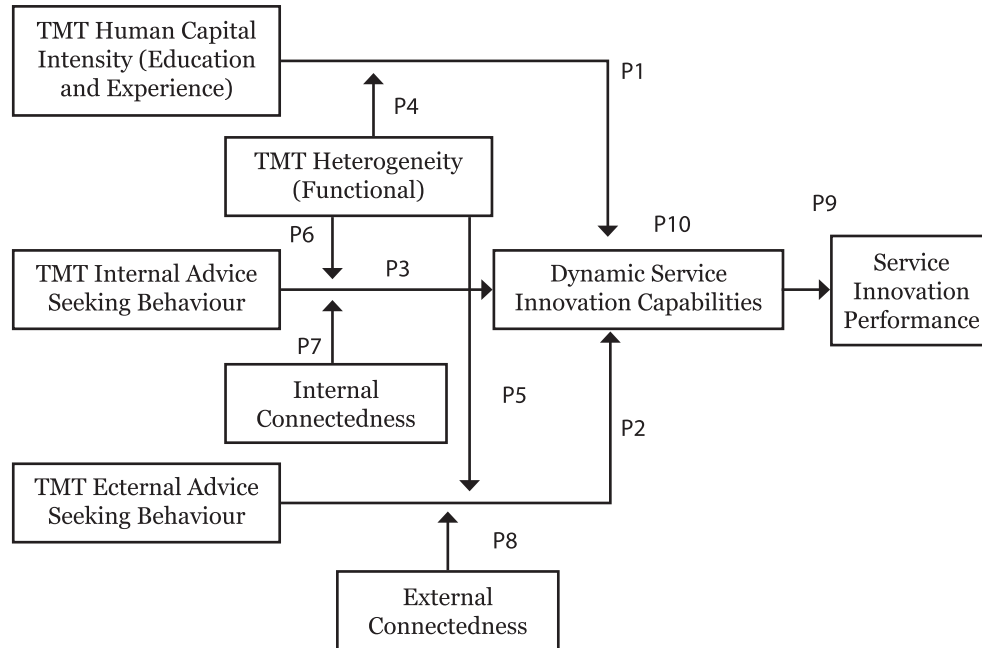
Mediating Effect of Dynamic Service Innovation Capabilities

The preceding hypotheses link the relationships among TMT level determinants, service innovation capabilities, and service innovation performance. Implicitly, the discussion suggests that human capital intensity of the top management team and their internal and external decision-seeking behavior affect firms' service innovation performance through their dynamic service innovation capabilities. That is, firms can use a set of TMT characteristics and behaviours to cultivate the level of dynamic service innovation capabilities, which, in turn, promote organizations' propensity to innovate and enhance their innovation performance. Thus, this study argues that dynamic service innovation capabilities play a mediating role in the relationship between the independent variables of TMT characteristics and the dependent variable of service innovation performance. Following this line of reasoning, this study proposes the following proposition:

Proposition 10: The level of a firm's dynamic service innovation capabilities mediates the relationship between TMT characteristics and service innovation performance.

The above mentioned relationships are graphically shown in Figure 1.

Figure 1: Conceptual framework of the Study



Source: Author

Theoretical Implications

Though the literature on service innovation and firm performance has grown in significance over the last decade, they are fragmented and reflect several inadequacies. In the recent past, the main focus of innovation research was primarily concerned with innovations related to new product developments (Evangelista, 2000; Miles, 2000; Drejer, 2004; Howells, 2006; Droege et al 2009). Little scientific knowledge has been acquired concerning the innovation process inherent in the development of new services (Drejer, 2004; Adams et al., 2006; Nijssen et al., 2006; Spohrer, 2008, Droege et al 2009, Gallego et al 2010), which has resulted in the current theory and understanding of the strategies and tactics for developing new services being inadequate. (Droege et al 2009, Hertog et al., 2010, Popel, 2011, Gallego et., al 2010, Rumalca et al, 2011; Chesbrough, 2011). Further, frameworks for strategic management of service innovation remain scarce (Sundbo, 1996; Frei, 2008; Mo"ller et al., 2008). Though a few research models have been introduced on NSD (New Service Development) under the dynamic capability view, they were not

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empirically tested (Poppelbus., et al,2011, Gallego et., al 2010). Finally, though the service innovation capability model of den Hertog was empirically tested in 2012, factors influencing those dynamic innovation capabilities were not examined. This suggests the need to examine service innovation, dynamic innovation capabilities and their influencing factors in an appropriate industry context where longer term customer relationships and co-creation aspects can be examined. A focus on those determinates with the innovation capabilities favours deeper insights and an analysis better attuned to initiatives and procedures that directly influence service innovation. Identification and implementation of such factors will extend the dynamic capabilities framework, rendering it more comprehensive, well attuned to the contemporary characteristics of the service industry and its context, and better able to address the particular challenges of service innovation.

Further, as the core team of the firm, TMT's innovation activities have not received adequate attention (Cannella et al., 2008; Camelo et al., 2010; Awa et al., 2011; Dai et al., 2012). Theoretical researchers mainly focus on an analysis of the constituents of the team and its attributes (Hambrick, Cho and Chen, 1996; Lubatkin et al., 2006; Simons et al., 1999) as well as the relevance and influence process between decision making and performance, while TMT's innovation capacity and its enhancement have been rarely probed and analyzed (Awa et al., 2011; Dai et al., 2012). At present, scholars have not yet clearly defined TMT's role in developing the innovation capabilities of organizations (Camelo et al., 2010; Dai et al., 2012). Hence, this paper contributes to the upper echelon theory by analysing the role of TMT in building dynamic service innovation capabilities of service organizations. This theoretical paper probes beyond the individual and the group and develops propositions with regard to the interactions beyond the team – internally within the organization or externally with other parties. Furthermore, this paper explores differential effects of external and internal dimensions of organizational social capital. Although scholars have urged a study of the effects of both external and internal organizational social capital, few studies have actually done so (Adler & Kwon, 2008; Gupta et al., 2010). Hence, this paper contributes to the social capital theory also by examining both dimensions at the TMT-level.

Managerial Implications

The proposed framework not only serves as a guiding foundation for future work on the role of TMT level influencing factors on service innovation capability and then

innovation performance but also contributes new perspectives to the current stream of work on dynamic capabilities and social capital and upper echelon theories. The researcher proposes that service organizations can enhance their innovation performance by developing and improving dynamic innovation capabilities through key factors at TMT level. Thus organizations aspiring to improve their competitive positions should be mindful of the central role that the identified factors have in enhancing their innovation capability and competence.

Particularly, in this paper, strategic advice seeking in TMT emerges as a fundamental variable. Company leaders should foster appropriate processes at top management level, including systems for good formal and informal communication, debate, and other advice-seeking processes (Amason and Sapienza, 1997; Knight et al., 1999) to identify ever changing customer needs and technological aspects and to make other decisions effectively. Further, this study highlights the importance of managerial awareness with regard to the value of organizational social capital, both internal and external to the firm. This awareness can be promoted by employee and management development programmes that focus not only on individual characteristics and contributions, but also on the fabric of social relationships woven among individuals. The programmes can accentuate the role of connectedness for the acquisition, transfer and deployment of divergent knowledge.

Furthermore, dynamic service innovation capabilities cannot be created overnight. They need time to develop through an understanding of influencing factors, and cannot be switched on and off at will. These cannot be bought off the shelf but have to be nurtured and created over the years by changing the determinants of these factors. Dynamic service innovation capabilities should be deployed and given time in order to reap the benefits of economies of scale and economies of learning. Therefore, service innovation managers cannot switch swiftly to developing new service offers requiring a completely different set of dynamic capabilities.

Reflections on further research

Stimulating service innovation and “capturing the ways in which companies are innovating services” is regarded as one of the top ten research priorities in the science of services (Ostrom et al., 2010). In the view of this researcher, the potential of a combined service innovation management/DCV of the firm is still underutilized and offers many promising avenues for further research. Based on the conceptual

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framework presented, at least four major research challenges can be identified. The first challenge is that while this researcher presumed determinants of dynamic service innovation capabilities at TMT level, future researchers could examine more attributes and also rank them according to importance. The second challenge is linking service innovation efforts, influencing factors at different levels, innovation capabilities and results for overall firm performance. The third research challenge is a more detailed understanding of how these influencing factors and the dynamic service innovation capabilities relate to each other as well as to the dimensions of service innovation. The final research challenge is to contextualize this conceptual framework for strategically managing service innovation. It can be hypothesized that different types of firms in different industries, firms of different sizes and firms adopting different firm strategies will most likely master a particular mix of dynamic service innovation capabilities that is relevant for their type of firm, their type of industry, their size and aligned with the particular service strategies chosen. However, this requires rigorous formal testing of the proposed conceptual framework in both explorative case studies and large-scale surveys.

Conclusions

The aim of this paper was to contribute to a better understanding of service innovation and its management by linking a service (innovation) perspective to a DCV of a firm. It started with the basic understanding that successful service innovators are those service firms and organizations that have introduced innovative service experiences and service solutions repeatedly. The author developed a conceptual framework for strategically managing service innovation by proposing influencing factors of innovative capabilities at TMT level. This framework builds on and is integrated with a model in which six dimensions of service innovation are discerned (Hertog, 2010). Based on an in-depth literature survey this study proposes that antecedents to dynamic service innovation capabilities can be found at TMT level. These antecedents are human capital intensity, internal advice seeking and external advice seeking behaviour. TMT heterogeneity, internal connectedness and external connectedness moderate the effects of the above variables on dynamic service innovation capabilities.

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