

**DYNAMIC CAPABILITIES FOR MANAGING SERVICE INNOVATION:
TOWARDS A CONCEPTUAL FRAMEWORK**

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Authors:

Mr. Tadhg Blommerde

Applied Researcher

RIKON

School of Business

Waterford Institute of Technology

Tel: +353 51-834130

Email. tblommerde@wit.ie

Dr. Patrick Lynch

Director, Founder and Senior Researcher

RIKON

School of Business

Waterford Institute of Technology

Tel: +353 51-834032

Email. plynch@wit.ie

ABSTRACT

Despite widespread acknowledgement of the importance of service innovations and the capabilities that enable them, there is a paucity of management frameworks that provide practical guidance to firms (Gryszkiewicz *et al.*, 2013). Literature is often vague, fragmented, or employs diverse approaches and definitions, which has resulted in significant confusion and extensive knowledge gaps (Walsh *et al.*, 2009; den Hertog *et al.*, 2010).

Drawing from relevant research this paper delineates service innovation capability as a higher order, multi-dimensional construct and proposes a unified framework for its management consisting of four dynamic capabilities. This conceptual model enhances collective understanding of the discipline and directs the attention of firms to behaviours most critical to the continuous creation of service innovations.

INTRODUCTION

Service innovation is now widely recognised as an essential activity for both service firms and traditional manufacturing firms (Kindström *et al.*, 2012). Indeed, for den Hertog *et al.* (2010) sustained competitiveness is rooted in an organisation's ability to develop or improve services that differentiate them from competitors and increase value to customers. Despite the importance of innovation to all organisations, prior research has tended to focus exclusively on manufacturing (Kindström *et al.*, 2012), high-technology (Gryszkiewicz *et al.*, 2013), or highly specific types of service firms (Salunke *et al.*, 2011). Currently, the service innovation literature represents a fragmented corpus where specific researcher interpretations and agendas have resulted in studies that lack applicability across industries and sectors (Giannopoulou *et al.*, 2011). There is even confusion regarding how service innovation is defined, with some authors using the term interchangeably with the much narrower concept of new service development

(NSD) (Kohler *et al.*, 2013; Nijssen *et al.*, 2006). These inadequacies and research silos present obstacles to an integrated study with the potential to both advance theoretical understanding of the discipline and provide direction to firms seeking to effectively manage service innovation (Gryszkiewicz *et al.*, 2013). As a consequence, there are few formal or structured approaches for the management of service innovation and existing frameworks are inadequate, vague, or are simply transposed from the manufacturing industry and fail to capture the unique characteristics of services (Janssen *et al.*, 2012). Resulting from the challenges of uncertainty, high failure rates, and wasted investments faced by firms (Bettencourt, 2013), there have been calls in the literature for models that assist strategic decision making, pinpoint specific actions that will have the greatest impact on innovation success, and utilise limited resources to a higher capacity (Lynch *et al.*, 2010; Hogan *et al.*, 2011).

While discrete service innovations are important, academics are increasingly directing their attention to a greater imperative, the firm-level dynamic capabilities that underpin their development (Siguaw *et al.*, 2006). These dynamic capabilities, referred to as service innovation capabilities (SICs), when effectively managed, allow organisations to adapt to their environment through the repeated and continuous creation of innovations (Giannopoulou *et al.*, 2011). They are considered to be embedded within the processes and routines of organisations and have generic characteristics, but idiosyncratic details, meaning imitation by competitors is difficult. Despite their importance they have predominantly been discussed on a theoretical level and there is an absence of agreement as to which capabilities are critical to the development of innovative service outputs (Stryja *et al.*, 2013). Gryszkiewicz *et al.* (2013) strongly argue for the identification of a concrete and clear list of capabilities to progress academic understanding and provide practical insights to managers.

Thus, the purpose of this paper is to direct attention to the need for a specific set of capabilities to support the management of service innovation. Building upon requirements derived from

the literature, the paper proposes four interrelated capabilities deemed to be critical to the continuous creation of service innovations. It is envisaged that the paper has a role in furthering the discussion of this discipline through its promotion of a holistic, company-wide approach that considers service innovation as a firm-level, multi-dimensional capability, differentiating itself from studies that focus on specific procedures or processes (Stryja *et al.*, 2013).

The remainder of the paper is structured as follows: first, through a systematic evaluation of the literature the key concepts of service innovation and service innovation capability are established. Next, the capabilities considered critical to service innovativeness are articulated. These provide the basis for a conceptual model where SIC is presented a higher order construct comprised of four dimensions. The paper concludes with some observations and suggestions for future research opportunities.

THE REVIEWED LITERATURE

The review encompasses research from a number of heterogeneous disciplines and specialisations including strategic management, innovation, marketing, and entrepreneurship. Although there was a variation in quality between journal articles and conference papers, incorporating both conceptual and empirical approaches, the key consideration was their contribution to understanding service innovation capability and the factors that shape it. Though the intention of this study was not to be exhaustive, the limited number of papers that explore this concept has resulted in the inclusion of all available, relevant papers written in English.

Covering the period 1983-2014 a total of 574 articles, books, conference papers and other peer-reviewed sources were factors in the composition of this literature review. The knowledge gleaned from these was synthesised in the development of a conceptual model that captured

critical dimensions of service innovation. This required the inclusion of additional referenced material that supported the researcher's interpretations and ensured that the context was both accurate and appropriate. However, due to space limitations not all reviewed articles could be referred to in the text.

SERVICE INNOVATION

Service innovation is a broad and complex concept that has been analysed through various approaches, perspectives, and contexts (Giannopoulou *et al.*, 2011). The fragmented literature inconsistently classifies innovation by types, degrees, patterns, and competences resulting in a lack of consensus and no widely shared definition (Droege *et al.*, 2009). Service innovation reflects the unique characteristics of services, specifically, their intangibility, heterogeneity, and simultaneous production and consumption (Janssen *et al.*, 2012). Consequently, studies tend to emphasise its distinctive features highlighting the role of customer involvement in the co-creation of value (Rubalcaba *et al.*, 2012), its continuous or incremental nature (Edvardsson and Tronvoll, 2013), less tangible outputs, informal developmental stages (Salunke *et al.*, 2011), its decentralised and dispersed nature (Janssen *et al.*, 2012), use of human capital, and inclusion of process and marketing innovations (Hogan *et al.*, 2011).

Ojasalo (2009: 219) defines service innovation as the ability "to anticipate changes in customers' behaviour, needs and expectations, and the consequent competence to design better services and create new service concepts". Salunke *et al.* (2011) view it as the extent that new knowledge is integrated into service offerings which directly or indirectly creates value for a firm. The European Commission (2012: 12) consider service innovations as "new or significantly improved service concepts and offerings" by both manufacturing and service companies, whereas Giannopoulou *et al.* (2011) regard it as the ability to produce solutions not

previously available to customers through additions or changes to an organisations service concept. den Hertog *et al.* (2010: 500) define service innovations as “intangible new ideas or combinations of existing ideas (sometimes in combination with physical objects) that together constitute a new value proposition to a client”. Both this study and earlier work by van Ark *et al.* (2003) also link service innovation to the organisational dimensions where it can occur, that include the service concept, client interaction channel, partnerships, or the service delivery system.

Despite widespread divergence concerning the definition of service innovation, there is little disagreement as to the positive outcomes that it produces for firms. Inherent in the above definitions is the notion that service innovation enables firms to provide clients with superior services to competitors (Hogan *et al.*, 2011), shape new markets and create new business opportunities (Kindström *et al.*, 2012), and is critical to superior performance and competitive advantage (Gryszkiewicz *et al.*, 2013). It encompasses also, for example, the transformation of ideas into services, the creation of value with customers, changes in the elements of a service to match opportunities, and the importance of human and organisational factors (Aas and Pedersen, 2010).

However, distinctions between different dimensions, types, or other classifications of innovation do not provide an understanding of the factors that underpin an organisation’s ability to successfully develop service innovations (van der Aa and Elfring, 2002). These lie in an organisation’s service innovation capability.

DEFINING THE SERVICE INNOVATION CAPABILITY CONCEPT

The study of service innovation capability is traditionally rooted in the dynamic capabilities view (DCV). Dynamic capabilities (DCs) focus on the ability of organisations to strategically

manage and deploy resources through repeatable patterns in order to achieve business objectives (Teece, 2009; Giannopoulou *et al.*, 2011). DCs are described by Winter (2003) as capabilities that change the product, processes, scale, or customers served by the firm, and by Zollo and Winter (2002), as stable patterns of activities that modify how a firm operate in the pursuit of improved effectiveness. In essence, these interpretations describe how firms create new resource combinations that enable them respond to market trends and evolving customer demands through innovation (Salunke *et al.*, 2011). Almost all researchers in this discipline adopt this theoretical perspective and conceptualise SIC as a dynamic capability (Stryja *et al.*, 2013). The DCV perfectly complements the study of service innovation capability enabling the examination of behaviours which are embedded in organisational processes and routines and diffused throughout an organisation (Janssen *et al.*, 2012).

However, research is still in its preliminary stages and the concept is interpreted a number of ways in the literature (Zhou and Wei, 2010). Gryszkiewicz *et al.* (2013) articulate service innovation capability as the capacity to deploy resources to design and launch new services in response to a firm's operating environment. Giannopoulou *et al.* (2011: 322) emphasise continuous, incremental innovations defining SIC as the "reliable or mature practices that allow the organisation to innovate in services". O'Cass and Sok (2013) distinguish service innovation capability as central to how firms create customer value through routines and processes that result in the development of new services and the improvement of existing ones. For Hogan *et al.* (2011) SIC is considered as opaque to competitors and difficult to imitate, describing an organisation's ability to apply their knowledge, skills, and resources in the pursuit of competitive advantage

Inconsistent dimensionality is widespread throughout the literature (Hogan *et al.*, 2011). Early studies conceptualised SIC as a uni-dimensional construct that determined a firm's capacity to regularly implement service innovations, but the high level of abstraction with this vague

concept made it difficult to study or manage strategically (Janssen *et al.*, 2012). To reduce its complexity authors began disaggregating SIC into ‘sets’ of component dimensions that were considered to be interdependent and interrelated (Plattfaut *et al.*, 2012). Currently, the prevailing view is that the concept represents a hierarchical and multi-dimensional dynamic capability that allows an organisation to successfully manage service innovation (Stryja *et al.*, 2013). Agarwal and Selen (2009) adhere to this view detailing SIC as a higher-order capability where multiple ‘lower order’, or operational capabilities, are integrated and managed to stimulate enhanced innovative service outcomes (Fuchs *et al.*, 2000). Further, they dimensionalise it into a set of capabilities which emphasise collaboration through organisational networks and engagement with customers (Agarwal and Selen, 2009). This perspective is supported by both Janssen *et al.* (2012) and Kohler *et al.* (2013) who regard SICs as repeatable patterns embedded in processes that alter and reconfigure operational capabilities to create service innovations.

Fischer *et al.* (2010), Gebauer *et al.* (2012), and Kindström *et al.* (2012) agree that the DCs prerequisite to innovating in services comprise the ability to sense and seize opportunities and reconfigure, or transform (Plattfaut *et al.*, 2012), lower-order operational capabilities. Lawson and Samson (2001: 384) distinguish innovation capability as the “ability to continuously transform knowledge and ideas into new products, processes, and systems for the benefit of the firm and its stakeholders”. They were among the earliest researchers to list general organisational innovation capabilities that could be applied to services and manufacturing firms and stress the importance of strategic visioning and the management of creativity and ideas (Lawson and Samson, 2001). For Salunke *et al.* (2011) capabilities corresponding to knowledge management and the creation of new resource combinations are seen as central to effective strategic service innovation, whereas, Zhou and Wei (2010) accentuate customer-oriented NSD, service production, and marketing capabilities.

Seminal work by den Hertog *et al.* (2010) presents a generalizable set of SICs as part of a multi-dimensional construct. These capabilities are hypothesised to be partly generic and partly idiosyncratic and influenced by the firm's strategy, history, and market dynamics with their effective management enabling the repeated introduction and exploitation of service innovations. The view of den Hertog *et al.* (2010) is that despite idiosyncrasies in their details, common elements exist in their key features which facilitate the development of frameworks for the purposes of both capability comparison and enhancement (Eisenhardt and Martin, 2000).

Although at first glance there appears to be little agreement in the literature, these diverse ideas share a number of common emphases. Therefore, this paper defines service innovation capability *as a multi-dimensional, hierarchical construct that describes the collective dynamic capabilities of strategising, knowledge management, networking, and customer involvement, which are embedded in an organisation's routines or processes and have the potential to repeatedly deploy and reconfigure resources in the continuous creation or improvement of services.*

The emergent capabilities are outlined in the following section.

DIMENSIONS OF SERVICE INNOVATION CAPABILITY

Strategising Capability

There is widespread acknowledgement by academics that strategy is a key component of service innovation capability (Lawson and Samson, 2001; Giannopoulou *et al.*, 2011; Gryszkiewicz *et al.*, 2013). Stewart and Fenn (2006) regard strategy as a critical aspect of innovation and believe without it innovation may be blind, directionless, or never occur. Similarly, Rubalcaba *et al.* (2012) describe strategy as a prerequisite for any sort of innovative

activity, and Huang (2011), considers the development and management of a clear service innovation strategy as necessary to fully maximise and exploit a firm's service innovation potential. The strategising capability is used to "decide when, where, and how innovation will be used within the organisation" and involves setting the goals and objectives that innovations are developed in the pursuit of (Holtzman, 2014: 25). Gryszkiewicz *et al.* (2013: 7) argue that the capability can both "reflect the ambitions and provide the organisational conditions" for the firm's service innovation goals to be achieved. In essence, it provides the foundation for innovative activities by setting the context and imperative for innovation through its explicit management (Stewart and Fenn, 2006).

Strategically innovating through services demands high degrees of clarity in thought and competitive positioning entailing an understanding of who the customer is, what services to offer, and how they can be efficiently delivered (Siguaw *et al.*, 2006). Roper and Xia (2014) detail how strategic decisions enable firms to overcome their resource constraints in the selection of projects, determine the manner they are undertaken, evaluate acceptable levels of risk and complexity, and respond to the movements of competition. Enhancing the alignment between customer demands and the firm's available resources is instrumental to reducing the risks and uncertainty associated with service innovations and optimising innovative outputs (Sundbo, 1997; Song *et al.*, 2011). Mastery of this capability aligns the innovation strategy closely with an organisation's medium to long-term objectives and enhances their overall service innovation capability resulting in a continuous stream of purposeful, incremental innovations (Rubalcaba *et al.*, 2012).

Knowledge Management Capability

The concept of knowledge management as a service innovation capability is supported within diverse literatures by Lawson and Samson (2001) who refer to it as idea management, Gryszkiewicz *et al.* (2013) under the term intellectual capital, and by Janssen *et al.* (2012) and

den Hertog *et al.* (2010) as experience-based organisational learning and adaptation. Delgado-Verde *et al.* (2011) consider firm innovation as the link between an organisation's knowledge or intellectual capital and the creation of value to customers. Knowledge management (KM) capability is therefore closely related to an organisation's ability to manage and deploy knowledge assets for innovative purposes. According to du Plessis (2007), it is an umbrella term for a variety of interlocking knowledge-centred activities that an organisation conduct in order for knowledge to be useful and usable for innovation. In addition to managing internal knowledge it also includes an element of boundary spanning that incorporates external knowledge in the management of service innovation (Smith *et al.*, 2008).

At the core of KM is the design of the processes, procedures, and structures, or essentially, the 'framework conditions' that promote "efficient use, creation, and diffusions of knowledge" (Lundvall and Nielsen, 2007: 220). The KM capability describes the ability of individual firms to design and implement structures and systems to effectively manage knowledge for service innovation specific to their operating conditions (Rasmussen and Nielsen, 2011). The manner in which knowledge is organised and mobilised both as an input and a support for innovation has implications on innovation effectiveness and productivity (Rasmussen and Nielsen, 2011; Leiponen, 2006). Mehrabani and Shajari (2012) describe the organisational benefits derived from effective KM as including improved decision making, process improvements, integration of data, and enhanced collaboration.

Networking Capability

Numerous authors outline the importance of orchestrating and managing a network for innovation and the creation of value (den Hertog *et al.*, 2010; Janssen *et al.*, 2012; Kindström *et al.*, 2012). Similarly, Gryszkiewicz *et al.* (2013) and Salunke *et al.* (2011) substantiate the importance of the networking capability, but emphasise instead the value of relational capital and learning from networks that span the organisation's boundaries. Service innovation is

dynamic, non-linear, highly reciprocal, and influenced to a large extent by actors and forces outside the firm (Mustak, 2014). Relationships with these actors influence the capacity that individual firms have to be innovative through the dynamic interplay between firm capabilities and the external environment (Mohannak, 2007).

Networking capability can be defined as “the process of innovating services through combining the ideas, knowledge, capabilities, and technologies of more than two interconnected actors” (Mustak, 2014: 152). Mu and Di Benedetto (2012) consider it as an organisation’s ability to both exploit its existing ties with external entities and to explore new ones. This requires thinking of firms not as passive network participants, but as strategically building, managing, and leveraging them to their advantage (Mu and Di Benedetto, 2012). Firms have a variety of motives for this such as access to diverse resources and capabilities, the distribution of costs and risk, a reduction in environmental uncertainty, enhanced knowledge transfer and organisational learning, reduction in innovation cycle times, and faster and more efficient commercialisation and diffusion of innovations (Mustak, 2014; Rusanen *et al.*, 2014). However, the overarching and primary incentive is that the results that potentially can be achieved through a network are greater than could ever be achieved by a firm independently (Hsueh *et al.*, 2010).

Customer Involvement Capability

The importance of involving customers in innovative activities is supported by Agarwal and Selen (2009) who describe it as engagement and collaboration with customers, by Hogan *et al.* (2011) as a focus on clients, and by den Hertog *et al.* (2010) and Janssen *et al.* (2012) as sensing user needs and co-producing. In fact most conceptualisations of service innovation capability conceive customer involvement as a key component (Agarwal and Selen, 2009; Salunke *et al.*, 2011). The explanation for this resides in the simultaneous production and consumption of services, meaning that customer involvement is not only the basis of production, but also is a

large factor in service innovation (Milutinovic and Stosic, 2013). The term has been used interchangeably with participation, user-involvement, co-creation, or customer engagement (Dadfar *et al.*, 2013), all of which highlight understanding customer usage and benefits and their role in creating value with the customer through innovation (Magnusson *et al.*, 2003). Carbonell *et al.* (2009: 537) describe it as “the extent to which service providers interact with current (or potential) representatives of one or more customers”.

Customer involvement utilises customers as sources of knowledge and information, often leading to superior ideas and valuable information about competitors (Lundkvist and Yakhlef, 2004; Alam and Perry, 2002). Customers can state their needs, identify problems and solutions, and offer inputs in terms of their likes and dislikes which to some extent replaces costly and inexact market intelligence (Svendsen *et al.*, 2011). But the predominant viewpoint of customers as a passive audience has evolved to a point where they are now considered co-creators and co-innovators and their levels of participation go far beyond the contribution of ideas or suggestions (Sjödín and Kristensson, 2012). Customers are now actively involved in all stages of innovation processes (Nicolajsen and Scupola, 2011) and play roles in the creation, development, production, and delivery of services (Cheng and Chen, 2012). Vargo and Lusch (2004) argue that all value is co-created, appropriated, and perceived by customers and that market acceptance of an innovation cannot occur without customer involvement. Among the benefits to firms are superior new or differentiated services, reduced development times (Ordanini and Parasuraman, 2011), reduced uncertainty and risk (Cheng and Chen, 2012), and the establishment of long-term relationships with customers (Dadfar *et al.*, 2013).

THE CONCEPTUAL MODEL

Requirements For The Model

This paper suggests the following seven criteria for building a conceptual model of service innovation capabilities: First, the SICs must be generalizable in order to be valid across industries and sectors in line with the synthesis approach of service innovation which incorporates innovation by any organisation through its services (Janssen *et al.*, 2012; den Hertog *et al.*, 2010; Lawson and Samson, 2001; Rubalcaba *et al.*, 2012; Dörner *et al.*, 2011). It must permit management to view and develop capabilities individually, but still in the context of a multi-dimensional framework (Agarwal and Selen, 2011; Siguaw *et al.*, 2006) and focus only on critical capabilities in order to optimise their management (den Hertog *et al.*, 2010; Lawson and Samson, 2001; Salunke *et al.*, 2011; Hogan *et al.*, 2011). Next, the construct must identify specific capabilities rather than their antecedents or precursors, or conversely, the outcomes of innovative behaviours (den Hertog *et al.*, 2010; Lawson and Samson, 2001; Rubalcaba *et al.*, 2012; Gryszkiewicz *et al.*, 2013). The conceptualisation should be based on the dynamic capabilities view (DCV) so external factors are not ignored and an appropriate emphasis is placed on capability management (Kindström *et al.*, 2012; den Hertog *et al.*, 2010; Janssen *et al.*, 2012; Gebauer, 2011). The model also must incorporate the broad heterogeneous characteristics of service innovativeness and move away from the narrow focus present in some studies which concentrate exclusively on NSD or product/process innovation (den Hertog *et al.*, 2010; Droege *et al.*, 2009; Saunila *et al.*, 2014). Finally, it must consider enterprise or firm-level capabilities that enable service innovation as opposed to capabilities relevant only on a project, sectoral, or industry-level (Tsekouras *et al.*, 2011; Agarwal and Selen, 2009; Gryszkiewicz *et al.*, 2013).

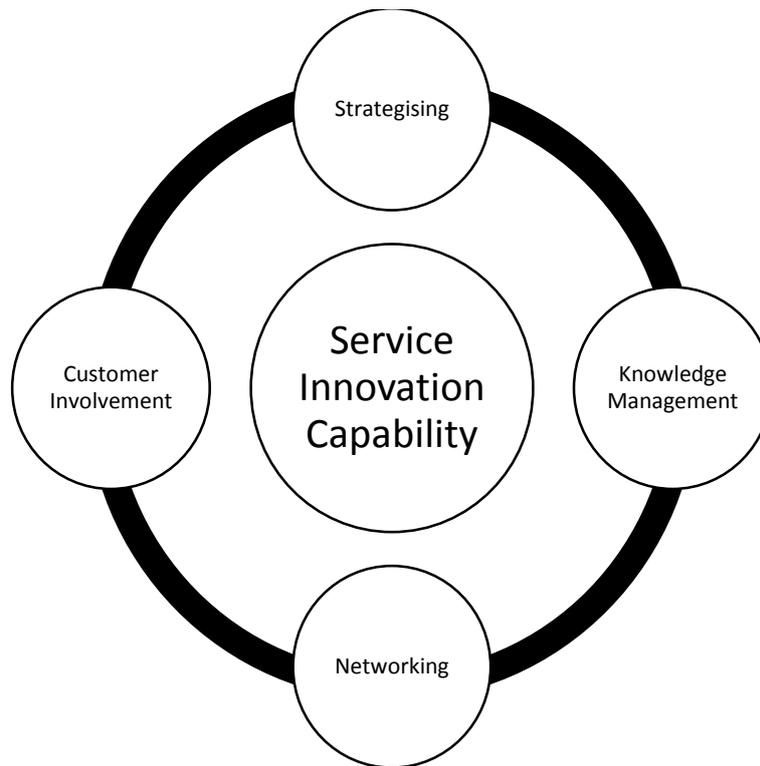


Figure 1. The Service Innovation Capability Model

The Service Innovation Capability Model

Service innovation capability describes an organisation's ability to provide value to customers by repeatedly and continuously developing new services and improving existing ones. Figure 1 depicts SIC as a multi-dimensional phenomenon composed of the four interrelated dimensions strategising, knowledge management, networking, and customer involvement. It is important to realise that while these capabilities are interdependent, that they still exist in different domains, but together represent an overall construct. Simply stated, each capability describes a single facet of the service innovation phenomenon, but the strength and interplay between these capabilities cumulatively represents an organisation's overall service innovation capability.

For instance, when developing a strategy for service innovation it is critical that it is informed by accurate and appropriate knowledge from the operating environment (Johnson and Filippini, 2010). The organisation's ability to manage internal and external information directly feeds into planning for targeted service innovations and ensures that resource use is optimised, thereby enhancing their service innovation capability. Conversely, the strategic intent of the organisation determines what knowledge is considered valuable to them. This results in the streamlined identification and application of knowledge allowing a firm to innovate more productively. Each capability has an interactive relationship with the other three and this has the potential to either increase or decrease an organisation's capacity to effectively innovate in services. Strategising influences the networking capability through decisions regarding beneficial collaboration and coordination with the actors in a firm's organisational network (Song *et al.*, 2011). The strategy also determines which customers are involved in innovation, in addition to the extent, intensity, channels employed, and incentives for their involvement (Sjödin and Kristensson, 2012).

Knowledge management improves and informs how critical strategic choices are made ensuring that required knowledge is available to decision makers at the appropriate time (Jin *et al.*, 2014). It facilitates collaborative relationships with networked actors and allows for the acquisition and sharing of knowledge and inter-organisational learning (du Plessis, 2007). Similarly, the ability to manage customer knowledge effectively determines an organisations capacity to co-create value with them (Belkahla and Triki, 2011).

Networking capability allows an organisation to draw on the resources of their network to enhance their strategic options and expand potential opportunities through the mitigation of risk and access to additional resources or markets (Roper and Xia, 2014). Additionally, it has the potential to provide increased access to new and useful knowledge through the coordination of learning across organisational boundaries, utilising links with other organisations,

universities, or research units (Lasagni, 2012). Building networks with customers creates the conditions for ongoing customer involvement and contributes to the development of strong relationships and deep ties that enhance innovativeness (Holtzman, 2014).

An organisation's innovation strategy is driven by the needs and requirements of customers. Through effectual customer involvement these needs can be accurately matched with resources enabling a business to leverage their ability to meet both current and future demands through innovation (Sundbo, 1997). According to Service Dominant Logic, customers have a pivotal and decisive influence in shaping a firm's service innovation capability as ultimately the value of an innovation is assessed by them and they are responsible for its success or failure (Vargo and Lusch, 2004). Customers also play a large role in the knowledge systems of the organisation contributing diverse ideas and innovative ways of thinking which can become inputs in the development of innovations (Chen *et al.*, 2011). Customer involvement even has an impact on the organisation's network as the objective of its structure is to facilitate ongoing learning and participation from constellations of customers (Sjödin and Kristensson, 2012).

Conclusion

A thorough review of the service innovation capabilities literature has revealed extensive knowledge gaps. Chief among these is the paucity of support mechanisms to assist firms with the enhancement of their service innovation capability. This is rooted in a lack of consensus surrounding which capabilities are central to the generation of service innovations and is coupled with confusion surrounding definitions of key terminology. Despite the importance that these studies assign to service innovation capability, without direction and guidance the benefits to firms are difficult to realise in practice.

In response, this paper has made some important theoretical and practical contributions to the collective understanding of this area. Service innovation capabilities are clearly explained, the most thorough synthesis of research in the area to date is presented, and a tentative conceptual model that encapsulates the critical dimensions of service innovation capability is proposed. The model draws together literature from diverse contexts and integrates them in a generalizable framework of dynamic service innovation capabilities. Firms innovating in services are all proposed to possess one or a combination of these dynamic capabilities which when effectively managed enhance the overall service innovation capability of organisations (den Hertog *et al.*, 2010). Growing networks, learning to strategize for innovation, developing knowledge, and nurturing customer engagement capabilities are decisive factors for firms that wish to repeatedly and continuously innovate in services.

However, because our framework is a first attempt, it is only a starting point on the path to concretely understanding the complex dynamics which underpin an organisation's capacity to produce service innovations. Despite its shortcomings, these initial steps do provide the basis for future research and it is envisioned that the proposed conceptual model has potential value for researchers seeking to operationalise service innovation capability. Building upon this research, the next challenges are to examine what steps can be taken to develop capabilities, how the extent of their presence influences innovative performance, and how the proposed capabilities can be measured. Already, work is underway to address these areas.

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