Managing service innovation: firm-level dynamic capabilities and policy options

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6.1 Introduction

The preceding chapters 1-5 showed, as will the more innovation systems and policy-oriented chapters 7-8, that the switch from an innovation concept predominantly geared towards manufacturing to one geared towards services is not easy. In section 1.2 we identified two core problems in this context that traditional service innovation management (see section 1.7) has not dealt with satisfactorily, namely:

1. our current understanding of service innovation, its processes and policies is still biased towards the predominant paradigm of technological innovation in a manufacturing setting. Along with other scholars in this field (see section 1.2), we observed that the service (innovation) management community has to come up with dedicated approaches and new frameworks that do justice to the rich, multi-dimensional, and interdisciplinary character of service innovation. We noted that we cannot continue analysing service innovation and its processes (while moreover being prescriptive at both firm and policy-level) by using concepts basically developed for analysing, managing, and furthering technological innovation in a manufacturing context.

2. the lack of insight into effective organizational routines and higher-order capabilities for managing service innovation at firm level. Due to this absence of an organizational, firm-level perspective on service innovation in most of the service innovation management literature – a view we share with a few other scholars (see section 1.2) – we lack direction on how to manage service innovation at firm level in a sustained fashion.

Firstly we address the lack of appreciation for the partly idiosyncratic nature of service innovation by developing the six dimensional (6D-) service innovation model. As indicated in section 1.7, these six dimensions and their interactions allow for a much more finely grained mapping and understanding of the idiosyncrasies of individual service innovations than existing, cruder typologies that are mostly biased towards technological innovation in manufacturing. In this chapter we will present our 6D-model of service innovation in its finalised form\(^{100}\) and more importantly linked to empirical insights gained in the sectoral and case studies shown in chapters 2-5.

We address the second issue of a lack of firm-level managerial perspective by infusing the service (innovation) management perspectives with the notion of dynamic service innovation capabilities extending the Resource Based View (RBV)/Dynamic Capabilities View (DCV) of the firm. This firm-level perspective is in our view (and others, see section 1.2) less well developed in existing service (innovation) management studies. We introduce these six, what we have coined dynamic service innovation capabilities in this chapter. We

\(^{100}\) How we initially derived our 4D and later 6D-service innovation model is explained in detail in section 1.3.2.
illustrate and link them in turn explicitly to the empirical results of the case and sectoral analyses presented in chapters 2-5.

Both the 6D-service innovation model and the set of six dynamic service innovation capabilities contribute to an overall integrated, firm-level framework for the strategic management of service innovation. The newly developed framework presented here is a tool to help service-dominant organizations (1) systematically reflect on and actually manage discrete service innovations, and (2) analyse the particular mix of dynamic organizational capabilities needed to become sustainable service innovators.

By addressing these two core issues and developing an integrated framework for the strategic management of service innovation, we also extend the literature on both the service (innovation) management and the RBV/DCV of the firm\textsuperscript{101} (see section 1.7 for more detail). We add to the first by shedding more light on the components of service innovation (and define them more precisely) and their interlinkages. We respond to the challenge articulated by Howells (2010, p. 75) when he signals the need for “more granulation” in the components of service innovation. We contribute by infusing the existing service (innovation) management literature with the organizational, firm-level perspective derived from the RBV/DCV approach i.e. the dynamic service innovation capabilities.\textsuperscript{102} This firm-level perspective is in our view less well developed in existing service (innovation) management studies. Apart from infusing the literature, we extend the RBV/DCV of a firm as well by applying and operationalising it specifically to a services context and by focusing on the business process of service innovation. Finally, we add to both the service innovation management and RBV/DCV literature by proposing a specific performance or output measurement for the service innovation business process. As stated earlier (see section 1.7), this literally links the six dynamic service innovation capabilities formulated mainly in the RBV/DCV of the firm context to the dimensions identified in the 6D model of service innovation formulated mainly within conventional service (innovation) management.

In this chapter we firstly define the notion of dynamic service innovation capabilities (section 6.2). We then point out how we address some of the fundamental concerns regarding RBV/DCV of the firm (section 6.3). Subsequently, we present the 6D service innovation model (section 6.4). We then continue by introducing an arsenal of six dynamic service innovation capabilities (section 6.5). Finally, the resulting integrated framework for

\textsuperscript{101} When we refer to the DCV of the firm, we mean the combined RBV/DCV of the firm.

\textsuperscript{102} Sundbo was possibly the first to link service studies to a strategic resource based model of organizing innovation activities in services (see Sundbo, 1996), but focused primarily on an empowerment or corporate entrepreneurship model. More recently Möller et al. (2008) linked the RBV to service innovation, mentioning that “service innovation... is fundamentally based on their resources and capabilities” (2008, p. 45) but predominantly analyses processes of service co-creation and does not make service innovation resources or capabilities explicit. Kindström et al. (2009) link the RBV/DCV to service innovation, staying close to Teece’s sensing, seizing and reconfiguring framework (2007), and develop it more specifically to manufacturing firms involved in service infusion processes.
the strategic management of service innovation and some concluding remarks are given (section 6.6). Managerial implications and a research agenda based on the integrated framework developed in this chapter will be discussed in chapter 9.

### 6.2 Defining dynamic service innovation capabilities

Before introducing the notion of dynamic service innovation capabilities, we briefly indicate how we differentiate between two categories of capabilities i.e. operational and dynamic as defined in the RBV of the firm (see box 6.1 below and annex 3 for a brief description of the RBV's main characteristics). Helfat and Peteraf (2003, p. 999) have defined an organizational capability as “the capability of an organization to perform a coordinated set of tasks utilizing organizational resources, for the purpose of achieving a particular end result.” Operational (or zero-order) capabilities are regularly off-the-shelf such as the capability to hire people, to position oneself on the market, to define a firm strategy, to market goods or services, to actually produce a service or goods, to deliver them to a client, to invoice and so on and so forth, which are all needed to survive business-wise. Winter refers to these zero-level capabilities as “how we earn a living now capabilities”. He contrasts these with higher-order dynamic capabilities which he defines as “capabilities that would change the product, the production process, the scale, or the customer (markets) served” (2003, p. 992).

The idea of dynamic capabilities has obviously mainly developed in the DCV of the firm. Here especially Teece has played a key role in developing the DCV framework (Teece et al., 1997; Teece, 2007). The essence of the DCV is a firm’s capability to constantly adapt, reconfigure, and innovate in order to respond to a changing environment (see box 6.2 below and annex 3 for a brief introduction to the main characteristics of the DCV). Paraphrasing Teece (2009, p. 87-88), we therefore define dynamic service innovation capabilities as those hard to transfer and imitate higher-order service innovation capabilities which firms possess to develop, (re-)shape, (des-)integrate and (re)configure existing or new resources and operational capabilities. These are needed to successfully offer existing and potential clients a new service experience or solution and market them in a sustainable fashion, hence swiftly adapting to a firm’s changing environment. These dynamic service innovation capabilities are aligned with firm strategy, market dynamics, and firm history.

We explain the building blocks of the DCV below.

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103 Helfat & Peteraf (2003) and Teece (2007) refer to this as technical fitness.
104 Compare for example with dynamic marketing capabilities as defined by Bruni & Verona (2009, p. 104): “Dynamic marketing capabilities reflect human capital, social capital and the cognition of managers involved in the creation, use and integration of market knowledge and marketing resources in order to match and create market and technological change”. 
Managing Service Innovation

We start off by specifying the service innovation component in the phrase dynamic service innovation capabilities. These refer to specific capabilities i.e. organizational competencies, routines and processes that organizations already have or newly develop to manage the process of service innovation. In practice this means combining existing and creating new resources and operational capabilities in order to realise (temporary) competitive advantage and an up-to-date service offer. We do not differentiate here in a hierarchy of dynamic capabilities as proposed by some scholars (see Wang & Ahmed, 2007; Ambrosini et al., 2009) and stick closer to a basic differentiation such as that made between substantive and dynamic capabilities by Zahra et al. (2006). At the same time we do recognize that there is a subcategory of dynamic capabilities geared towards now and then reinventing or transforming a firm and in a way that really redefines the dynamic capabilities themselves. The latter are what Ambrosini et al. (2009) label as regenerative dynamic capabilities and

Box 6.1 The Resource-Based View (RBV) of the firm

In the RBV which has been developed since the early 1980s (key references are Barney, 1986 and 1991; Wernerfelt, 1984), a resource is defined as “an asset or input to production (tangible or intangible) that an organization owns, controls, or has access to on a semi-permanent basis” (Helfat & Peteraf, 2003, p. 999). Essentially the RBV conceptualises firms as “bundles of resources” that are “heterogeneously distributed across firms” and assumes that these “resource differences persist over time” (Eisenhardt and Martin, 2000, p. 1105). The bases for competitive advantage are essentially resources that meet the VRIN criteria (i.e. they are Valuable, Rare, Inimitable and Non-substitutable) and give rise to “fresh value-creating strategies that cannot be easily duplicated by competing firms” (Eisenhardt & Martin, 2000, p. 1105). Teece et al. (1997) in a similar vein indicated that according to the RBV “competitive advantage lies ‘upstream’ of product markets and rests on the firm’s idiosyncratic and difficult-to-imitate resources” (1997, p. 513). In other words, in the RBV, the sheer possession of rare and hard to imitate resources and leveraging them drives value creation through development of competitive advantage. Over the years and in response to some criticism of the approach (see especially Priem & Butler, 2001 to be discussed more extensively in 6.3), the RBV was developed and enriched. It started to deal (once again) more explicitly with how a firm’s external environment influences the process of managing resources and how a firm’s resources are transformed into value. Sirmon et al. (2007) for example proposed a dynamic resource management model of value creation. Bingham & Eisenhardt (2008) contributed to the RBV by arguing that “competitive advantage stems from both the characteristics of individual resources as well as the linkages among the resources” (p. 242). They apply the VRIN criteria basically to the combinations of resources and see especially inimitability as the key criterion for gaining competitive advantage.

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105 Prahalad & Hamel (1990) added considerably to the approach by presenting it to a wider audience under the label of the corporation’s core competence.
Teece transformational or reconfiguring dynamic capabilities important for ‘evolutionary fitness’ (Teece, 2007, p. 1321). Applied to dynamic service innovation capabilities, these would imply reflections on and changes to the ways the service innovation process is managed over time. Put differently: a routine for changing an already higher-order routine. To avoid getting bogged down by too many levels, for the time being we are sticking to one level of dynamic service innovation capabilities and acknowledge that these include critical reflection on the capabilities and associated management routines themselves. The sixth dynamic service innovation capability coined the learning and adapting capability (see section 6.5) in fact addresses this critical reflective capability.

Hard to transfer and imitate means that these specific capabilities are partly idiosyncratic to the firm, the service value system or the specific market in which the firm operates.

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106 The path a firm can travel is dependent on its current position and importantly on previous investments, routines developed or simply the specific lessons learned by a firm or its history.

107 Evolutionary or external fitness – a phrase introduced by Helfat et al. (2007) – indicates how well a capability enables a firm to survive. In contrast, technical capability refers to how effectively a capability performs its function, regardless of how well the capability enables a firm to survive.
Especially the difficulty of imitation – or inimitability using the RBV wording – provides at least some temporary competitive advantage. We refer here to Bingham & Eisenhardt (2008, p. 243) who especially advocated that inimitability is at the heart of competitive advantage. However, these capabilities also contain some more generic elements that can be used in other settings, but will probably need some customisation. This implies that some best practices can be identified and that there is scope for learning, even between service firms operating in dissimilar industries. Thus in our view these capabilities are not entirely inimitable but at the same time they are not entirely transferrable. If they were, it would be almost pointless to invest in dynamic service innovation capabilities. In that case these capabilities would be free floating, would not result in (temporary) competitive advantage and could be used directly in different contexts.\(^\text{108}\)

A new service experience or service solution may consist of a new service, a new service portfolio or a new service process, which are almost by definition multi-dimensional and likely to consist of combinations of existing or seriously (re)new(ed) service dimensions. In section 6.4 we will introduce six dimensions of service innovations. This combination defines a new service proposition to a client. The majority of these service propositions are co-created by the client and the provider. Here we agree for example with Möller et al. (2008) who focused on the service co-creation modes and proposed a client-provider service for co-creation frameworks. For that reason we indicated in section 1.2 that interactivity/client intensity is one of the key characteristics of services.

Aligned with firm strategy, market dynamics and firm history.\(^\text{109}\) Firm strategy, market dynamics and firm history will influence the particular subset of dynamic capabilities used for managing service innovation and the pace at which certain dynamic capabilities become obsolete (see section 6.3). In order to innovate effectively, new service experiences, new service concepts and/or new ways of delivering must be aligned with firm strategy. If these are not recognized and supported by employees, clients and partners alike, they are much more likely to fail. Market dynamics or turbulence will affect the rate at which firms need to adapt their capabilities. At first, dynamic capabilities were mainly associated with markets facing rapid technological changes (see for example Teece et al., 1997), but increasingly so it is acknowledged that dynamic capabilities are relevant in more stable markets as well, including some service markets (see for example Bingham & Eisenhardt, 2008; Zollo & Winter, 2002; Kindström et al., 2009). Firm history should be interpreted as

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108 Mobility of experienced service innovation managers can be seen as a way to move this kind of knowledge around. However, it is worth considering factors such as firm size (some capabilities need scale and scope and are therefore dependent on firm size), firm age (some capabilities are associated with new ventures and others with established firms), and specific industries (some have their own highly idiosyncratic innovation regimes which lend themselves less well for copying and pasting!).

109 The first two factors were for example also included in a research model of dynamic capabilities as proposed by Wang and Ahmed (2007, p. 39).
the evolutionary notion of path dependency. Teece et al. (1997, p. 522-523) in this context remarked that “bygones are rarely bygones … A firm’s previous investments and repertoire of routines (its ‘history’) constrains its future behaviour”.

Sustainable fashion and hence adapt swiftly to a firm’s/organization’s changing environment refers to the ultimate goal of not only being able to introduce and market an innovative service once, but to create innovative service concepts, processes and systems repeatedly. If managing service innovation is a continuous and systemic activity, the chances of being able to adapt to technological (opportunities offered by new technologies), organizational (new alliances creating new service systems), and financial (new revenue models) changes rise and hence the opportunities to gain sustained competitive advantage. As we will observe in section 6.5, the dynamic capability of ‘learning and adapting’ is essential here.

Finally, we also acknowledge that the particular combination of dynamic capabilities used for managing service innovations by individual service innovators will differ. This selection is steered by firm strategy, market dynamics, and resources and dynamic capabilities that have been established over the years. In section 6.5 we introduce an arsenal of six dynamic capabilities which individual service innovators may use depending on their specific firm strategy, turbulence in their chosen markets and historically developed specializations in terms of organizational routines and dynamic capabilities. As the latter cannot be created overnight, but are evolutionary and need time to develop, service innovators will have a preference for a specific mix of dynamic capabilities. Put differently: there is equifinality, there are more ways (as there should be) in which firms can become successful service innovators.¹⁰ Service innovators operating in the same industry can be real service innovators, but still master and use completely different mixes of dynamic capabilities. This can only be explained by deliberately looking at what type of dynamic capabilities are already well developed in a particular firm and by including firm strategy. An example may illustrate our point. The low cost airline Ryanair has a different set of dynamic capabilities and is famous for other types of service innovations than Singapore Airlines. Still both are regarded as innovative service firms that are innovation leaders in the airline industry.

6.3 How we address fundamental concerns regarding the RBV/DCV of the firm

In section 1.7 we extensively outlined our contributions to the literature on both service (innovation) management and the RBV/DCV of the firm. In this section we indicate how our operationalisation of dynamic service innovation capabilities addresses a number of

¹⁰ Here we built on for example Eisenhardt & Martin (2000, p. 1106). However, we link this notion of equifinality explicitly to dynamic capabilities for managing service innovation.
the fundamental concerns raised regarding the RBV/DCV of the firm. To do so, we first take stock of these fundamental concerns and then indicate to what extent our approach deals with the comments made by Priem and Butler (2001).

6.3.1 Fundamental concerns regarding the RBV and DCV

Despite its many supporters and the impressive body of theoretical and empirical literature compiled over the past decades in both RBV and DCV traditions, fundamental comments have been raised. Both approaches have been intensively criticized. Recurrent elements are (in our words) conceptual vagueness, lack of formal theory, lack of insight into how certain resources with VRIN-qualities impact upon firm performance, a lack of environmental context, circular or tautological reasoning, a lack of direction, and the fact that no time factor is mentioned when discussing the link between resources/dynamic capabilities and firm performance. The 2001 article by Priem & Butler is seen as a key reference summarizing the major flaws of the RBV. Essentially they formulate five comments or challenges for the RBV (and implicitly DCV) to address:

- A first comment is that the RBV does not meet the test of the “lawlike generalization standard” (Ibid, p. 28) for example as some of the theoretical statements are not “amenable to empirical tests” (Ibid, p. 28) and therefore the RBV cannot yet be seen as a theory of competitive advantage.

- A second comment is that the RBV makes “implicit assumptions of homogeneous and immobile products markets” (Ibid, p. 30) in a similar vein as the environment-focused models made implicit assumptions on the homogeneity and mobility of factor markets. In fact they are suggesting here that the demand side is missing in the RBV.

- Additionally, they observe that “the fundamental ‘value’ variable is exogenous to the RBV” i.e. the causal relationship between actions and competitive advantage are a black box. (Ibid, p. 34). Basically, various comments are included under this label, including:
  - A lack of clarity as to how particular resources result in competitive advantage (Ibid, p. 33);
  - The a posteriori identification of valuable resources in high-performing firms (p. 33);

Many contributions start – usually in a slightly different fashion – by commenting on the RBV or DCV and then carve out their own specific approach. For recent reviews of the comments and central debates, see for example Zahra et al. (2006), Wang & Ahmed (2007), and more specifically linked to knowledge management - Easterby-Smith & Prieto (2008).

Please note Priem & Butler only refer to the RBV, whereas others refer to comments made by Priem & Butler when they are actually discussing dynamic capabilities, see for example Eisenhardt & Martin (2000).
The observation that “researchers sometimes take a frequently researched strategy subject area, re-label the independent variables as “resources” and the dependent variables as “competitive advantage” (Ibid, p. 33). In a similar vein Eisenhardt & Martin referred to these circular or tautological reasoning dynamic capabilities when they remark that “the value of dynamic capabilities” is defined in terms of their impact on performance (e.g. Priem & Butler, 2001; Williamson, 1999). That is when the VRIN resources which drive competitive advantage are identified by observing superior performance and then attributing that performance to whatever unique resources the firm appears to possess, the theory becomes tautological” (2000, p. 1108).

A fourth ‘challenge’ mentioned by Priem & Butler is the tendency towards all-inclusive resource classifications and “little effort to establish appropriate context for the RBV” (2001, p. 32). This in practice means that most RBV contributions do not specify under what circumstances or situations a particular “theory” holds, making it hard to contextualise the RBV.

A final comment is that static, cross-sectional approaches to various categories of resources contribute further to a lack of insight into causal hows and whys (ibid, p. 34). The RBV does not explain well enough how a particular resource contributes over time to gaining competitive advantage.

Priem & Butler (2001) although critical also helpfully suggest four avenues for improving the RBV i.e. formalizing the RBV, answering the how questions, incorporating the temporal component e.g. acknowledging “a firm’s history as an important antecedent to current capabilities and opportunities” (Ibid, p. 35) and integrating the RBV with demand heterogeneity models. More recently, although in a somewhat more aggressive style, the DCV has been criticised by Arend & Bromiley (2009) using similar arguments. They argue that “unclear value added relatively to existing concepts; lack of coherent theoretical foundations, weak empirical support, and unclear practical implications” (p. 75) limit the usefulness of the DCV.

6.3.2 To what extent can our approach withstand Priem and Butler’s criticism?

The critical comments by Priem and Butler and others are still echoing in the RBV and DCV literature. However, they also triggered RBV and DCV scholars who have started to address
these individually. Actually Priem and Butler’s comments can be used for positioning several of these contributions.\textsuperscript{114} Ray et al. (2004) for example took the effectiveness of a particular business process as performance indicator – in their case the customer service business process – instead of overall firm performance.\textsuperscript{115} Sirmon et al. (2007) recently positioned their contribution – providing a framework of how firm resources can be managed in a dynamic context – as focusing on how resources are used for creating competitive advantage (i.e. addressing the ‘causal hows and whys’) and the environmental contingencies or uncertainties (i.e. in bringing on board in the words of Priem and Butler the ‘demand heterogeneity models’). Bingham & Eisenhardt (2008) have addressed various comments: (1) by pointing out the importance of linkages among resources rather than individual resources resulting in competitive advantage; (2) by proposing three strategic logics (and so bringing on board firm strategy in the RBV); and, (3) by contextualising the RBV by pointing out different levels of market dynamism requiring different types and combinations of resources.

Our contribution to the RBV cannot withstand all the comments raised by Priem and Butler (and summarized in the five points in subsection 6.3.1). However, in our approach we have attempted to take note of these comments and address them as much as possible. In the first place we are not yet in a position to meet “lawlike generalizations” on dynamic service innovation capabilities, as this simply requires (more) empirical testing. However, in sections 6.5 and 6.6 we will not only formulate theoretical statements in the form of six dynamic service innovation capabilities and how these relate to each other as well as to dimensions of service innovation, but also formulate propositions that are amenable to empirical tests.

We also address the second comment on the lack of the demand side in the RBV. Given the fact that interactivity/client-intensity is a core characteristic of services and key for service innovation, our dynamic service innovation capabilities reflect this interactive element within the demand side. Our description of dynamic capabilities for managing service innovation includes signalling user needs, conceptualisation, and new organizational service delivery systems; the other three we refer to extensively are the processes of co-creation, co-innovation and co-production in which potential customers play a key role. In our framework the demand side is therefore far from missing.

We also address the third comment raised by Priem and Butler on the lack of causal relationships. In a similar way as Ray et al. (2004) and explained in 6.2.3 extensively, we

\textsuperscript{114} This insight is derived from Professor Tom Elfring.

\textsuperscript{115} Addressing the comment made by Priem & Butler (2001) as to how resources impact on firm performance and especially the unsatisfactory way in which the two were linked, Eisenhardt & Martin (2000, p. 1108) also proposed to look at the interaction between specific routines and how they alter the resource base i.e. “by defining dynamic capabilities in terms of their functional relationship to resource manipulation, their value is defined independent of firm performance. This enables empirical falsification.”
are proposing to use the outcome of an individual business process for assessing the effectiveness of the same business process. This is the way we start to address the “causal hows and whys” (Priem & Butler, 2001, p. 34).

The last two comments in the overview in subsection 6.3.1 can only be partially addressed. Although we have indicated to what categories of service firms the framework and insights we offer most likely apply (see section 1.3), we have neither contextualised in this thesis or in our approach more generally in terms of the type of firms (size, stage in a life cycle, firm strategy), markets and industries (and especially their turbulence), and the possibly institutional context to which it applies best, nor have we included the time factor in our framework. However, as indicated in the preceding subsection, we acknowledge that the particular combination of dynamic capabilities used for managing service innovations by individual service innovators will differ. This is significantly influenced by firm strategy, market dynamics and resources and dynamic capabilities that have been established over the years i.e. firm history and the role of path dependency in creating and sustaining dynamic capabilities. We will take up this point in section 9.3 and chapter 10 where we also discuss avenues for future research on dynamic service innovation capabilities.

In section 6.4 we discuss the 6D service innovation model before going on to identify what in our view are key dynamic service innovation capabilities in section 6.5. The two are combined in section 6.6 resulting in an integrated conceptual framework for strategically managing service innovation.

6.4 Service innovation dimensions revisited: the 6D-service innovation model

In our approach as presented in the preceding chapters, service innovation is a multidimensional phenomenon. That implies that service innovations can take various forms and can be linked to different parts of the value creation process of a service firm. As explained in section 1.3, before introducing our definition of service innovation we have identified several of these dimensions or characteristics of service innovation over the years. Here we systematically introduce and discuss six dimensions of service innovation (see figure 6.1 below). We will use elements from the sectoral and case study analyses as included in chapters 2-5 to illustrate these dimensions of service innovation.

116 This subsection benefited considerably from discussions with Dr. Wietze van der Aa who advocated having the customer as a separate dimension, for a clearer differentiation between technological and organizational service delivery and between a revenue model and a more all-encompassing business model. This was presented in a preliminary form in van der Aa et al., 2009.
1. First dimension: new service concept

The first dimension is the service concept, also named the service offering (Frei, 2008). The service concept or offering describes the value that is created by the service provider in collaboration with the customer. The innovation is often a new idea of how to organise a solution to a customer’s problem or need. Creating a new service concept is a highly creative activity and typically a dimension where an entrepreneurial type of innovation i.e. a novel idea or vision by an entrepreneur or intrapreneur is important. Many new service concepts are combinatorial i.e. they combine elements of services that do exist individually or as part of other services into a new combination or configuration (van der Aa & Elfring, 2002). New service concepts offer value in new ways. Furthermore, it is imperative to align a service concept with firm strategy. New service concepts that do not logically follow firm strategy will not be recognized and supported by potential clients, employees and partners alike and are doomed to fail.

In the Dutch cases as reported in chapter 4 we observed several of these conceptual innovations. For Ahold supermarkets a conceptual innovation can be a different format for a store (such as the AH To Go or AH XL stores in the Netherlands). Such a new retail concept

![Diagram of the six dimensions of service innovation](image)

**Figure 6.1** The six dimensions of service innovation
means new types of locations, a different service dialogue, new partners to collaborate
with, new logistics and so on and so forth. Similarly, the switch to first convenience and
then healthy living in fact marks the introduction of a new leading service concept on the
basis of which new lines of products are introduced and the service dialogue with the
customer is changed. At Randstad various new service concepts that emerged somewhere
in the firm were first identified and then rolled out to the rest of the group, for example the
airport concept. The Randstad office operating at a French airport discovered while working
for various client firms that there were typically three types of temporary jobs notably in
baggage handling, ticket operations, and airport shops. They therefore created a pool of
flexworkers trained in the basic skills required for these operations. These workers could
then be employed in a highly flexible manner and were in great demand. By offering their
clients at these airports a new one-stop shopping service solution, Randstad was in fact
taking over an important part of the HRM function. This airport-concept service innovation
was then identified, described in detail and copied in other countries where Randstad
operates. In the hospitality industry (see chapter 5) conceptual innovations abound as
well, ranging from front cooking in restaurants, designer hotels to cafés and restaurants
being promoted and indeed used as flexible offices. When a hospitality firm switches from
serving food and drinks to offering flexible meeting spaces and office where food and drinks
are served, it in fact enters a new market segment. This obviously has implications for the
service delivery process, the type of personnel to be recruited, how to market the service
concept, and where to locate it. This is exactly where the 6D service innovation model has
added value as it offers a framework to not only systematically map and measure afterwards
what dimensions have changed, but to analyse beforehand what dimensions are affected
by a planned change in a particular dimension, in this case a new service concept.

Managing the flow of new service concepts is a challenging task. Too few new concepts
might endanger the future competitiveness of firms, whereas too many ideas for new
service concepts may overburden them. So finding the right balance is crucial.

2. Second dimension: new customer interaction

This dimension is about the role customers play in the creation of value i.e. new ways
in which service provider and customer interact, communicate (generating cues for
new services), co-design, customise or even co-produce (Normann, 2002) new service
experiences. This may in fact take place over a longer period of time. New types of
interfaces in most cases mark a new distribution of activities to be performed between
customers and service provider. There are basically two varieties here.

Firstly, there are service relations where the service provider takes over tasks from the
client or client-firm as a basis for new services. When discussing the services as offered
by a temporary staffing agency such as Randstad (see chapter 5), we described a gradual
switch from traditional staffing services (although with increased specialisation through for example medical and secretarial desks) to higher value-added services. These can be in-house services, interim professionals, recruitment and selection services, and, eventually Human Resources (HR) services including HR project management, HR consultancy and indeed complete outsourcing of the HR function by the client firm. Through these value-added services the client is relieved of a lot of work and risks, thereby increasing its flexibility in terms of staffing. The temporary staffing firm takes over roles formerly conducted by the client’s HR department and the type of customer interaction changes considerably. In many service industries, service innovations are based on more complete and richer service propositions towards clients and on taking over activities formerly performed by the clients themselves.

Secondly, there are service relations where clients are increasingly taking care of more service activities formerly performed by the service provider and so in fact co-produce the service or provide the services themselves (i.e. self services). In some examples of firms discussed in chapter 4 this was clearly the case. The introduction of all sorts of ICT-mediated channels at the Rabobank – ranging from the introduction of ATMs, electronic banking and mobile banking – the customer interaction is redefined and renewed. However, by performing cash withdrawals with the help of an ATM or having clients type in their bank transfers themselves, clients are increasingly co-producing banking services and a different type of dialogue and distribution of labour is developing between service provider and customer. In the case of the Rabobank, the number of visits to their branch offices has dropped tremendously in the past decade and these offices are now populated by mostly financial advisors who can help and advise clients on more complex financial products such as mortgages or private banking. And the leads for such appointments are increasingly generated electronically. Similarly, the widespread use of online booking systems (in combination with yield management systems) has redefined the way in which firms in the hospitality industry interact with their customers (see chapter 3). ICTs also change this interaction the other way round as service providers get to know their customers more intimately, they are able to offer more customised service offerings. This may result in e.g. hotels chains remembering your preferences or online shopping lists that are partly filled out in advance.

As is evident from the Océ case reported in chapter 4, the switch to a services instead of a primarily goods-based relationship with clients can lead to new types of customer interaction. Not an incidental purchase of capital goods and related services, but a continuous dialogue between service provider and client can bring new impulses for innovation. At Océ typically in the first two years of a 5-year lease contract, the focus is on realizing cost savings for the client and delivering services as promised. The third year is for improving standard procedures and business standards and in the final two years, new services are offered in consultation with the client. Especially where Océ works on site, there is an intense and rich dialogue with the client which helps in developing new service offers.
Organising for new customer interaction is not an easy task. It supposes a more equal relationship between service provider and customer and this will most likely require new organisational forms and initiatives. Additionally, it requires the willingness to redefine and learn from this relationship and feed back the information and insights derived from a more intense customer interaction to the service provider. By using the 6D service innovation model, new patterns of customer interaction are included in the analysis from the start when designing new service experiences and solutions, especially how they might affect the other dimensions of the service innovation and vice versa.

3. **Third dimension: new value system or new business partners**

The third dimension is the new value system or set of new business partners i.e. actors involved in jointly producing a service innovation. As indicated above, many service innovations are architectural or combinatory. This means that especially the bundling of service functions and service activities is significantly defining the way new service configurations are conceived. New services – thus creating and appropriating value – are increasingly realised through combinations of service functions provided by a coalition of providers, both parties in the value chain, and actors in the wider value network (Chesbrough, 2003, p. 68; see also Gawer & Cusumano, 2002; Huston & Sakkab, 2006; Jacobides et al., 2006; Tee & Gawer, 2009).

As was evident from analysing innovation in the hospitality industry (see chapter 3), the most successful firms are especially those that are not only able to cooperate with suppliers and clients, but are also crossing industry boundaries and creating new combinations with new business partners. Some entrepreneurs in the Dutch hospitality industry have successfully managed to combine hospitality and the arts sector for example by developing new formats for hospitality services in museums or by linking up with individual artists who contribute to a hospitality experience through performances or help create a particular service experience. Increasingly so hospitality and leisure are part of retailing and vice versa, giving rise to innovative service propositions.

In retailing (see chapters 2 and 4) these types of broad coalitions to realise a service innovation are also quite common. A home-shopping service offered by a retailer may require a number of specialist service firms such as a web design company, a company that handles online payments, a micro-logistics firm, and a call centre and so on and so forth to provide and establish such a service. Another example is department store V&D in the Netherlands which houses one of the most successful and innovative hospitality formulas in the Netherlands named La Place. The latter not only attracts the public to V&D stores, but is increasingly positioned in other contexts such as airports and in catering, thus requiring new business partners.
Yet another example is Rabobank (see chapter 4) which has a tradition of participating in service activities and experiments that are not directly associated with banking. Examples include contributing to experiments in road pricing, offering mobile telecom services and creating multifunctional desks in especially peripheral areas to maintain service levels there (i.e. desks for municipal services and services in the fields of finance, mail, housing and healthcare). Similarly, Athlon (see section 1.1), a car lease firm owned by Rabobank, offers sustainable mobility services including travel by train, rental of temporary office and meeting spaces, virtual personal assistants, personal driving instructions etc., it is clear that this service offer is in fact provided by a coalition of business partners.

Finally, knowledge intensive business services such as technical engineering firms and ICT service providers (see chapter 2 and also chapter 8) are almost by definition dependent on various project partners from outside their own industry to realise innovative services for their clients.

Service innovations increasingly require new combinations of business partners cooperating in new value systems and this is reflected in the 6D service innovation model. The examples of service innovations just given demonstrate the willingness and capability to act through different alliances of firms and organizations outside the regular scope of the industry. By adding a new business partner, or more importantly managing the temporary or more permanent coalition of service providers, a successful service provider is able to provide an innovative, more complete or more specialised service experience and thus differentiate the actual service offer. However, in practice, the ‘not invented here syndrome’ is quite prominent and both the willingness and capability to cooperate beyond firm boundaries first need to be created and subsequently nurtured by senior management.

4. Fourth dimension: new revenue models

The fourth dimension is related to new revenue models. Many new service ideas are combinatorial i.e. they combine elements of services that already exist individually or as part of other services into a new combination or configuration. However, only a few of these make it into successful service innovations as especially those services requiring multiple actors have to find models to distribute costs and revenues in appropriate ways. Numerous web-enabled new services\footnote{In areas as diverse as traffic and transport, gaming, publishing, retailing, entertainment, and numerous Web 2.0 applications where user communities are co-producing services.} are in search of new revenue models. To develop the right revenue model, fitting a new service concept may require considerable ingenuity. Many new service ideas fail as the distribution of costs and revenues does not match.

Under dimension 2 (new customer interaction) we observed how Randstad offers increasingly specialized services. We mentioned four categories of services and how Randstad explicitly
aims at increasing the share of what it likes to call its specialties. This is largely due to the different revenue model of the higher value added HR services. The revenue model is much closer to consultancy or outsourcing business, where clients do not necessarily pay per hour, but for a solution to a problem or for the convenience of no longer being responsible for a particular HR function. At Océ (see chapter 4) a shift can be observed from a hardware and product-based revenue model towards a much more customised service-based revenue model. It is no longer machines and cents per individual copies made that counts, but the profit from client-specific service contracts. Here clients increasingly pay for the luxury of not having to look after the document management system themselves. In these outsourcing contracts a whole array of service activities can be included up to consultancy services as long as the client’s problem is solved. If in this case Océ is capable of organizing the outsourced document management function much more effectively and efficiently, the revenues stemming from these types of contracts are potentially much higher and also provide different types of incentives for Océ to innovate further. These innovations are organizational rather than (only) technological innovations. Similarly in ICT services (see chapter 2), selling packaged software and customized versus ASP models or Software as a Service models essentially imply revenue model innovations. Clients no longer purchase expensive software packages (and their implementation and customisation), but take a subscription to a service. This changes for example the way software is marketed and also introduces a more long term relationship element between service provider and customer. In technical engineering (see chapter 2), the switch from hiring specialist capacity (and thus billable hours) to turnkey project or so-called Build-Operate-Transfer contracts means in fact a switch in revenue models and hence different incentives to innovate. A consortium is no longer requested to construct a new tunnel or a new road, but to come up with a solution for a mobility problem and operate for example a tunnel for 20 years. The investment and thus the consortium may be paid partly out of the toll charged. This evidently implies new revenue models, which impact on the other dimensions of the (service) innovation as well.

More in general, timing and above all being prepared to cannibalise in time is another important aspect of this new revenue dimension. Especially larger firms tend to become less entrepreneurial, more rigid and focusing on ‘going concern’ and seemingly stable streams of revenues. This undermines the ability to innovate and adapt to a changing firm context.\textsuperscript{118}

\textsuperscript{118} This has been documented using different wording in the strategic management and innovation literature. Tushman & O’Reilly III (1996) for example pointed out the difficulty of combining incremental and radical innovation in one organization. They labelled the phenomenon as ambidexterity and organizations capable of combining the two as ambidextrous organizations. Christensen (1997), drawing on research mostly in manufacturing industries, labelled it the ‘innovators dilemma’. This refers to the observation that mostly small entrepreneurial firms introduce innovative designs that at first seem to perform worse than the dominant designs, but gradually overtake and redefine the market. The incumbent large firms that concentrated too long on fine-tuning the dominant design and the existing business processes are then left behind with an obsolete product. His examples, though, are typically derived from the manufacturing industries.
However, successful innovators seem to be able to cannibalise on their current product portfolio and make room for new generations of innovative goods and services. It is definitely relevant for service industries as some service innovations can be created with relatively shorter lead times compared to complex manufacturing innovations. Therefore the threat of an incumbent being overtaken by a new entrant with a completely new revenue model is real. Thus reflecting on the most relevant revenue models is a key responsibility of service innovation managers. Introducing a new revenue model can be a powerful way to innovate services and does affect the other dimensions included in the 6D-model considerably. Therefore it is incorporated as a separate dimension in our 6D-service innovation model.

5. **Fifth dimension: new service delivery system (organizational component)**

This dimension refers to the human part of the delivery system, most notably personnel, the organisational structure of the service company itself and the wider culture. These may all in their own way be innovative and contribute to creating innovative service experiences and solutions. New services, for example, may require new organisational structures, (inter)personal capabilities or team skills.

In retailing (see chapter 2) IKEA for example is not only an innovative retail concept, but also innovative in how it is organised, how it empowers its employees, how it motivates customers to assemble their own furniture, and how it has established a very clear firm culture of how to service and approach clients (see sections 1.1 and Edvarsson & Enquist, 2009). This illustrates that also through the soft elements of the service delivery system one can differentiate oneself from the competition. Service workers not only contribute to developing and providing new services – requiring new organisational structures, working routines, (inter)personal capabilities – but are also key for establishing a dialogue with (potential) customers, which is a major input for developing new services. Changes in organizational processes and ways of working may induce or be required to realise new service experiences. The organizational service delivery system is sometimes underestimated if service innovations are seen to be easy to imitate. However, in our view this is an important aspect of service innovation and is therefore included as a separate dimension in our 6D-service innovation model.

Further as observed in for example the Rabo case (see chapter 4), allowing room for corporate intrapreneurship thus creating a culture that values new ideas and challenges current working routines is also an important precondition for being able to realise new service innovations. This is what is meant when discussing the role cosmopolites play in triggering service innovations. These are free agents within the bank with creative new ideas, extensive networks inside and outside the bank organization, with strong ties to providers and universities, as well as with market actors, local banks and the central Rabobank.\footnote{This is a specific factor as Rabobank is a cooperation of local banks.}
The Océ case (see chapter 4) illustrates that the shift to a customised services model also implies that the service delivery organisation is changing. Employees in operating companies and especially service people including business development managers and employees responsible for outsourced document management services are in direct contact with clients and receive cues as to what changes to existing services and what new services are needed. In service innovation this is a powerful source of innovation. However, in a firm that is still largely managed and perceived as a manufacturer of capital goods or equipment, which is echoed in the firm culture and organization, a more centralized steering of innovation might still dominate.

The Randstad case demonstrates that introducing a service innovation may also mean redesigning the organization of the current service delivery system. This was for example the case when Randstad introduced their in-house services. Here a Randstad consultant is operating and managing a dedicated pool of flexworkers at the client’s site. The innovation is in how to manage a pool of 80-800 flexworkers in a pool system in cyclical industries at the client’s site while keeping both the client and the pool members happy. How this is dealt with is basically an organisational innovation, which is subsequently marketed as a dedicated service.

A complicating factor is that especially in massive service operations, (potential) clients expect to be serviced in similar ways literally around the globe, which is a challenge especially for global service players when rolling out new services world-wide. As we will observe in section 6.5, managing the scaling of service innovations is a key capability for service innovators.

6. Sixth dimension: new service delivery system (technological component)

This dimension is about the technological systems and processes involved in delivering a service. It pinpoints the observation that ICTs (predominantly, but not exclusively) have enabled numerous service innovations ranging from electronic government and E-health, to advanced multi-channel management, customization of services, introduction of self service concepts, virtual project teams and so on. ICTs are offering huge opportunities for introducing new service concepts, new ways of interacting with customers and other service providers, for developing new revenue models and for the way in which the service delivery system is organized. Put differently: innovations in the technological service delivery organisation do impact upon and are affected by the other five dimensions of service innovation.

Think for instance of the large number of so-called long tail businesses that emerged thanks to wide scale use of the Internet, and the rapid rise of electronic marketplaces that are changing numerous service markets.
The above is also evident from the sectoral and case studies discussed in chapters 2-5. In the hospitality industry (see chapter 3) many innovations in the technological service delivery system can be observed ranging from online booking systems, new kitchen equipment and semi-prepared food coming from the food service industry, to the use of handheld ordering and payment devices on terraces and in restaurants. This allows not only for new ways of working, but also for interacting with clients in new ways.

In retailing firms like Ahold (see chapter 4), a substantial part of the investments in innovations is in new ICT systems and logistics solutions, both at corporate and decentralised level (i.e. at the Arena-level). At corporate level it is by far the most important investment category. At Arena-level the combined R&D and innovation investments in new shop concepts, category management and product development (mostly with producers of home brands) combined is still the most important category, but investments in ICT and logistics innovation are substantial. Customer centric retailing requires state-of-the-art logistics and ICT systems. The detailed information at individual client level – also thanks to loyalty card systems – results in rich databases that can be mined for developing new service concepts and for shaping customer interaction.

In the Randstad case we observed that an important growth driver in the staffing and HR solutions industry is the quality of the massive administrative processes underlying the (customised) service offerings. Investments in administrative and ICT systems are key for realising process innovations such as electronic billing systems, new front office systems or shared service centres, and eventually facilitate for example the roll-out of new service concepts and innovations in the interaction with customers.

A major challenge for innovative service firms and their management therefore is to create the intelligence function within the firm to assess new technological opportunities and what scope these offer for developing new services. In addition, diffusing (and the approaches to do so) these state-of-the-art service delivery systems effectively and efficiently throughout the wider firm is another related challenge for service innovation managers.

By integrating this technological service delivery system as a separate dimension in our 6D-service innovation platform, we aim to do justice to the key role new technologies play in creating new service experiences and solutions. Moreover, our 6D-service innovation model emphasizes that it is mostly the combination of these technological and non-technological dimensions which results in new service experiences and solutions. New technological service delivery systems will trigger and/or require new innovations in some or all of the other dimensions and vice versa.
Business model innovation and linking the various dimensions

A service business can renew every single dimension in the system, or a combination of several dimensions previously outlined. The significance of the dimensions, as well as the interactions between them, will vary across individual service innovations and firms. Business model innovation can be perceived as a systems-level innovation where (almost) every dimension is changed. It is important to highlight here that service firms can have various business models in one portfolio and that a service firm may combine various new business models in one strategy.

The Randstad case (see chapter 5) illustrated that a service firm can apply different business models to different categories of customers. It offers a regular staffing service through its outlets in the streets, but for those clients with whom they have developed a more intimate relationship over the years, they may gradually take over more HR-related tasks using different business models such as in-house services or complete mobility centres in times of economic downturn. In other markets Randstad can compete with other business models and formats ranging from higher level recruitment services to HR consultancy and outsourcing. Here Randstad evidently is starting to compete with knowledge-intensive business services. Managing these various business models at the same time is a serious management challenge. Similarly, Rabobank (see chapter 4), by developing mobile platforms for banking is in fact adding a new business model to its portfolio which requires new service concepts, ways of interacting with customers and new partners, organization of the service delivery system, and pricing of the various mobile banking services.

More in general, the linkages among these various service innovation dimensions are significant because service innovations that focus predominantly on one or two dimensions may result in sub-optimal and unbalanced service configurations.\textsuperscript{121}\textsuperscript{122} The 6D-model of service innovation is a model for mapping and managing\textsuperscript{122} the outcome of the service innovation process (i.e. service innovations) in the form of six key dimensions or characteristics of discrete service innovations. Creating and managing a repeated stream of service innovations is a major management challenge. Many service-dominant firms still fail to meet these challenges as there is no systematic service innovation process, strategy, or reflection on or understanding of the key dynamic firm capabilities needed to create

\textsuperscript{121} To realise these service innovations, the innovative firm can draw on various zero-order or regular resources and capabilities mostly linked to functional management domains. A service innovation dimension draws on a mix of regular capabilities and resources. We left these out of the analysis as well as figures 6.1-6.3 as we aim to concentrate on dynamic (i.e. higher order) capabilities for managing service innovation repeatedly.

\textsuperscript{122} A productive way of looking at the various functions of such a framework is given by Maes (2007, p.16-17). His integrative framework for information management differentiates three types of functions namely: descriptive/orientating, organizing/designing and prescriptive/normative.
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new service experiences and solutions more routinely. In section 6.5 we systematically introduce and analyse six categories of dynamic service innovation capabilities that may prove helpful in meeting this management challenge.

6.5 Dynamic capabilities for managing service innovations

In this section we present six dynamic capabilities for managing service innovation. These dynamic service innovation capabilities are represented as the six circles numbered A-F in the outer circle in figure 6.2 below. They are introduced one by one. For each dynamic capability, we systematically explain the individual capability itself, how it relates to the existing RBV/DCV literature, and provide some examples taken from the sectoral and case studies in chapters 2-5. We further position each of the dynamic service innovation capabilities vis-à-vis the six service innovation dimensions (section 6.4) and other dynamic service innovation capabilities, then formulate a proposition.

A. Signalling user needs and technological options

Explaining the dynamic capability

Service innovations are seldom born in a firm lab as a result of an isolated research activity (Sundbo & Gallouj, 2000; den Hertog et al., 2006). On the contrary, most service innovations are an answer to a perceived unmet need of actual or potential customers or a technological option translated 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 for innovators (see Teece, 2007) and in our view for service innovators in particular. This intelligence function can then be labelled as the capability to see dominant trends, unmet needs and promising technological options for new service configurations. Service innovators are to a much greater extent dependent on their (actual and potential) users for co-developing and co-producing new service propositions (Alam, 2002; Michel et al., 2008; Matthing et al., Sanden and Edvardsson, 2004). Therefore understanding these users and their needs is a priority. Further, due to their combinatory nature (van der Aa & Elfring, 2002, see also Normann, 2002; Sundbo, 1994; Gallouj & Weinstein, 1997), service providers have to understand what new service configurations would be valued by customers.

Two important sub-capabilities are signalling user needs on the one hand and technological options on the other. The first – and probably more important of the two in a service context – is the capability to empathically understand users and sense their (potential) needs well in advance by interacting intensively with (potential) clients. Dialogues with lead users, joint experimentation and prototyping, user panels, account management systems, client
profiling, detailed analysis of how current services are used, trend analysis in client groups, are some of the tools used to sense user needs early on and inform the actual act of service innovation. Typically this capability – at least in larger firms – resides in marketing, new business departments or innovation management if present (den Hertog et al., 2006).

The second is the capability to signal new technological options (see Kindström et al., 2009, p. 336; Teece, 2007, p. 324). These provide opportunities to adapt and renew the service portfolio, including new ways of interacting with clients, on-demand production, enriching service dialogues or offering opportunities for customized services which sometimes also go hand in hand with new options for self service. Service innovators have to make sure they are informed about the latest options that technologies offer in their industry and related trades. This can be part of a business development function or an ICT department,
making a group of people responsible for scanning promising technologies and discussing new options with groups of technology providers.

Signalling is not a passive activity, but can be managed for example by a new business development unit as an active, though still rather open process, with broad, well specified questions in mind. In fact a deep understanding of how the relevant context of a firm is changing and being able to sense user needs well in advance and translate these into a search routine for a new service is hypothesized to be key here. Examples of leading questions include: what do customers expect from a reliable partner?; are our clients in need of 24/7 availability of our services?; what sort of time constraints do our clients face and can we use these to think of better services that help our time constrained clients better?; what types of clients are using what types of interaction channels?; what service proposition would be valued most by our clients?. These types of questions may steer implicitly or more explicitly the search processes of service innovators. It is suggested that they first have to be able to manage internal and external sources of information or knowledge and translate these into leading problems and unmet service needs, before more focused service conceptualisation can take place.

How does this capability relate to the RBV/DCV literature?

This capability has been discussed in more generic terms by Teece (2007) and Wang & Ahmed (2007). Under his sensing category Teece includes “processes to identify target market segments, changing customer needs, and customer innovation” and “processes to tap developments in exogenous science and technology” (2007, p. 1326). Wang & Ahmed in their review mention the “ability to scan the market, monitor customers and competitors” as an example of what they define as adaptive capability (2007, p. 37). In a services context this capability is considered part of dynamic marketing capabilities as discussed by Bruni & Verona (2009, p. 107). They include amongst other components external ties with lead users and opinion leaders, with the scientific community and with consulting firms. Kindström et al. (2009), when discussing dynamic capabilities for manufacturing firms transforming to a service-based business model, signal the importance of “building up a deep customer knowledge, including institutionalizing feedback loops and creating organizational roles, systems and processes that continuously capture and relay customer demands” as part of their wider value opportunity sensing and discovery, next to technology sensing i.e. “technological innovations directly related to the services business” (p. 336).

Illustrations from our sectoral and case studies

The new service experiences created by Ahold (see chapter 4) are to a great extent based on the capability to understand its customers intimately by using customer data for example derived from loyalty card system). Similarly, at Rabobank (see chapter 4) we
highlighted the role of cosmopolites in developing new services and how they are in fact shaping this capability.

**Linkages with other dynamic capabilities and service innovation performance dimensions**

How is this dynamic capability linked to other dynamic service innovation capabilities? Although there is no particular order in a service innovation process – signalling should be seen as a permanent activity – typically the results of this capability provide input for the conceptualizing capability (dynamic capability B) as well as the co-production and orchestration capability (dynamic capability D). Finally both the user-need and technological options sub-capabilities do affect both the (un) Bundling capability (as they might highlight the need for more bundled or conversely more unbundled services) and the scaling capability. The latter is for example the case if users want to have a similar service experience worldwide or new technological options become available which facilitate up-scaling of service operations.

How does this particular capability relate to service innovation performance? Apart from assessing how this capability affects overall service innovation e.g. by measuring how it relates to the level of new service experiences and service solutions, we think it should be tested by linking this capability to the various service innovation dimensions as introduced in section 6.4. We hypothesize that the signalling user needs capability is especially linked to the new service concept of performance dimensions, whereas the signalling technological options capability is expected to affect the ‘new delivery system: technological’ and the ‘new customer interaction’ dimensions of service innovation.

**Propositions**

**Proposition 1A.** Service firms with strong capabilities for signalling user needs are better connected to actual and potential clients and are better capable of making sense of information from different sources (also if these are contradictory) and are more productive in collecting ideas for new services compared to their peers/competitors in similar markets. These firms therefore outperform their peers/competitors in particular in the ‘new service concept’ and ‘new customer interaction’ dimensions of service innovation.

**Proposition 1B.** Firms with strong capabilities for signalling technological options are better connected to actual and potential technology partners, are better capable of making sense of technological information from different sources (also if these are contradictory) and then translating this to a service innovation context compared to their peers/competitors operating in similar markets. Those service innovators who master
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this capability outperform their competitors especially on the ‘new delivery system: technological’ and the ‘new customer interaction’ dimensions (which are both very much technologically mediated).

B Conceptualising

Explaining the dynamic capability

A service innovation cannot be researched, developed, prototyped and tested in the same way as physical goods. This has mostly to do with two key characteristics of services as outlined in section 1.2. Firstly, their intangibility or predominantly conceptual nature makes it difficult for a customer to assess beforehand what will be experienced and what will be delivered (Parasuraman et al., 1985). Service innovations are in the first place intangible new ideas or combinations of existing ideas (sometimes in combination with physical objects) that together constitute a new value proposition to a client. Conceptualising, designing, prototyping or testing these more fuzzy types of innovations, which together can be labelled as service design – is a specific capability that is therefore expected to be less tangible and codified. The shared process character of high customer intensity – a second key characteristic of services (see Alam, 2002; Magnussen et al., 2003) – causes this service conceptualisation for significant, non-standardized categories of services to become an ongoing process between service provider (mostly a group of service providers) and client. There is not always a logical beginning and end to the conceptualisation and service design process.

Once signals and initial ideas for new services and service combinations have been collected based on thorough customer interaction and new technological options, a true creative process of reworking these in a service offering (Frei, 2008) or service concepts (Normann, 2002) starts. This may involve the ability to smartly combine new and existing service elements into an integrated service configuration that is experienced as new to the market. The actual conceptualisation and design of a service innovation involves more than detailing and visualizing the service offering gradually. It may also entail deciding on how the new service offer relates to firm strategy, target audience, intensity and forms of customer interaction, organisation of the delivery system, partners needed to bring about the service, pricing and revenue model to be used, sort of service dialogue foreseen in detail, and so on and so forth.

In practice, this process is mostly in the hands of a interdisciplinary project team responsible for bringing an initial idea for an innovative service to life (den Hertog et al., 2006). Another task of such a team may be to organize support from senior management as increasingly the service innovation processes involves more disciplines (IfM & IBM, 2008), and in fact corporate entrepreneurship is controlled by management (Sundbo, 1996). In the end this
Dynamic capability can be said to be about transforming a rough idea for a new service into a viable service offering. This offering should be understood by colleagues, external partners, and recognized by clients as a useful, valuable new service offer. As there are hardly ever ways in which new services can be prototyped in a lab-like setting, new concepts and related business processes are simply tried out in practice in the form of prototypes and experiments (Toivonen, 2010), mostly with trusted and well known clients who operate as co-innovators. It is hypothesized that this requires a widely distributed preparedness or capability within the firm to think out of the box, question current service practices and processes, and be eager to test prototypes or run service experiments. This preparedness in turn requires that ideas and suggestions for new services and service processes can pop up in diverse settings and parts of the organization, including in relation to clients and suppliers. The capability to nurture corporate entrepreneurship and create—to an important degree through HRM policies and leadership practices— an open service innovation culture that values experimentation, prototyping and thinking out of the box, is expected to be essential when managing service innovation in a sustained way.

**How does this capability relate to the RBV/DCV literature?**

In the RBV and DCV literature we have not come across conceptualisation as a specific dynamic capability. This is mainly due to the fact that conceptualisation is typically of importance in service innovation, whereas most dynamic capabilities are discussed in a manufacturing and technological innovation context. In the service management and service innovation literature, however, concept development is mentioned as a step in a typical new service development process (Zomerdijk & Voss, 2010). It is also acknowledged that this can be a rather fuzzy or abstract process especially in services, and therefore has been referred to as fuzzy front end (see for example Zeithaml & Bitner, 2003, p. 226). Edvardsson & Olson (1996) include service design as one of the three core concepts in their holistic service prerequisites model. Similarly Shostack, one of the founders of service blueprinting, uses the notion of service design (1984) and indeed this is one of the methods which can be used for developing new service innovations.124

**Illustrations from our sectoral and case studies**

In practice, the conceptualisation, designing and prototyping (or service design) capability refers to quite a creative, complicated and fuzzy process, but at the same time it is possibly one of the most central ones in developing new services. This is illustrated by our

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123 In our view this implies that – at a basic level - leadership should communicate that it values service innovation. At a more advanced level, the way individual careers, team formation and coaching are shaped do matter when managing service innovation.

124 There is considerable literature on service blueprinting, for a recent overview see Bitner et al. (2008).
sectoral and case studies. In the hospitality industry (see chapter 3), the idea for a small scale inner city design hotel alone does not lead to a viable new hotel service unless this service concept is designed in more detail. Decisions need to be included in the service design regarding for example target audience, how this concept is part of a wider service experience, and a fairly detailed prototype (including testing where possible). The same applies to introducing new shop formulas (see chapter 2). The concept of establishing small supermarkets at locations with high traffic (such as AH to go, see chapter 4) is more than simply opening a small supermarket at a different type of location as it has specific demands in terms of assortment, pricing, logistics and service delivery, and the type of interaction with clients. The new HR solutions or insourcing HR functions Randstad offers (see chapter 5) are new concepts that require different ways of interacting with clients, new service delivery organisations and in fact a different service process.

Getting from concepts on paper to implemented innovative service processes in practice requires these specific conceptualisation and design capabilities. The conceptualisation capability is not conducting research or making a business case, but is actually a design activity. As this is increasingly acknowledged, service design consultancies are emerging as a separate discipline next to product design consultancies. Leading design consultancies, including the well known design consultancy IDEO headquartered in San Francisco, have moved to designing not only products and elements of services (for example user interfaces), but also integrated service experiences. These may even include service prototyping e.g. processing passengers at air terminals, retail experiences, service encounters, and other techniques. However, in practice the distinction between manufactured goods and services is not so black and white, especially in those services where serviscapes do matter. These are services where the physical environment in which the service is delivered is important and where the firm and the customer interact, as well as any tangible commodities that facilitate performance or communication of the service (see Zeithaml & Bitner, 2003, p. 280). Examples include design and lay-out of buildings, counters, use of colour and light, supporting material such as folders, manuals and websites. These are designed to create a certain imagine and help customers find their way.

**Linkages with other dynamic capabilities and service innovation performance dimensions**

The conceptualisation capability is typically fed by the signalling capability (dynamic service innovation capability A). It further feeds into all the other remaining capabilities. The actual conceptualisation affects who and how other actors are involved in the service offer and thus the co-producing and orchestrating capability (dynamic service innovation capability D). The conceptualisation also determines whether a more integrated service experience – requiring bundling and related capabilities – or a more specialist service experience is created – requiring unbundling capabilities (dynamic service innovation capability C).
Finally, the conceptualisation capability has a significant impact on the scalability and stretching of the service concept at hand (dynamic service innovation capability E).

**Proposition**

This dynamic capability is primarily linked to the dimension of new service concept, but we hypothesize that it clearly affects all other service dimensions (i.e. measures of service innovation performance) as well. By way of summary we therefore formulate the following proposition:

**Proposition 2.** Service firms with strong conceptualisation capabilities are particularly good at transforming an initial idea for a new service into a fully operational new service offering and the service process and service organisation needed to realise it. This requires a strong conceptualisation and prototyping (or service design) capability – or one could say conversion process from idea to first real life service experience – involving lots of practical decisions. Firms excelling in this particular capability outperform their peers/competitors in probably all six performance dimensions of service innovation, but in particular in the ‘new service concept’ and ‘new delivery system (organisational)’ dimensions of service innovation.

### C. Bundling and unbundling

**Explanation of the dynamic capability**

One of the key characteristics of service innovations is that they are often new configurations of existing elements supplied in a new context (van der Aa & Elfring, 2002). That means that in practice, many new services are newly bundled, enriched, blended or the opposite of newly unbundled, stripped down to the bare essentials, service offerings (Normann, 2002). The capability to unbundle, bundle, enrich and blend service activities in new service value propositions is the capability to design new service experiences and solutions by bundling or unbundling service elements, by enriching and customizing existing service offers in novel ways and by blending various – at first sight sometimes unrelated – service activities into integrated service offers. Different clients require different types of service experiences or solutions. By carefully segmenting clients and client needs, service providers can develop services that fit particular client needs and so create unique service experiences and solutions.

Two basic varieties can be recognized. Firstly, making smart service combinations with a ‘one stop shopping’ (or full service) character, but still including the possibility to customize the service offer. Examples are integrated consultancies that provide accountancy, organisational advice and ICT service; all-inclusive holiday packages where apart from...
the air trip and hotel, catering and car rental services are included or retail formulas that have an important leisure component or vice versa.\textsuperscript{125} Secondly, unbundling services and stripping them down to their bare essentials creates highly specialised services that are really tailor-made or in contrast are highly similar and can therefore be standardised to a certain extent. Examples of the former are strategy boutiques in management consultancy or law firms that focus on certain domains (mergers and acquisitions, intellectual property rights). Examples of the latter are law firms specialising in divorces or engineering firms specialising in advising on oil rig construction or deep sea drilling. A smart variety is where a bundled service is unbundled first and the basic service sold as a highly standardized basic item; then the remaining service elements are offered and priced separately or re-bundled later at a premium.\textsuperscript{126} It is important to note here that within one industry, firms may make completely opposing strategic choices.

\textbf{How does this capability relate to the RBV/DCV literature?}

In the RBV and DCV literature, this bundling/unbundling capability had not been described to our knowledge as a separate dynamic capability. Sirmon et al. (2007) do propose a new overall resources management process whereby they differentiate between structuring, bundling, and leveraging of resources. However, they interpret bundling as the bundling of resources rather than the bundling of service activities or functionality which is intended here.\textsuperscript{127} However, as indicated above, in the service management and service innovation literature, the importance of bundling in services and service innovation is well documented. As observed by van der Aa and Elfring (2002, p. 162), this type of innovation resembles Normann’s concept of bundling (2002), Sundbo’s concept of ‘modulization’ (1994), and the concept of ‘recombinative innovation’ of Gallouj & Weinstein (1997).

\textbf{Illustrations from our sectoral and case studies}

Examples of both bundling and unbundling are plentiful in many of the industries and cases described in chapters 2-5. They can be clearly observed in all sorts of pre-specified packages linked to hospitality (see chapter 3), where a total experience is created by combining travel, dinner, theatre, wellness or retailing. What used to be just a visit to a sauna is now

\textsuperscript{125} Think for example of museums or music and art festivals that greatly rely on their hospitality or retailing services in order to survive.

\textsuperscript{126} Probably one of the more famous examples – although not included in our studies as shown in chapters 2-5 – are low-cost air carriers that have first unbundled travelling by air into transporting a customer from A to B, more like stepping on a bus. They then started to strip down first the basic service to be able to charge later on for (then) additional service elements such as having a piece of luggage transported, refreshments, extra legroom, and using check-in facilities.

\textsuperscript{127} Although you could argue that in practice, creating a bundled service offer means combining a firm’s (and quite often other firms’) capabilities and resources.
an integrated experience in a wellness facility. What used to be booking a hotel, is now booking a complete pre-set holiday where travel, car rental, hotel and entertainment are included and bundled into one package. At the same time, bundling eventually triggers unbundling. In hospitality even the lack of choice may be marketed as a premium service experience. Some gourmet chefs have differentiated themselves by hardly allowing any choice at all and offering a small scale table d’hôte variety of restaurant. Here not the client but the chef is in control again and prepares only two or three menus. If you decide to go to their place you will have very little choice, but you might have an incredibly good and fresh meal and a more intimate service experience.

Similarly, in the ICT service industry (see chapter 2) firms may specialise in programming for risk management in the financial service industry whereas other choose to offer the full spectre ranging from payroll services to shared service centres, ICT outsourcing, and workplace management. Generally speaking there are two ways in which one can differentiate oneself from the competition in knowledge intensive business services i.e. by bundling all your services under one roof (and become a particular service supermarket) or by becoming a true specialist or niche player.

At Océ (see chapter 4) we also noted this trend towards more complete, bundled services. Here it was observed that clients increasingly want integrated solutions to manage their office documents. Therefore major key accounts are offered additional services such as output management and document management solutions, fleet management, archiving and scanning services in addition to basic printing services or even complete outsourcing (from the client’s perspective) of reproduction and document handling activities.

**Linkages with other dynamic capabilities and service innovation performance dimensions**

The bundling and unbundling capability is clearly linked to the conceptualising capability (Dynamic service innovation capability B) as thinking in terms of services bundles is largely dependent on the capability to conceptualize service experiences and solutions in such a way. Additionally, the (un) bundling capability is linked with the co-producing and orchestrating capability if bundled services do require multiple service providers which need to be orchestrated (Dynamic service innovation capability D). Furthermore the (un) bundling capability is linked especially to the stretching part of the scaling and stretching capability as bundling might involve stretching a strong service brand in more or less related service markets (Dynamic service innovation capability E). Links with the other dynamic service innovation capabilities, though not absent, are less obvious.

We further hypothesize that this dynamic service innovation capability is most closely linked to three service innovation performance dimensions, namely: new service concept, new value system/business partners, and new revenue model. Deciding what service
elements to bundle or not usually depends on the chosen service concept. Especially the bundling option implies that various service activities – sometimes very dissimilar ones – are combined. This usually requires active participation of business partners in a wider service value system and hence a related change in the revenue model as the basis for charging a price that has changed accordingly.

**Proposition**

**Proposition 3.** Service firms with strong bundling, unbundling, enriching and blending capabilities are particularly good at creating new service experiences and solutions by either bundling or unbundling service elements in new service offers. This can be done by making smart service combinations with a ‘one stop shopping’ character or by unbundling services and stripping these down to their bare essentials which are then used as basis for either highly specialised services that are really tailor-made or more standardised services. Both require well developed conceptualisation capabilities and especially the strategy of bundling also requires highly developed orchestration and stretching capabilities. We hypothesize that firms with well developed (un)bundling capabilities outperform their peers/competitors particularly in the ‘new service concept’, ‘new value system/business partners’ and ‘new revenue model’ dimensions of service innovation.

**D. Co-producing and orchestrating**

**Explaining the dynamic capability**

We see managing service innovation across the boundaries of the individual firm and managing or engaging in networks as a key dynamic capability for being able to put a new service concept or configuration on the market. As outlined earlier, many service propositions are combinations of service elements (sometimes goods as well) of different services providers (including the customer) that together fulfil a service need. This corresponds with the key characteristics of service innovation i.e. its combinatory or architectural nature. It implies that the core service provider or the service aggregator\(^{128}\) has to co-design and co-produce a service innovation with other suppliers and manage the accompanying alliance.\(^{129}\) As service innovations are co-produced and in fact co-innovated between service provider and client, customers will often be involved in these alliances co-producing and co-designing service innovations.

In the first place service innovators are therefore expected to be able to engage in these alliances and networks. Secondly, they must be able to manage and orchestrate (Teece,\(^{128}\) Usual...
2007, p. 1320) these various coalitions (with different sets of partners) alongside each other and so invest in a set of potential partners who might be needed now or in the future to create new service experiences and solutions. One could even argue that this dynamic service innovation capability is in fact the capability to organise and act in open service innovation systems. That would mean the capability to co-produce and co-design with clients (benefiting from customer interactions and access to a set of customers) and other trusted partners and stakeholders newly configured business concepts and subsequently orchestrate these temporary partnerships or alliances.

How does this capability relate to the RBV/DCV literature?

This capability has, mostly in more generic terms, been touched upon in various RBV/DCV-contributions. Eisenhardt & Martin (2000), when taking stock of the numerous types of dynamic capabilities include alliance routines for bringing new resources into the firm from external sources (2000, p. 1108). Similarly, Wang & Ahmed (2007) in their review mention internal and external integration of knowledge as a process pertinent to dynamic capabilities (p. 34). Teece, when presenting the micro-foundations of his three categories of dynamic capabilities, refers to various aspects of what we include in the co-producing and orchestrating capability. Under sensing, he includes processes to tap supplier and complementor innovation (2007, p. 1326). This refers to the need to consider innovation in a value system setting and hence involve customers and suppliers in the innovation process. Under seizing, he further includes selecting enterprise boundaries to manage complementary products and control platforms (2007, p. 1334) as an important micro-foundation. This highlights the need to orchestrate groups of co-operating suppliers, customers and providers of complementary products and services when innovating. Kindström et al. (2009) when applying Teece’s framework to manufacturing firms transforming to service providers, mention two dynamic capabilities that are relevant in this context. Firstly they point out the importance of “an understanding of the value network” (ibid, p. 336) as part of the wider service-oriented dynamic capability namely value opportunity sensing and discovery. Secondly, they identify orchestrating of the service system as one of the two key reconfiguring service-oriented dynamic capabilities. The latter is needed as they observe that value creation takes place in a network of providers, service partners and customers or in a value creating system (ibid, p. 337). Another study in a services context also highlights orchestrating or alliancing as a key dynamic capability for in this case related diversification in small Norwegian accountancy practices (Døving & Gooderham, 2008). They mention “the facility to nurture alliances for joint problem solving and service development with different but complementary business service providers” (2008, p. 847) as one of three essential dynamic capabilities.
Illustrations from our sectoral and case studies

Our sectoral and case studies as presented in chapters 2-5 offer various examples of the co-producing and orchestrating capability at work. In some of these studies we witnessed what may be named the construction of service value systems or service systems requiring input from many players. The services as offered by knowledge intensive business firms such as engineering firms, ICT services and consultancy services are almost by definition about co-producing with clients and mostly other service providers. Complex projects may require innovative solutions that are being co-produced by mixed project teams, where the main contractor orchestrates the project teams. What is more, typically major ICT service providers should be able not only to create service solutions, but also service various players in the same industry. This might require considerable balancing or orchestrating capabilities to manage various alliances alongside each other.

In the hospitality industry we found that the more innovative firms cooperate significantly more often with other firms in general and with cooperation partners outside their industry in particular. Innovative hotel chains for example need to be able to co-produce and co-innovate with airlines, travel agents, congress organisations, tourist boards, car rental firms, but also with fitness and wellness firms, culinary specialists and trend watchers, interior designers, and new categories of electronic intermediaries, to make sure that clients are positively surprised about the combined or co-produced service experience.

In retailing, but also in retail banking, we noticed that the creation of new electronic channels to serve clients, leads to new forms of co-production and needs to orchestrate the actors involved in offering new service solutions. Think of the partnerships involved in creating new services like Albert (the home shopping service of supermarket Albert Heijn in the Netherlands), new mobile payment services or other new payment channels as offered by Rabo. In all these examples, co-innovating, co-producing and at the same time orchestrating the various alliances involved alongside each other is a key dynamic capability.

Linkages with other dynamic capabilities and service innovation performance dimensions

Typically, developing trust-relationships over time and creating ever changing service coalitions is a capability that impacts directly on the “bundling and unbundling” and “scaling and stretching” dynamic capabilities (Dynamic service innovation capabilities C and E respectively). The former, bundling and unbundling in practice implies cutting out or adding partners in a service system. The latter, building a new value system and selecting business partners for a particular service innovation is clearly needed before a

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130 In September 2009 Hyves (largest social network site in the Netherlands) announced that it would offer the possibility of (micro) payments using Rabo MiniTix technology (Emerse, 17 September 2009).
new service can be rolled out and diffused on a wider scale. However, there are obvious links to the other dynamic service innovation capabilities. The act of co-producing with and orchestrating business partners may result in ideas for new types of services and so affect the signalling as well as the conceptualisation capabilities.

In terms of service innovation performance indicators, this dynamic capability is primarily linked to the dimensions of new value system/business partners and new revenue models associated with the new service. The first is evident and the second needs to be designed in such a way as to make it attractive for all partners. Links with the organisational and technological service delivery system may be present, but not necessarily. A new service may benefit from an existing delivery system, but may also require new ways of servicing customers, new employment and organizational plans. Similarly, a new service concept might make use of the existing technological infrastructure or may require new technological infrastructures to interact with customers in a new way or require new types of back office service processes. Therefore we formulate the proposition as given below.

**Proposition**

**Proposition 4.** Service firms with strong co-producing and orchestrating capabilities know how to co-produce and co-design with clients (benefiting from customer interactions and access to a set of customers) and other trusted partners and stakeholders newly configured business concepts and subsequently orchestrate these temporary partnerships or alliances. This dynamic capability therefore actually refers to the capability to manage service innovation across the boundaries of the individual firm and mostly requires executive capabilities. Firms excelling in this particular capability mostly outperform their peers/competitors in two service innovation performance dimensions, notably ‘new value system/business partners’ and ‘new revenue model’ associated with the new service.

**E. Scaling and stretching**

**Explaining the dynamic capability**

Especially for large scale (semi-)standardized service operations, the dynamic service innovation capability to scale and stretch service innovations is key (Winter & Szulanski, 2001). The scaling part of this dynamic capability is especially linked to a key process characteristic of service innovation, namely the observation that service innovations are relatively hard to introduce on a large scale in a uniform way due to their intangible character and human component which is hard to standardize. Other factors that play a role are their cultural dependency (Lyons et al., 2007) and the distributed character of services. Scaling is mostly about diffusion. Launching an innovative service successfully in
an experimental setting in one location is different from introducing such an innovation firm-wide. To be able to diffuse a new service concept or formula, it needs to be described (or codified) and the essential elements transplanted to other parts of the firm (den Hertog & de Jong, 2007). This may lead to a process of cross fertilisation especially in larger firms where innovative practices and concepts are shared, codified, and implemented firm-wide. Especially in large international service firms with (semi-)standardized services, scaling up successful service innovations is a capability in itself (Winter & Szulanski, 2001). It is expected to increase the efficiency of the service innovation process and to help in creating a consistent set of service experiences or service solutions and brand association.

The related stretching capability can be linked to the intangible nature of services. In service markets, communication and branding are key for creating a recognisable service offering (Krishnan & Hartline, 2001). Building up a service brand that (potential) customers value and associate with a certain set of services and service quality requires serious investments and a consistent strategy. Once established, such a brand name can be really valuable for entering new, mostly related service markets, launching innovative service concepts using the existing brand name, and in doing so, stretch the core service offering. An important precondition is that stretching of service activities is consistent with overall firm strategy and logical for (potential) clients.

*How does this capability relate to the RBV/DCV literature?*

Scaling and stretching in services is touched upon in the more general service marketing and service management tradition as described in section 1.7. In the RBV/DCV tradition, the attention paid to scaling and stretching and more generally marketing-related capabilities is limited. Bruni & Verona (2009) recently introduced the notion of dynamic marketing capabilities in an attempt to include a functional dimension in the understanding of dynamic capabilities, but applied it specifically to the pharmaceutical industry. Winter & Szulanski (2001) discuss extensively replication strategies in both manufacturing and service industries which essentially are about the scaling dynamic capability. They show that what we refer to as scaling is a much more subtle process than simply freezing a successful business model, rolling it out and exploiting it. They argue that “a replication strategy requires knowledge of the valuable traits of the business model that need to be replicated, the method by which such traits are replicated, and the kind of environments where outlets with such traits can successfully operate” (2001, p. 733). They introduce the notion Arrow Core to describe those core elements of a business model that can be sensibly replicated. The Arrow Core specifies “which traits are replicable, how these attributes are created, and the characteristics of environments in which they are worth replicating” (Ibid, p. 733). This is exactly what Randstad does when applying their ‘copy and paste’ strategy (see chapter 5). Winter and Szulanski state that replication (or in our
words scaling) does not only involve exploitation, but also exploration as especially the early stages of replication offer many opportunities for learning, adaptation, and fine tuning of a successful business model. There is obviously a trade-off or replication dilemma when to freeze the business model and how much adaptation and hence variety to accept later on in the process of scaling (Winter & Szulanski, 2001, p. 737).

Illustrations from our sectoral and case studies

The relevance of scaling and stretching is evident from our sectoral and case studies presented in chapters 2-5. The Dutch hospitality industry (chapter 3) abounds with examples where after piloting one or several cafés, restaurants of hotels, a huge effort is required to first scale the operations, but secondly to stay innovative as well mostly by stretching the service concept. This ranges from fast food chains, coffee bar chains up to gourmet restaurants. In the hotel industry we see for example the rise of designer hotels or hotels aimed at the mobile, international traveller such as in the Netherlands the CitizenM hotels or Yotel concept with a clear, innovative concept and roll-out strategy. Another example taken from the Dutch hospitality industry (chapter 3) is the chain of in-shop restaurants named La Place. They began offering their services at an increasing number of locations (including heavy traffic locations) and have moved into related catering aimed at both business as well as final consumers, further exploiting its strong brand value.

Similarly the examples of scaling and stretching in retailing are numerous. At Ahold (see chapter 4) we observed how successful service innovations were diffused within one of the individual Arenas or more widely within the wider Ahold group. This applies for instance to new shop formulas or innovations in ICT and logistic systems which are diffused within the group. Brand stretching can also be observed for instance by opening up different types of shops (in the Netherlands for example AH to go, AH XL and Albert for home-shopping) or by using the brand name for introducing an increasing number of private labels.

In the Randstad case (see chapter 5) we discussed how it exploits successful service innovation by scaling innovative service concepts deliberately through its copy and paste strategy. “Given that Randstad is a worldwide organisation, it continuously scans successful new services, selects best practices, describes them in great detail, standardises these and – after approval – diffuses them as the standard way of working to those countries where these services are offered. The company replicates successful concepts across operating companies using existing front and back office capacities with the so-called ‘copy & paste strategy’. The toolkits give detailed plans for implementation, allowing adaptation options for different national cultures and markets. By using existing know-how, the launch and implementation of new concepts can be accelerated” (den Hertog & de Jong, 2007, p. 359). At Randstad, brand stretching also occurs by systematically using the Randstad brand name when moving into higher value added, though still HR-related, service markets.
Linkages with other dynamic capabilities and service innovation performance dimensions

A typical related dynamic service innovation capability is co-producing and orchestrating (Dynamic service innovation capability D) as well as learning and adapting dynamic capabilities (Dynamic service innovation capability F). The first – and especially the orchestrating sub-capability – plays a role in making sure the service offer is rolled out with business partners in a similar fashion. The learning and adapting dynamic capability plays a role in codifying the sort of service experience taking place by evaluating carefully what elements of a new service concept can be codified and subsequently scaled up (and what element of the service offer typically needs to be adapted to local markets). The stretching capability also contains an idea generation element as the original service offer is mixed with or extended to related service markets. Here there is a link with the conceptualisation and bundling dynamic service innovation capabilities.

The scaling and stretching dynamic capability is primarily linked to the service innovation performance dimensions of a new service delivery system (both organizational and technological) and new service concept. Scaling requires building up systematically a recognisable and consistent service delivery system in terms of service operations, the way the service dialogue is held, the channels used for interacting with the client, and the ICT systems needed for this. Stretching requires especially careful management of the design of new (related) service concepts that clients consistently associate with certain brand attributes as well as the type of customer interactions that fits the service offering best. Brand stretching in practice may involve offering a simpler or more complex version of the original service concept using a different channel for interacting with the client.

The above resulted in the following two propositions.

Propositions

Proposition 5a. Service firms with strong scaling capabilities are particularly good at managing the identification and then diffusion of successful service concepts firm-wide. These capabilities increase the efficiency of the overall service innovation process and contribute to creating a consistent set of service experiences or service solutions through various outlets or channels and add to the brand image of value (which may be subsequently used for brand stretching). This dynamic capability mostly requires strong executive capabilities. Firms excelling in the scaling capability most likely outperform their peers/competitors in three service innovation performance dimensions notably ‘new service delivery system’ (both organizational and technological) and ‘new service concept’ (as having a portfolio of strong service concepts is a first prerequisite for upscaling them).
Proposition 5b. Service firms with strong stretching capabilities are particularly good at – after having developed a strong brand name – entering new, mostly related service markets and launching (related) innovative service concepts using the existing brand name. An important precondition is that stretching of service activities is consistent with overall firm strategy and logical from the perspective of potential and actual customers. We hypothesize that firms excelling in the stretching capability outperform their peers/competitors in the design of new (related) service concepts as well as new customer interaction service innovation.

F. Learning and adapting

Explaining the dynamic capability

The learning and adapting capability i.e. a deliberate reflection and learning of the way service innovation is managed is hypothesized to be an important asset for service innovators. It is the capability to deliberately learn from the way service innovation is managed currently and subsequently adapt the overall service innovation process and dynamic capabilities for this where possible and feasible. The type of questions we should be asking include: What have we learned from our latest set of service experiments?; Can we use bundling and unbundling strategies for deriving new services?; How do we make sure we generate enough ideas for service innovations?; Are we experimenting enough with new revenue models?; How can we optimise our current service operations (an important source for service innovation) further?; Can we use portfolios strategies for managing our service innovation efforts? These and similar questions should be raised to be able to constantly change if needed the way new services are being created and diffused. Keeping track of failed and successful service innovation efforts is hypothesized to be a key meta-capability that may inform management of service innovation. This meta-capability can be viewed as an essential part of learning from current service innovation efforts to see where an open and distributed tough-to-manage process can be improved. As also put forward by den Hertog et al. (2006), it is important to strike a balance between a ‘command and control way’ of managing service innovation and ‘let a thousand flowers blossom’ approach.

How does this capability relate to the RBV/DCV literature?

Learning features considerably in the RBV/DCV literature. There is however some debate as to whether the act of learning should be labelled as a dynamic capability itself. Zollo & Winter (2002, p. 340) clearly see learning as a dynamic capability when they remark that “dynamic capabilities arise from learning: they constitute the firm’s systematic methods for modifying operating routines. To the extent that the learning mechanisms are themselves
systematic, they could (according to Collis, 1994) be regarded as ‘second order’ dynamic capabilities. Learning mechanisms shape operating routines directly as well as by the intermediate step of dynamic capabilities.” Ambrosini et al. (2009) in a recent theoretical contribution also see learning as a dynamic capability when they state that “as a dynamic capability, learning allows tasks to be performed more effectively and efficiently, often as an outcome of experimentation, and permits reflections on failure and success” (2009, p. 11). Along with these scholars and applied to a service innovation context, we expect that a deliberate learning capability is key for reflecting on current service innovation management practices and how to improve them.

Illustrations from our sectoral and case studies

Whereas the value of some of the previous dynamic service innovation capabilities is recognized, a more systematic reflection on the service innovation process itself is still rare. As observed in chapter 4, in most (even the largest) service firms, service innovation is usually less formalised, more distributed and less explicitly managed and funded when compared to the management of R&D and innovation in manufacturing firms. Although there is a trend towards somewhat more formalisation and structured attention to service innovation, numerous service dominant firms are still struggling to find the right balance between no service innovation management at all and formalised strategies, structures and decision-making procedures for managing service innovation. Learning and adapting capabilities can in our view be improved considerably in order to learn more consciously from service innovation practices. The Randstad model of business innovation as described in chapter 5 explains how a combination of non-formalized strategic focus, semi-structured organization and embedded decision-making works particularly well for managing service innovation in their case. In general, a more structured and formalised approach to service innovation along the lines of the framework offered here and making sure the necessary set of dynamic capabilities is provided, can in our view be a productive way of dealing with service innovation more systematically.

Linkages with other dynamic capabilities and service innovation performance dimensions

The learning capability affects all preceding five dynamic capabilities as it reflects on the service innovation process as a whole. The learning and adapting capability can be seen as a higher order dynamic capability to reflect on the service innovation process as a whole and is therefore linked to all service innovation performance dimensions.
Proposition

Proposition 6. Service firms with strong learning and adapting capabilities are particularly good at consciously reflecting on and learning from how service innovation is managed currently and looking for improvements to the service innovation management process as a whole. Service firms with a well developed learning and adapting capability that is used by its senior management show a better overall service innovation performance and outperform their peers/competitors.

6.6 An integrated framework for the strategic management of service innovation

The aim of this chapter is to contribute to a better understanding of service innovation and its management by linking a service (innovation) perspective to a dynamic capabilities view of the firm. It started with the basic understanding that successful service innovators are those service firms and organizations that have introduced innovative service experiences and solutions repeatedly. We developed a conceptual framework for strategically managing service innovation by proposing six, what we have coined, dynamic service innovation capabilities. This framework builds on and is integrated with a model in which six dimensions of service innovation are discerned. Both sets of dimensions and dynamic capabilities are integrated in figure 6.3 below, which we label as the integrated framework for the strategic management of service innovation.

In this figure the six rectangular boxes numbered 1-6 represent the six dimensions of service innovation as described in section 6.4. These dimensions are at the same time the service innovation performance or outcome indicators that we propose for the business process of service innovation. The operational or zero-order capabilities are included in the first (flower) ring around the new service experiences and solutions circle. The six dynamic service innovation capabilities as discussed in this section are the six smaller circles in the outer ring numbered A-F. In figure 6.3 the dynamic service innovation capabilities can be said to form the main ingredients or skeleton for a services equivalent of the regular R&D, innovation capability and management that is thus far mostly described in terms of technological innovation in manufacturing. The hypothesized links between the various individual dynamic service innovation capabilities and the innovation performance dimensions are summarized in table 6.1.

We further hypothesize that successful service innovators outperform their competitors in at least some of these dynamic capabilities. They are expected to have developed idiosyncratic and therefore difficult to replicate firm-specific mixes of dynamic service innovation capabilities. Equally important, they are expected to have developed a higher
order of dynamic service innovation capability i.e. the capability to reflect on the whole process of managing service innovation, derive lessons from it and use these in new rounds of managing service innovation.

Of course this set of dynamic service innovation capabilities and especially the propositions need to be tested thoroughly. Further, more refinement is required in order to be able to distinguish between various industries, market dynamics, firm sizes and types of firms. We will take up this point in section 9.3 where we suggest avenues for further research. Here we will also reflect on the managerial or organisational implications of framework for the strategic management of service innovation introduced in this chapter.
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<td>All 6 performance dimensions of SI</td>
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<td>• conceptualising capability (b)</td>
<td>• new service concept</td>
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<td>• co-producing and orchestrating capability (d)</td>
<td>• new value system/business partners</td>
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<td>• stretching capability (part of e)</td>
<td>• new revenue model</td>
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<td>• (un)bundling capability (c )</td>
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