

CONCEPTUAL FRAMEWORK OF SERVICE INNOVATION: A LITERATURE REVIEW

ANKITA SINGHAL*

Abstract

The impact of services in every economy is quite substantial. Increased uses of information technology in sectors like health, education, etc. and globalization has helped in the expansion of service sector necessitating the need for innovation. However, the inherent characteristics of services make service innovation more difficult and challenging than product innovation. Hence, an attempt has been made in this paper to help understand the conceptual framework of service innovation by reviewing the studies conducted in the related subject matter. The paper discusses several definitions of service innovation as given by past researchers, its unique characteristics, its types as derived from Den Hertog's typology as well as the internal and external motives for the firms to innovate their offerings to the market. This paper also discusses in brief the three dimensions of service innovation.

Keywords:Service innovation;Characteristics of service innovation;Types of service innovation;Motives of service innovation;Dimensions of servive innovation.

* **Assistant Professor,University of Delhi**

1. Introduction

Services are essentially intangible, heterogeneous and perishable. They are produced and consumed simultaneously and are often customised to suit the needs of the consumers or clients [1]. These characteristics of services help in differentiating them from products which are essentially tangible and homogeneous. They have the capability of being stored thereby enabling production and consumption at different points of time.

Intangibility of services makes it difficult for the consumers to exactly understand and know what they are purchasing as there is no transfer of ownership in case of services unlike products. The fact that services cannot be seen and touched; they are often viewed as performances rather than objects [2]. However, the degree of tangibility varies across services and most of the services are a mixture of tangible as well as intangible attributes constituting a service package, e.g. credit cards [3].

Simultaneous production and consumption of services require customers' presence and interaction. Not only this, it also requires customers to take an active part in the production process of services [4].

Heterogeneity refers to the customized aspect of services and its degree depends on the service being people based (front line employees) or equipment based (ATM) [5].

Synchronizing supply and demand becomes difficult due to the **perishability** of services. However this characteristic of services doesn't apply to all the types of services (e.g. computer software). These characteristics of services make service innovation more difficult and challenging than product innovation.

Hence, an attempt has been made in this paper to help understand the conceptual framework of service innovation. This paper discusses the definition of service innovation as given by past researchers, its five characteristics as identified by Janssen (2012) [6], its types as derived from Den Hertog's typology (2000) [7], its internal and external motives as given by Vos (2010) [8] and its three dimensions.

2. Objectives of study

To study the conceptual framework of service innovation

3. Research Methodology

This paper is purely descriptive in nature. Review of literature is based on the past studies conducted in the related subject matter. All the relevant information, data, figures, etc. have been collected from secondary sources like journals, websites, online publications, etc.

4. Conceptual framework of service innovation

4.1 Meaning

Janssen et al. (2012) [6] defined service innovation as new or improved concepts of service that help in creating additional value for both firms as well as their customers. Service innovation aims at providing new experience or solution in the form of new service offerings. However, offering innovative services requires the firm to possess the required technological and organizational capabilities.

Service has been defined as an activity that links producers to consumers and innovation has been defined as successful exploitation of new ideas [9]. Service innovation can thus be defined as a new service concept, delivery system, client interaction channel or technological concept which either individually or in combination change the service offered to the market and requires new technologies or new human and organizational capabilities.

Sunbo & Gallouj (2000) [10] defined innovation in services as a mix of reproduced and small non reproduced changes to solve the problems of customers'. Reproduced change implies incremental innovation and non reproduced change is particularly a result of customer interaction process.

According to Toivonen & Tuominen (2006) [11], service innovation is a new service or a renewed service that when put into practice benefits the firm by way of added customer value.

Vos (2010) defined service innovation as a “multidisciplinary process of designing, realizing and marketing combinations of existing and/or new services and products with the final attempt to create valuable customer experiences”.

4.2 Characteristics

Along with technological aspects, service innovation includes several organizational aspects also. Hence, service innovation is often referred to as multi-dimensional [12], non-linear and distributed [6].

Five key characteristics of Service innovation as discussed by are as follows:

4.2.1 A shared process: A shared and interactive process is required for developing new concepts and business processes. This is co-production or co-innovation. Most service innovations involve changes in task and responsibilities of labour. Examples include e-banking, online check-in, all-inclusive holidays, etc. Service innovation is greatly affected by changes in interaction with customers and accompanying mechanisms of distribution.

4.2.2 Conceptual and intangible nature: Service innovation is conceptual and intangible in nature as it includes value propositions which are difficult to be assessed by potential customers. Examples of conceptual innovation includes new ways of handling insurance claims, new store concepts like mono brand store, etc.

4.2.3 Combinatory or architectural nature: Service innovation involves applying existing service concepts in a new dimension or in a new context. For example- home dialysis, etc.

4.2.4 Demanding in terms of replication and scaling: Service innovation, as compared to product innovation, cannot be easily reproduced or replicated on a large scale. Also, rolling new service concepts in different locations uniformly is quite difficult due to the human and cultural aspect involved in service innovation. For example- opening a new franchise restaurant, store concept, etc. Service innovation imposes requirements on the organization along with the need to integrate with other channels. Proper fit between existing service delivery system and newly

introduced service is required. A failed service delivery system not able to distribute new service concept on a wide scale results in the failure of service innovation.

4.2.5 Originates from a distributed innovation effort: Most service innovations are tested in real life environments rather than R&D departments or laboratories. Initiation of new services can be done by marketing, ICT, business development or operations departments and hence, Sundbo&Gallouj (2000) called service innovation systems as "loosely coupled systems". They referred to it as an internally and externally oriented interaction process. In an internally integrated process, both employees and management participate on informal as well as formal levels. On the other hand, externally integrated process focusses on interaction with customers to achieve the goal of creating high quality customer value.

4.3 Types

Service innovation can be initiated by clients, suppliers or the service firm itself and all of these actors play a diverse role in the process of innovation [1]. The desires of the clients prompt the innovating firm to modify their offerings to them. Nowadays the services are customised or tailored to suit individual customers' desires. Innovation is initiated by suppliers particularly in case of small service firms which use the technologies that are developed somewhere else. This type of innovation has been referred to as incremental in nature aiming to improve service efficiency [13]. Apart from clients and suppliers, the service firm itself can initiate the development of innovative services with the desire to imitate their competitors' innovations [14] or to make adjustment in the system of service delivery [7]. But eventually the motivation to innovate is guided by economic gains [15]. Den Hertog (2000) presented a typology of five types of innovation and he proposed that within each type of innovation the above mentioned actors have a different role to play. These five types of innovation are explained as follows:

4.3.1 Supplier-dominated innovation: In supplier-dominated innovation, supplier plays the role of innovation developer whereas client acts as the user after its implementation by the service firm. Manufacturing industries generally initiate this type of innovation. Examples include microwave ovens for food preparation and reheating in cafes and restaurants, etc. Service providing firms have little role to play and may be required to make some organizational changes

in order to be able to use the innovation supplied by the suppliers in order to offer high quality and more efficient services. IT-based innovations are considered a part of this type of innovation.

4.3.2 Innovation within services: In innovation within services, development and implementation of innovation is done by the service firm itself. Supplier delivers the inputs for the development of innovation and finally client gains by making use of such innovative service offering. This type of innovation may be technological or non-technological or a combination of both. Examples include new pension or saving schemes in case of financial services, new shop formula in case of a retail firm, etc.

4.3.3 Client-led innovation: In client-led innovation also, development and implementation of innovation is undertaken by service firms with supplier supplying inputs for its development but the client in addition to being the user of such innovation acts as the initial motivator for the service firms to innovate. Thus, in this type of innovation service firm responds to clearly articulated needs of its clients. Examples include green banking services that enable individuals to save their money in a “socially responsible” manner.

4.3.4 Innovation through services: In innovation through services, supplier delivers the inputs whereas service firms and clients both are responsible for its development, thereby acting as co-developers. Implementation is finally done by the client. This type of innovation is mostly found in B2B service industries in which one business offers its services to another business. Examples include a consulting firm providing necessary skills required to implement a new IT application to another firm’s project manager.

4.3.5 Paradigmatic innovation: In paradigmatic innovation, delivery of inputs remains the task of supplier, implementation remains the task of service firm and client remains the user of it. However the innovative service is developed with the collective efforts of supplier, service firm and the client. This type of innovation is often termed as technological revolutions and may result in the need for new infrastructures, additional knowledge for its adaptation by intermediate as well as final users. Examples include the decision to provide underground transport in a densely populated area. Such a decision would require all the parties in the value chain to

innovate their own practices like offering new equipments, retraining personnel, new marketing strategies, users changing their behaviour relating to the use of the facilities of transport, etc.

These five types of innovation can be summarised in the following table derived from Den Hertog (2000):

<i>Type</i>	<i>Role of supplier</i>	<i>Role of service firm</i>	<i>Role of client</i>
1: Supplier-dominated innovation	- Development	- Implementation	- User
2: Innovation within services	- Delivery of inputs	- Development - Implementation	- User
3: Client-led innovation	- Delivery of inputs	- Development - Implementation	- User - Initial motivator
4: Innovation through services	- Delivery of inputs	- Co-development	- Co-development - Implementation
5: Paradigmatic innovation	- Delivery of inputs - Co-development	- Co-development - Implementation	- Co-development - User

Source: Adapted from Den Hertog (2000).

Thus it can be said that the influence of the client or the final consumer increases when moving from type 1 to type 4, whereas type 5 represents an altogether different situation with all actors contributing towards the development of innovation. However, this typology is not exhaustive and more innovation types can be identified.

4.4 Motives

There are several motives which motivate service firms to innovate. These dominant motives for service innovation can be divided into internal and external motives of service innovation. These motives are presented in the following table as adapted from Vos, 2010 [8].

Internal Motives	External Motives
Proactive development Competitive success, adaption & renewal	Social change Technological change Economical change Environmental change Political change Value ethical change
Strategic motives First market entry Process novelties Complex services Licensing Move direction	

(Adapted from Vos, 2010)

4.4.1 Internal motives of service innovation:

Internal motives include proactive development and strategic motives and these motives are central to the strategy to be pursued in future. Environment, purpose, expectations of stakeholders, availability of firms' resources and its competencies (Johnson & Scholes, 2002) partly defines the strategic position of a firm. Analysing firms from the perspective of strategic management can help in identifying the firms' abilities and disabilities. Strategic management relates to positioning, choices and actions taken by the service firm [16]. Reduction in cycle times, increased competition, technological advancement, globalization, etc. has helped in development of strategic perspectives and in increasing the importance of innovation [17] [18] [19]. Although technological and market changes are largely uncontrollable, **proactive development** could influence competitive success, adaptation and renewal of firms.

Service innovation helps firms to obtain strategic advantages by creating new opportunities which have been classified under **strategic motives** as-

- a) Offering something which no one else is capable of offering, can provide "first mover advantages" to the firm (i.e. **First-market entry**)
- b) Offering some service in a manner that other cannot match, is referred to as **process novelties**. Examples include- cost reductions, faster production cycles, high levels of customization, etc.
- c) **Complex services** offered by one firm are difficult to be copied by other firms. However, complex services require careful planning.
- d) A firm can gain strategic advantages by creating and offering unique services to the customers. In order to protect these unique service offerings, a firm can make use of **licensing**.
- e) A firm can also benefit from **moving the strategic direction**, say by focussing on quality.

The above mentioned internal motives requires the management to shift its focus from traditional "cost orientation" to "time orientation" to cope and keep up with the fast and ever changing environment [8].

4.4.2 External motives of service innovation:

The environment in which service firm operates constantly keeps on changing. Hence, it is important for the firm to effectively cope with environmental challenges by way of service innovation. Such environmental challenges that motivate firm to innovate are as follows:

a) **Social change motives:** One of the important aspects of service innovation is that customers, being assertive and well informed, are given the opportunity to take part in the co-production of innovative services. Also, their feedback can shape innovative services [7].

b) **Technological change motives:** Technological changes can bring out new opportunities for service firms to innovate their offerings. One well known example of technological change that stimulated innovation abilities of the firms is the Internet revolution which started in 1993 on B2C level [8].

c) **Economic change motives:** Firms have started outsourcing additional areas of business while concentrating their attention on the core business. As a result, specialized service firms are performing the traditional organizational functions. Competition in some outsourced areas might be high and innovation low as the activities under these outsourced areas are precisely defined. In other outsourced areas, there exists high level of specialization to offer innovative solutions. For example, specialized HRM organizations are progressively used as they are capable of providing total human resource solutions [7].

d) **Environmental change motives:** Declining natural energy resources has created new opportunities for the firms to engage themselves in innovation due to increase in demand for energy efficient methods. Another example could be virtualization of computing that has enabled economies of scale in computing.

e) **Political change motives:** Government can also stimulate innovation through R&D funding, procurement decisions, new regulations, etc. Example- environmental innovation [7].

f) **Value-ethical change motives:** Sustainability issues, increase in prosperity of western economies, etc, act as important motives for firms to innovate. Major innovation sources included in this perspective are general knowledge, methods and behaviour rules existing within different service professions. Firms are realizing the importance of providing additional services to maintain competitiveness [7].

4.5 Dimensions

There are three dimensions of innovation, namely, target of renewal, nature of renewal and lastly radicalness of renewal. These are explained as follows:

4.5.1 Target of renewal:

Service product is basically the service offering and target of renewal refers to “what can be changed”. According to Edvardsson, services consists of service concept, service process and service system as its three basic components. Service concept constitutes basic idea, content and structure of the service. The chain of activities to be followed, roles of provider and client constitutes service process and lastly, service system includes resources required, company’s staff, physical or technical environment, organizational structure, etc. According to Edvardsson, any change in these components corresponds to innovation [20] [21]. This Edvardssonian terminology has been modified by Van der Have, Toivonen, & Tuominen in their paper published in June 2008. According to them, service concept along with above mentioned constituents also includes prototype of service process and resources used. These together provides value to the customers. They modified the list of target of renewal as-

Possible targets of renewal in a service product

Service structure and market qualities	Service process	Resources and infrastructure
<ul style="list-style-type: none"> - the elements of the service - the status of different elements (core vs. supplementary elements) - discernible outcomes - the relationship of this service to the firm’s other services - pricing - markets (customer groups) 	<ul style="list-style-type: none"> - stages of the process - roles and tasks of the service firm and the client - the nature of the client interface (e.g. personal vs. electronic delivery) - the nature of the service relationship (e.g. single transaction vs. partner relationship) 	<ul style="list-style-type: none"> - technology - non-technological tools, models etc. - organization - competences of the service firm and the client - sub-contractors - physical environment

Adapted from Van der Have, Toivonen, & Tuominen (2008) [22]

4.5.2 Nature of renewal:

Nature of renewal refers to “how the renewal can be made”. Answer to this has been identified in the writings of “Lille school” by Gallouj et al. [23] Improving some component of a service, adding or subtracting or substituting some component, recombining components from different services, etc are the ways identified by them and these ways aimed at making service more visible and stable by clarifying how different components of service contribute in providing benefit to the clients called ‘formalization innovation’. Adding visibility in services is beneficial to both service provider as well as the client as both know what is being purchased or sold [22].

4.5.3 Radicalness of renewal

Radicalness of innovation refers to “the extent of the renewal” and literature provides two interpretations of it. First interpretation states that radicalness is the difference or dissimilarity of the newly developed service in the process of innovation with the service taken as the starting point for the process of innovation [23] [24]. Second interpretation highlights the issue as to for whom this renewal is new i.e. for the company itself, or for some industry or for some region or country [25]. The first interpretation reflects an objective view and in this, radicalness is linked to invention not innovation [24]. Second interpretation bifurcated innovations as really radical innovations which are ‘new to the world’ and less radical or incremental innovations which are ‘new to a region or a nation or a sector or an industry’ [22].

5. Limitations of the study

Conceptual framework of service innovation discussed in this paper is not exhaustive. There are some concepts of service innovation which has not been covered in this literature review including models. Only the main Den Hertog model has been discussed.

6. Conclusion

Service sector has been expanding since globalization and introduction of information technology. Service innovation is more complex, difficult and challenging than product innovation. Service innovation creates additional value for firms and its customers by offering

new and improved services. However, firm undertaking service innovation should be equipped with necessary technologies and other resources. Service innovation is a multi-dimensional, shared, conceptual, intangible, combinatory and a replicable process. Service innovation can be initiated by supplier, client or the service firm itself. All these three parties have an important role to play in service innovation and management should ensure coordination with client and supplier. Service firms can be internally or externally motivated to stimulate service innovation. Internally, strategic motives and proactive development plays an important role in motivating firms to undertake innovation. Externally, the changes occurring in the environment in which firms function prompt firms to undertake innovation. These external changes include changes in society, technology, economy, environment, policies and value ethics. Service innovation can be studied through three dimensions, target of the renewal referring to what can be changed, nature of renewal referring to how the renewal should be made and radicalness of renewal referring to the extent of renewal. Hence, the attempt in this paper was to understand the conceptual framework of service innovation and provide useful insights for further research in the topic.

References

- [1] De Jong, J., Bruins, A., Dolfsma, W., & Meijaard, J. (2003). Innovation in service firms explored: what, how and why? EIM Business & Policy Research.
- [2] Zeithaml, V. (1981). How consumer evaluation processes differ between goods and services. J.H.Donnely and W.R. George (eds.), Marketing of services, Chicago: American Marketing Association.
- [3] Chase, R., Aquilano, N., & Jacobs, F. (1998). Operations Management for competitive advantage. Boston: McGraw Hill.
- [4] Cooper, R., & De Brentani, U. (1991). New industrial financial services: what distinguishes the winners. *Journal of Product Innovation Management*, 75-90.
- [5] De Brentani, U. (1989). Success and failure in new industrial services. *Journal of Product Innovation Management*, 239-258.
- [6] Janssen, M., den Hertog, P., & Kaashoek, B. (2012). Service innovation policies Rationales, strategies, instruments. *Dialogic innovatie interactie*.
- [7] Den Hertog, P. (2000). Knowledge intensive business services as co-producers of innovation. *International Journal of Innovation Management*, 491-528.

- [8] Vos, A. (2010). *Service Innovation: Managing Innovation from Idea Generation to Innovative Offer*. EXSER.
- [9] Thakur, U. (2008). *Service Innovation: New kid on the block?* HCL Technologies.
- [10] Sundbo, J., & Gallouj, F. (2000). *Innovation as a loosely coupled systems in services*. Kluwer Academic Press, London, 43-68.
- [11] Toivonen, M., & Tuominen, T. (2006). *Emergence of Innovations in Services: Theoretical discussion and two case studies*. International ProACT Conference: 'Innovation Pressure Rethinking Competitiveness, Policy and the Society in a Global Economy'. Tampere, Finland.
- [12] den Hertog, P., Bilderbeek, R., & Malttha, S. (1997). *Intangibles, the soft side of innovation*. *Futures*, 33-45.
- [13] Pavitt, K. (1984). *Sectoral Patterns of Technical change: towards a taxonomy and a theory*. *Research policy*, 343-373.
- [14] Easingwood, C. (1986). *New product development for service companies*. *Journal of product innovation management*, 264-275.
- [15] Johne, A., & Storey, C. (1998). *New service development : A Review of the literature and Annotated Bibliography*. *European journal of marketing*, 184-252.
- [16] Johnson, G., & Scholes, K. (2002). *Exploring Corporate Strategy*. Pearson Education Limited.
- [17] Stalk, G. J., & Hout, T. M. (1990). *Competing Against Time: How Time-based Competition is Reshaping Global Markets*. The Free Press.
- [18] Menon, A., Chowdhury, J., & Lukas, B. A. (2002). *Antecedents and Outcomes of New Product Development Speed: an Interdisciplinary Conceptual Framework*. *Industrial Marketing Management*, 317-328.
- [19] Tidd, J., & Bessant, J. (2009). *Managing Innovation Itergrating Technological, Market and Organizational Change*. West Sussex: John Wiley & Sons Ltd.
- [20] Edvardsson, B., & Olsson, J. (1996). *Key concepts for New Service Development*. *The Service Industries Journal*, 140-164.
- [21] Edvardsson, B. (1997). *Quality in new service development-key concepts and a frame of reference*. *International Journal of Production Economics*, 31-46.

- [22] Van der Have, R., Toivonen, M., & Tuominen, T. (June 2008). Dimensions of Service Innovation. Research Gate.
- [23] Gallouj, F., & Weinstein, O. (1997). innovation in services. Research policy, 537-556.
- [24] Dahlin, K. B., & Behrens, D. M. (2005). When is an invention really radical? Defining and measuring technological radicalness. Research Policy, 717-736.
- [25] Johannessen, J.-A., Olsen, B., & Lumpkin, G. (2001). Innovation as newness - what is new, how new, and new to whom? European Journal of Innovation Management, 20-31.