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DOI

[10.1109/ICSSSM.2010.5530210](https://doi.org/10.1109/ICSSSM.2010.5530210)

Publication date

2010

Document Version

Final published version

Published in

Proceedings of ICSSSM'10, June 28-30, 2010, Tokyo, Japan

[Link to publication](#)

Citation for published version (APA):

de Jong, M. W., & den Hertog, P. H. (2010). Strategic innovation in service industries: Managing shifting boundaries. In J. Chen (Ed.), *Proceedings of ICSSSM'10, June 28-30, 2010, Tokyo, Japan* IEEE. <https://doi.org/10.1109/ICSSSM.2010.5530210>

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Strategic Innovation in Service Industries: Managing Shifting Boundaries

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ABSTRACT

Much of the strategic innovation in service industries can be understood in the context of the shifting boundaries between companies and between firms and their customers. We identify three phases of innovation in modern service industries. All three enabled and triggered by advancements in information technology. The current phase of Service Innovation 3.0 is characterized by open networks between firms and between firms and customers. The paper ends by highlighting a number of dilemmas linked to the challenges of managing service innovation successfully in a world of shifting boundaries and exploding service systems.

Keywords: service innovation, capabilities, networks

1. INTRODUCTION

Advanced economies show a history of an ever increasing division of labour. Chandler (1990) described the processes of differentiation and in- and outsourcing in the industrial era. He showed how services were initiated by manufacturing firms internally, and later how through unbundling independent service industries in marketing and distribution were formed. However, manufacturing and product based systems are becoming less dominant today, as we are witnessing a growing relevance of service systems characterized by non tangible value creation processes (Chesbrough & Spohrer, 2006; IfM and IBM, 2008). The new service science aims to invest in better understanding of processes of value creation in this new era.

Much of the strategic innovation in service industries can be understood in the context of the shifting boundaries between firms and between firms and their customers. We identify three historic phases of innovation in modern service industries. All three enabled and triggered by advancements in information technology, which by the way is the first technology revolution with predominant impact on service activities. In the first phase, innovation was limited to *back office improvements*, resulting in substantial productivity gains in clerical work. During the phase of Service Innovation 2.0 (1990-2005) services were able to create customer value through introducing *economies of scope*. The current phase (2005-2020) of Service Innovation 3.0 is characterized by *open networks* between companies and between firms

and customers. We will first briefly deal with Service Innovation 2.0, before addressing the third phase in the remainder of this short paper.

2. ECONOMIES OF SCOPE IN SERVICES

Traditionally, most services offer the client complete customisation. The specification of the service to be provided is highly flexible, with the buyer wholly or partially defining what they receive and what criteria they have to meet. Direct interaction is the norm. Examples of these *ad hoc services* include small retail, consultancy services, corporate banking, health care and facility services like cleaning and maintenance/repair. These services are most vulnerable to Baumol's disease, unless they are able to convince customers to pay high prices for their services (as in fact many do). Next to ad hoc services, there is a large category of *standardized services* (the right-hand column in *figure 1*), that provide one or more set products by a standardized route (Thether et al, 2001). Scale has always mattered here, and is becoming more important when IT became available. These services apply IT to further standardize and automate existing processes. Examples include telecommunication services, the distribution of consumer products through the retail channel (through automation of logistics), scheduled passenger flights, groupage services, public services (e.g. taxation), IT outsourcing and retail banking. The provider offers a particular service to the customer, who has the choice of buying it or not buying it but cannot change it. In other words, the client has no direct influence over the nature of the

service. This inflexibility is also one reason why there is a limit to the benefits of back office improvement led service innovations.

During the shift from Service Innovation 1.0 to 2.0, the use of information technology brought a wider variety of services within reach, as well as better control over their underlying processes. We are familiar with so-called “economies of scope” in manufacturing. The combination of continuity and flexibility which both reduces the costs of manufacturing (mass production) and allows a wide range of products to be brought to market (individualisation). Both tendencies – standardisation of production and individualisation of service – have become also extremely relevant in the services sector. *Figure 1* shows how the standardisation of production methods (in business services, for example) and the individualisation of user markets are creating a diagonal – the “economies of scope” – along which mass production and customisation are combined. As a result, the boundaries between the domains inhabited by ad hoc and standard services are blurring.

When a provider of standardized services tries to offer a more flexible range of services whilst retaining the benefits of standardised production, this creates a second kind of service: the *added-value service* (the diagonal starting at bottom right). Here, the emphasis shifts from the supply of standard services (“products”) to more segmented, customer-oriented services. Such solutions are often created by “packaging” a number of standard elements. We find examples of this in telecommunications, the package tour industry, financial services (e.g. internet banking) and IT (turnkey projects combining hardware, software, consultancy and implementation). From the perspective of the customer, this creates an opportunity for self-service, with more freedom compared to SI 1.0, but still bounded by the predetermined menu structures.

Many ad hoc services are also undergoing a process of development, in this case towards *pre-specified services* (the diagonal starting at top left). This involves the use of standardised methods. Important reasons for working to pre-specified standards, methods and procedures are the need to achieve better use of available capacity and, above all, to reduce and control costs. We could see this in market research, for instance, where there has been above-average growth in the use of pre-specified services – in the form of newly developed permanent tools like monitoring and panel research. This does not imply that ad hoc services are disappearing. To the contrary, there are still ad hoc services remaining where innovations hardly play a role (see Drejer, 2003, p.557).

3. SERVICE INNOVATION 3.0, TOWARDS OPEN NETWORKS

Whereas the focus in Service Innovation 2.0 still is on internal innovation processes and economies, in SI 3.0 this focus shifts towards the management of external processes of innovation. As early as 1992 James Brian Quinn discussed the merits of open innovation patterns, also in the context of service industries. However, only with the ubiquitous use of internet by companies and consumers alike during the last decade, the traditional firm boundaries are changing rapidly. Chesbrough (2003) has brought the attention to the growing importance of open innovation processes, albeit particularly applied in the context of product based systems. Research by Peer Insight and others shows that innovating service firms are even more externally focussed than manufacturing firms. Relatively to manufacturing firms, service innovations devote more effort to customer experience, core process (where the IT systems and service fulfilment processes are developed) and new business models (Tekes, 2007, p.8).

The most important factor behind open innovation is the power shift towards the customer. For the first time production tools are in the hands of individuals. In the twentieth century industrial economy, enterprises, governments and other institutions held the monopoly on owning production tools and using new technologies. However today, individuals and particularly communities of individuals have interaction opportunities that never existed before. The consumer becomes a prosumer. Peer to peer production of information, knowledge and culture (music!) is breaking down the traditional media power. Mass collaboration becomes a serious threat to incumbent firms. According to Benkler “end users become more active and productive than the consumers of the industrial information economy” (Benkler, 2006, p.126/7; see also Tapscott and Williams, 2006). Characteristically, ever more activities take place outside the realm of traditional economic transactions in a new informal part of the economy.

This is a great challenge for the management of firms and public institutions, who will have to adjust to and benefit from these customer activities rather than become obsolete. A first step is to realize that they can not fully control their business, but that they will have to manage well beyond the boundaries of their firm. Proctor & Gamble has for instance completely changed their internally focussed innovation process of product innovation based on their own R&D labs. Under the new *Connect and Develop* approach P&G has established new connections to the world (Huston

Figure 1: Service Innovation 1.0 and 2.0

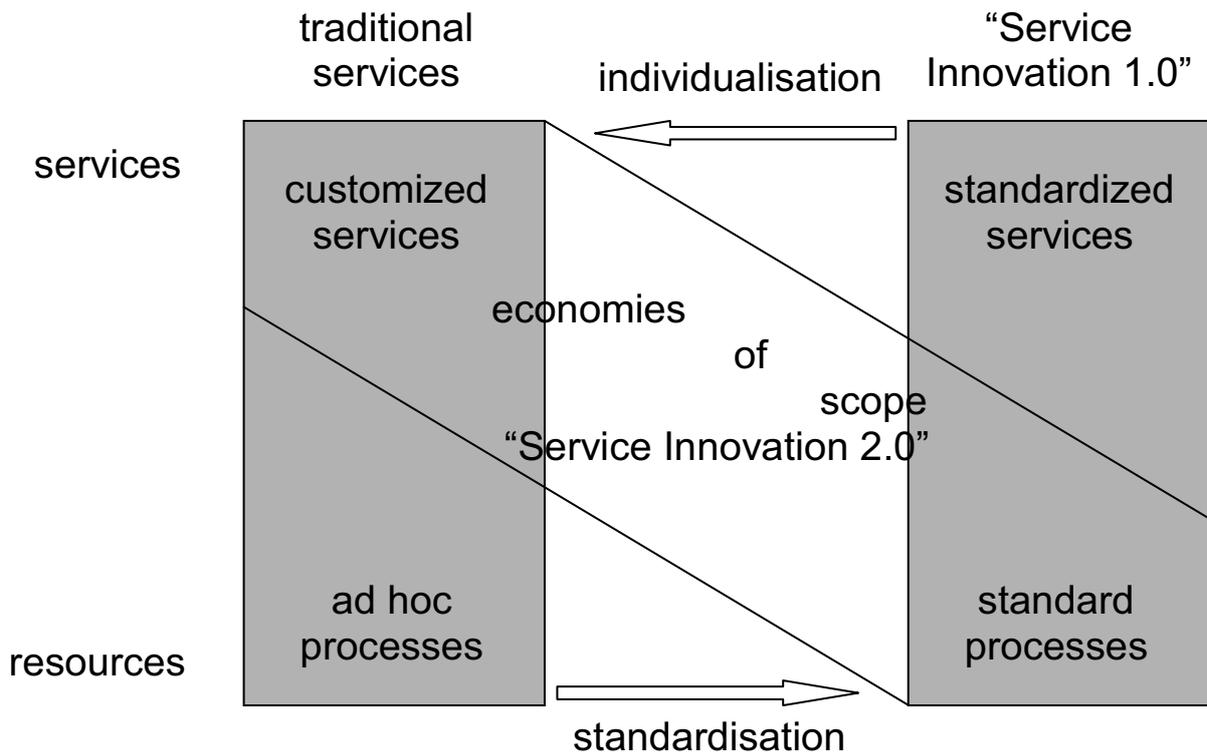
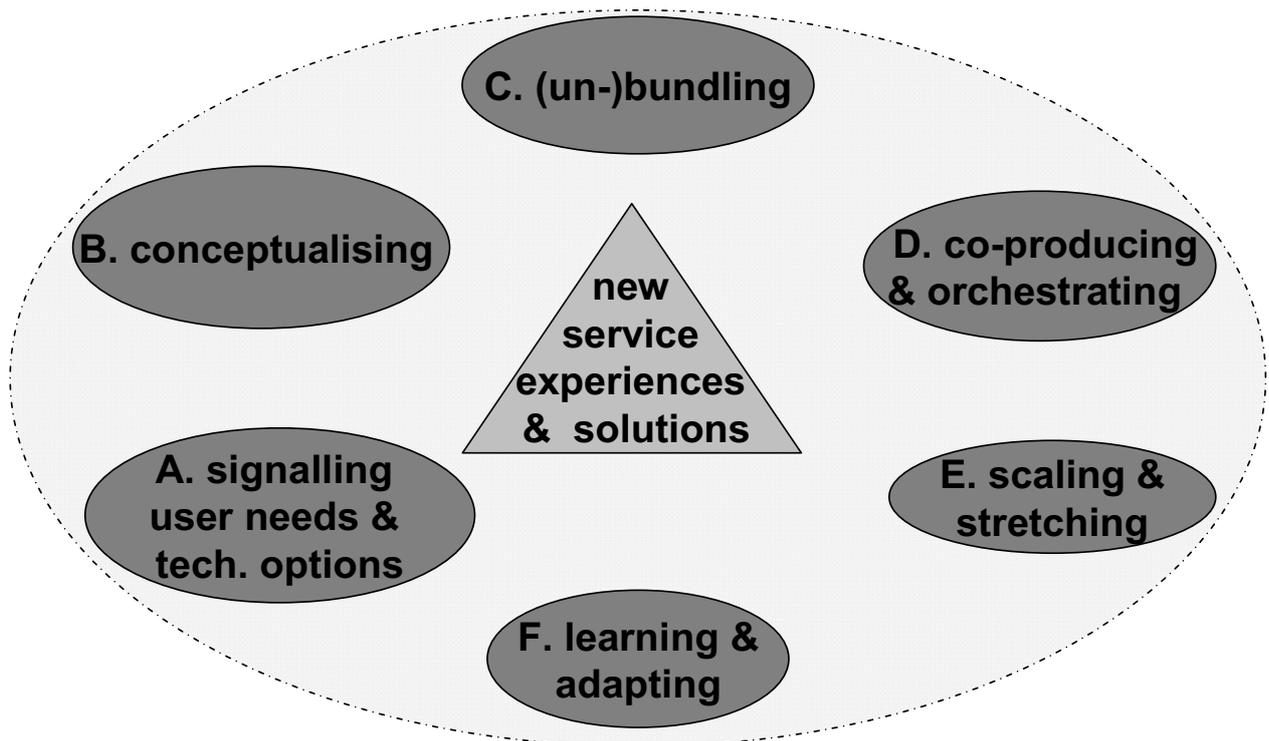


Figure 2: Six dynamic service innovation capabilities for managing service innovation (source: Den Hertog et al, 2010)



& Sakkab, 2006). They are now using a combination of company unique competencies and open networks of external scientists and market places that match demand and supply of relevant research questions and new product opportunities. As a result more than 35% of the companies innovations at least partly originate from external sources.

In today's domain, service companies should innovate by paying particular attention to customer behaviour, and the opportunities of complementary companies. The most successful innovators have understood this very well. Apple has been able to successfully master the ecosystem of developers to build a new business model effectively challenging entire industries, including the music industry and the telecommunications industry. In Europe, Ryanair decided to use regional airports and, rather than paying for slot times, argued that they should be paid for the extra business they were bringing to the commercial businesses at these premises. Both firms have build new service ecosystems, in which users get new value propositions, other companies are encouraged to add value to the system, and the key players take a relatively large share in value appropriation.

There is a growing body of literature on explaining the interdependencies between economic actors in creating and capturing value in networks. Two complementary theoretical perspectives are industry platforms and industry architectures (see Gawer & Cusumano, 2002; Jacobides et al, 2006; Tee & Gawer, 2009). Industry platform literature focuses on the role of platform leaders in building platforms (such as the examples above). The industry architecture literature is more concerned on divisions of labour between the various actors. In a most interesting service business focused case study Tee & Gawer illustrate the interdependencies in introducing innovations across networks by way of the example of a comparison between Japan and Europe of the introduction of the i-mode mobile internet service. The different industry architecture of telecom operators, handset vendors, software developers and content providers between these two geographic areas was found to have played a big role differentiating success from failure.

Since many service innovations today are directly or indirectly dependent on electronic networks and devices, this example is a good illustration of the need to address the wider ecosystem in managing service innovation 3.0. From the perspective of the firm SI 3.0 widens the scope beyond the firm boundaries, without losing sight of the opportunities of back office improvements and internal economies of scope. From the perspective of the customer SI 3.0 brings choice and adaptability of the service result through processes of co-creation and co-design.

4. CONSEQUENCES FOR MANAGING INNOVATION IN SERVICE INDUSTRIES

Elsewhere we have introduced a framework how to systematically manage the process of service innovation (Den Hertog et al, 2010). This framework was built on the basis of a number of empirical studies on service innovations in Europe, both in the B2B and the consumer markets. We distinguish six dimensions for service innovation and equally six dynamic service innovation capabilities, building upon the work by Teece (2009). The six dimensions for service innovation are service concepts, customer interfaces, value systems, revenue models, organisational and technological delivery systems. The dynamic service innovation capabilities are the organization's competencies, routines and processes to manage service innovation (see figure 2). With this framework management should be able to investigate and to systematically improve their service innovation capacity.

None of these capabilities should be managed entirely internally. To the contrary, it is our proposition that they can only be effectively managed through connections to the outside world. Here we like to highlight a number of dilemmas directly linked to the challenges of Service Innovation 3.0. These dilemmas represent important challenges to managing service innovation successfully in a world of shifting boundaries.

A. Signalling user needs and technological options

Most service innovations are an answer to a perceived unmet need of actual or potential customers or translating a technological option into a service proposition. This can be typically achieved through a variety of instruments, such as panels and client profiling. However, since information is much more transparent today, businesses can and should use much broader antennas for idea generation than before. With a widely expanded access to potential customers and technologies alike, firms have to reorganize their capabilities to establish meaningful relations to these realms. Signalling new opportunities should make use of existing consumer and/or expert communities or firms can create such communities (also in a B2B environment). In order to do so effectively however, new business and decision models have to be developed, since business is still struggling with matters of inclusion of non-market production (cf Benkler, 2006). The most effective way can be to leverage the existing customer base, in order to mitigate investments in networking that are difficult to directly retrieve.

B. Conceptualising

On the basis of customer needs and/or technological options, new service concepts are

defined. However, new conceptualizations are relatively easy to duplicate and therefore it may be difficult to gain sustainable competitive advantage. Successful conceptual innovations are therefore often supported by other dimensions, mostly organisational and technological measures, in order to build lasting advantages. Firms prove to be successful by taking a systemic Service Design approach to defining and codifying new service concepts (Mager, 2004; Zomerdijk & Voss, 2010). This codification provides at least some protection against duplication.

C. Bundling and unbundling

Many new services are newly bundled, enriched, blended or the opposite of newly unbundled, stripped down to the bare essential, service offerings (Normann, 2002). In Service Innovation 3.0 the biggest gains are with the companies that are initiating and dominating service systems that bring new value to customers. Such an innovation strategy contains risks due to the fact that only few companies will be granted success in this way. Such systems of bundled services are also vulnerable to become destabilized or challenged, as the financial system has recently demonstrated. Furthermore, the growing bundling of services in order to satisfy customer demand for convenience has to be traded off against the fear of customers to become encircled and bounded by dominating service providers. This also results in service firms with the focus on unbundling and specialisation strategies.

D. Co-producing and orchestrating

The increasing sharing of competencies and resources in co-producing networks bring great benefits to individual companies as well as to society. We have discussed this briefly in the previous section. However, we are only at the beginning of adjusting our management theories to the new realities of market and intra-firm transactions. More specific, we need new instruments for managing across firm boundaries and for managing the balance between investments and returns on the scale of these ecosystems.

E. Scaling and stretching

Scaling and stretching capabilities are necessary instruments in order to be able to remain competitive in a globalising market place. In services scalability is particularly challenging because of the need to standardize in a multisite environment. Therefore innovations often have to be scalable from one site to many. A scaling and stretching capability brings success. However, stretching can easily be taken too far. With low entry barriers in services, firms will need to refrain from pressures to diversify away from their core competencies. Again, finding the proper balance is key here.

F. Learning and adapting

Finally, service innovation, much more than R&D based innovation processes in manufacturing firms, requests mobilizing resources throughout the company. Many service companies are still searching for the right approach to manage service innovations internally. For obvious reasons many companies have relied on their CIO function to deal with innovations. There are a number of reasons why this is not the right approach, such as the inherent IT bias, but also because innovation in service companies has to be closer to the market. Therefore, in other cases innovation and /or business development is part of the marketing function. This places innovation decisions in the realm of P/L responsibility, which is good, provided that long term investment strategies are protected against short term profit needs. This brings us to the role of the CFO. According to Strikwerda & Stoelhorst (2009) the CFO has a central role to play in the transformation of modern knowledge intensive business. We have until today remarkably few studies on the role of top teams in innovation efforts, whereas they are particularly important in a service context, due to the more dispersed character of the innovation process in these firms. We expect that research would prove that in reality the attention of the leadership for innovation in service firms is lower rather than higher compared to manufacturing firms.

5. CONCLUSION

Today innovation in services can primarily be understood in the context of shifting boundaries between firms and between firms and customers. This challenge can be met by managing six capabilities for service innovation. Together this framework can help transform service industries to become sustainably innovative. With this transformation, the next challenge is to make sure that the distributed innovation efforts are still managed in a disciplined way. But then, managing service innovation with shifting boundaries is all about finding the new model for disciplined innovation strategies for businesses that are increasingly aware of their position in extended service systems.

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