

The Theoretical Study and Empirical Research Process of Service Innovation: A Literature Review

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Received: July 15, 2014

Accepted: July 28, 2014

Online Published: October 26, 2015

doi:10.5539/ibr.v8n11p1

URL: <http://dx.doi.org/10.5539/ibr.v8n11p1>

Abstract

The industry of service has been progressing rapidly in recent years. In face of the financial crisis, innovation is becoming one of the most important factors along with the development of service innovation. It is important to fully consider characteristics both from theoretical and empirical perspective when identifying service innovation. This article conducts a systematic review of literature on research process of service innovation. In this paper, the research status on concept and typology of service innovation are demonstrated and classified in the second and third section, and three stages are discussed in the following. In addition, the development process is highlighted from four aspects: The customer, new service development and new product development, theoretical and empirical. At last, a recommended list of measures is provided for future theoretical study and empirical research.

Keywords: service innovation, research process, theoretical study, empirical research

1. Introduction

With the rapid development of economic globalization, accelerated social change, and lower threshold of industry entry, enterprises are facing increasing fierce competition. Innovation is perhaps the most powerful engine of growth in markets today. As the main body of innovation, service-oriented enterprises play a dominant role in the developing economy. Academics generally believe that service innovation has become significant daily around us. Banks roll out its financial derivatives; airline service improvement makes us feel more and more comfortable; Mobile operators launch so many new information service products that the customers couldn't attend to them all, and also the retailing experiences the great change in chain operation which happened in traditional department stores and supermarkets. All of these changings indicate the importance of service innovation no matter in macro level or micro level.

As early as in 50s to 60s of twenty century, scholars began to focus on service innovation. As time goes on, the research of service management and service innovation have been drawn ever-bigger researchers. This review of the literature clearly demonstrates that the concept, classification and the developing process of service innovation. This paper aims to reviewing the literature research achievements to let the readers get a general understanding of the service innovation and providing recommended measures for future research concerning service innovation.

2. Service Innovation Definition

2.1 Definition of 'Innovation'

In order to get a better understanding of service innovation, it is important to identify the definition of 'Innovation' firstly. The term 'Innovative' originated from Latin, and addresses three distinctions: a. update, b. to create something new, c. changing. The theory of 'innovation' was formatted in the 20th century, and was firstly put forward by Schumpeter. He studied on innovation activities in the second industry which based on manufacturing industry and analysis innovation process by using economic methodology. The so-called innovation refers to introducing a new kind of combination production factors into the production system. Schumpeter described five innovations, including new project, new production methods, new market, new material sources and new form of industrial organization, and all these can be summarized as three categories: technological innovation, market innovation and organization innovation. The purpose of innovation is to obtain

potential profit.

2.2 Service Innovation

Service innovation theory initially from Schumpeter's innovation theory. The systematic research for service innovation started from 1980s. Service innovation is a unit integrated with new concept, new target and strategic, new innovation methods, and new patterns (Van der Aa & Elfring, 2002). There is transformation of innovation concept, renovation of innovation mode or more ways to solve the problem, or provide higher added value (Tidd & Hull, 2003). Similarly, Sundbo believe that service innovation provide more and better ideas and technology to customers. It is important to improve service innovation connotation, service innovation concept to bring higher profit through providing reform and innovation of service concept process.

Since the service covers a very wide range scope, and there are a lot of differences in details, functions and characters of service industries, the definition and connotation of service innovation concept has not yet formed a unified understanding. Scholars define the service innovation from different perspective (see Table 1).

Table 1. Summary of service innovation definition

	1	2	3	4	5	6	7	8	9	10
Key words										
Patterns and Methods		x			x	x		x		
Concept			x		x	x	x			
Product	x			x						
Target and strategic					x					x
Process of modification and changing	x			x			x		x	
Forms and patterns	x				x					
Value and profits		x				x	x		x	x
Technology	x		x		x		x			
Customer or Staff	x		x	x	x				x	x
New market								x		

Notes. 1. SI4S (1995).

2. Gallouj & Weinstein (1997).

3. Bilderbeek, Hertog, Marklund, & Miles (1998).

4. James A.Fitzsimmons (1998).

5. Van der Aa & Elfring (2002).

6. Tidd & Hull (2003).

7. Berry, Shankar, & Parish (2006).

8. Sundbo, J. (2007).

9. Blazevic & Lievens (2008).

10. Rubalcaba, , Michel, & Sundbo (2012).

We can find from the Table 1 that their definition still look at new to the methods, new to the concept, new to the technology and new to the customer although the majority of research takes the newness perspective. From the macro perspective, 'service innovation' is the capacity of new innovation to create structure of market, technology and science in an industry. From the micro perspective, 'service innovation' is a new innovation the services firms' concept, target or strategy, then to enhance customer satisfaction and firm's profit.

3. Service Innovation Typology

The type of service innovation is varied in reality. There is no doubt that not all service innovation are the same. Many service innovation typologies are derived from the innovation of manufacturing industry, as product innovation, process innovation and market innovation. Schumpeter identified several different forms of innovation which lay the foundation of service innovation typology: New product, new means of production, new source of raw material or semi-finished product, new market, and new established organization. Over time, a large proportion of significant findings regarding service innovation have originated in the last 20 years. Many scholars have put forward their own views. In this section we will demonstrate different researchers who have labeled varying degrees of service innovation as different typologies. A review of the literature on service innovation reveals the following categorizations. See Table 2.

Table 2. Summary of service innovation typology

Stage	Scholars	Service Innovation categorization	Classification
Before 1990s	Pavitt (1984)	Supplier dominated, Production intensive, Science based	Model categorization
	Barras (1986)	Incremental innovation process, Radical innovation process, Product innovation	Degree categorization
1990s	Gadrey & Gallouj (1995)	Innovation in the insurance sector Innovation in business consultancy services Innovation in electronic information services	Industry categorization
	Miles (1995)	Product innovation, Process innovation, Delivery innovation	Type categorization
	Gallouj & Weinstein (1997)	Radical innovation, Improvement innovation, Incremental innovation, Ad hoc innovation, Recombinative innovation, Formalization innovation	Degree categorization
	Sundbo & Gallouj (1998)	Technological innovation, Manufacturing innovation, Entrepreneurial innovation, Professional services innovation, Management or group innovation.	Model categorization
	Den Hertog & Bilderbeek (1998)	New service concept, New customer interface, New transmission system, New technology choices	Model categorization
21st Century	Avlonitis (2001)	New service in market, New service in enterprise, New delivery process, Service line expand, Service Improvement	Industry categorization
	Van der Aa & Elfring (2002)	Multi-unit forms innovation, Combinations of services innovation, Co-operation with customers innovation, Technological innovations	Industry categorization
	Sundbo (2003)	Product innovation, Process innovation, Organization innovation and Market innovation, Service repositioning	Model categorization
	Drejer (2004)	External relationship innovation, Professional innovation, Recombinative innovation, Ad hoc innovation	Degree categorization
	Djellal & Gallouj (2005)	Open innovation, Backtracking innovation, Concentrated innovation, Combination innovation	Degree categorization
	De Vries (2006)	Radical innovation, Incremental innovation, Ad hoc innovation, Recombinative innovation	Degree categorization
	Sundbo (2007)	Product innovation, Process innovation, Organization innovation, Market innovation, Technology innovation, Extended service innovation	Model categorization

Looking back upon the categories of service innovation, most scholars agree that ‘Reverse product cycle’ took place the first milestone in service innovation which was provided by Richard Barras. However, ‘Reverse product cycle’ started with the analysis framework of technology innovation, and indicated the different stages in service product cycle by using the product innovation and process innovation. There is no question that the early scholars, represented by Bassas, are deeply influenced by technology innovation theory paradigm. A classic example is the study of Gallouj and Weinstein. They divided the service innovation into six categories according to innovation characteristics, which includes Radical innovation, Improvement innovation, Incremental innovation, Ad hoc innovation, Recombinative innovation, Formalization innovation, and this typologies dynamically reveals the changing mechanism of service innovation.

Another viewpoint, Miles focused on the service innovation characteristics, leading to triadic-categorization: Product innovation, Process innovation, and delivery innovation. Similarly, Howells and Tether studied of 4 service industries and adopted this category. Furthermore, Den Hertog offered a matrix categorization, focusing on the essence of service innovation by mapping new service concept, new customer interface, new transmission system, and new technology choices. Other researchers study of service innovation by theoretically or case study.

After nearly two decades of development, service innovation research has changed from the state of decentralized, fragmented to systematically and scientifically. Thus, there is still lack of a clear and general criterion for service innovation definition and the category boundaries of service innovation is still vague. Most classification are still in the stage of theoretical research. It is still the question whether this category can be

applied into service industries. As the foundation of service innovation, the research of service innovation category has a profound influence to deepen and broaden the service innovation studies.

4. Citation Analysis of Service Innovation

4.1 General Situation of Service Innovation Literature

In order to getting a comprehensive understanding of service innovation research process, it is necessary to make a deep analysis of the literature. In this section, we will identify how many researchers have studied service innovation and the relationship between them based on the 4663 papers downloaded (Including title, key words, topic, abstract, quotation). All the paper comes from the database platform of Web of Science (Including SCI-EXPANDED, SSCI, CPCI-S, CCR-EXPANDED, Derwent innovation index, CSCD, In Cites), and makes a historical chronological chart to find the relationship, the research history and future trend of the literature.

From the time perspective, the published paper in each year increased gently before 2007, and then it rises sharply in 2008, peaking at 517, and falling to 456 from 2008 to 2013. As Figure 3, 4 depicted the publication in 2008 and 2009 accounts for 11.1% and 10.7% respectively. Furthermore, with the studies comes to mature in the period from 1995 to 2013, the citations of paper experiences a slight growth year by year, from less than 10 citation in 1997 to more than 7000 citation in 2013. All these figures point out those researchers have paid more attention to the service innovation studies.

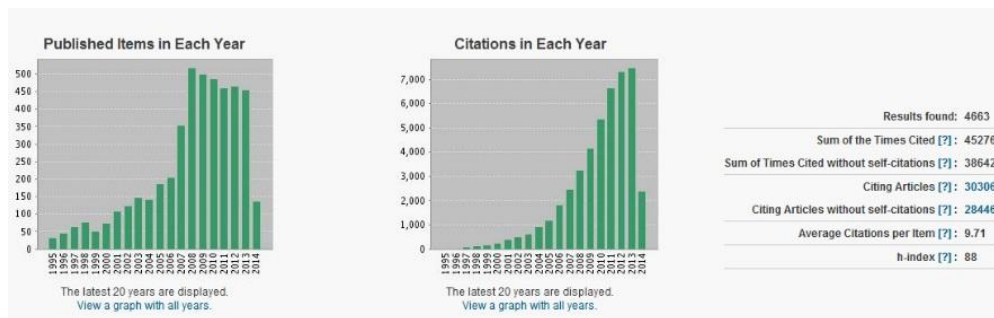


Figure 3. The published items and citation in each year (The deadline of download data is May 29, 2014)

Field: Publication Years	Record Count	% of 4663	Bar Chart
2008	517	11.087 %	■
2009	499	10.701 %	■
2010	486	10.422 %	■
2012	465	9.972 %	■
2011	460	9.865 %	■
2013	456	9.779 %	■
2007	354	7.592 %	■
2006	204	4.375 %	■
2005	187	4.010 %	■
2003	148	3.174 %	■

Figure 4. Publication in each year

From regional influence perspective (as Figure 4 showed), we can find two Table below (Figure 5 and Figure 6). LCS (Local citation score) refers to how many times is referenced by other papers in this database of 4663, and emphasizing the importance in service innovation studies. TLCS and TGCS indicate Total location citation score and Total Global citation score respectively. It is obvious that the recs of USA, People R China and UK are in the top three, reaching 1105, 638, and 551, accounting for 23.7%, 13.7%, and 11.8% respectively. Nevertheless, the countries which has the strong influence mainly focused on the USA and European countries (including England, Germany, and Netherlands), the TLCS of USA is the top one reaching 1613 among all the countries.

	Country	RECS	TLCS	TGCS
1	USA	1105	1613	17285
2	People R China	638	60	889
3	UK	551	945	6532
4	Spain	256	178	910
5	Germany	246	230	1252
6	Taiwan	220	143	746
7	Netherlands	207	217	1719
8	Italy	151	195	913
9	Australia	150	128	1139
10	Canada	171	134	1018

Figure 5. The Recs, TLCS, and TGCL of top 10 countries

Field: Countries/Territories	Record Count	% of 4663	Bar Chart
USA	1105	23.697 %	
PEOPLES R CHINA	638	13.682 %	
ENGLAND	551	11.816 %	
SPAIN	268	5.747 %	
GERMANY	256	5.490 %	
TAIWAN	246	5.276 %	
NETHERLANDS	220	4.718 %	
ITALY	207	4.439 %	
AUSTRALIA	151	3.238 %	
CANADA	150	3.217 %	

Figure 6. Record count of different countries

4.2 The Studies and the Relationship of Literature on Service Innovation.

4.2.1 The Important Literature in Service Innovation

In this section, we will choose LCS as the measurable indicators to evaluate the importance of the paper. As Figure 7 depicted, it has shown the top ten references. “Innovation in service” of Gallouj and Weinstein, ranking top 1, was cited by other paper for 171 times, which indicates this paper occupies an extremely important position in service innovation studies. The top 2 and 3 are the paper written by Drejer in 2004 and Sundbo in 1997, the reference number are 86 and 74 respectively. There is no doubt that these paper are the classic literature and have quite influence on service innovation.

#	Date / Author / Journal	LCS	GCS	LCR	CR
1	170 Gallouj F, Weinstein O Innovation in services RESEARCH POLICY, 1997 DEC; 26 (4-5): 537-556	171	265	2	42
2	84 Drejer I Identifying innovation in surveys of services: a Schumpeterian perspective RESEARCH POLICY, 2004 APR; 33 (3): 551-562	86	129	4	41
3	154 Sundbo J Management of innovation in services SERVICE INDUSTRIES JOURNAL, 1997 JUL; 17 (3): 432-455	74	117	0	81
4	482 Müller E, Zenker A Business services as actors of knowledge transformation: the role of KIBS in regional and national innovation systems RESEARCH POLICY, 2001 DEC; 30 (9): 1501-1516	71	148	0	37
5	555 Menor LJ, Tatikonda MV, Sampson SE New service development: areas for exploitation and exploration JOURNAL OF OPERATIONS MANAGEMENT, 2002 APR; 20 (2): 135-157	67	131	5	129
6	1025 Hipp C, Grupp H Innovation in the service sector: The demand for service-specific innovation measurement concepts and typologies RESEARCH POLICY, 2005 MAY; 34 (4): 517-535	65	113	7	75
7	463 Avlonitis GJ, Papastathopoulou PG, Gounaris SP An empirically-based typology of product innovativeness for new financial services: Success and failure scenarios JOURNAL OF PRODUCT INNOVATION MANAGEMENT, 2001 SEP; 18 (5): 324-342	54	101	7	112
8	32 GADREY J, GALLOUJ F, WEINSTEIN O NEW MODES OF INNOVATION - HOW SERVICES BENEFIT INDUSTRY INTERNATIONAL JOURNAL OF SERVICE INDUSTRY MANAGEMENT, 1995; 6 (3): 4-8.	50	78	0	11
9	573 Alam I An exploratory investigation of user involvement in new service development JOURNAL OF THE ACADEMY OF MARKETING SCIENCE, 2002 SUM; 30 (3): 250-261	50	102	4	73
10	37 COOPER RG, EASINGWOOD CJ, EDGETT S, KLEINSCHMIDT EJ, STONEY C WHAT DISTINGUISHES THE TOP PERFORMING NEW PRODUCTS IN FINANCIAL SERVICES JOURNAL OF PRODUCT INNOVATION MANAGEMENT, 1994 SEP; 11 (4): 281-299	47	77	0	35

Figure 7. The top ten paper on service innovation

4.2.2 The Research Context of Service Innovation

To find out the content and the relationship of these literature, we make an in-depth analysis of top 40 paper by using drawing tools (As Figure 8 shows). One circle represents for one paper, the bigger the circle, the higher the citation is. The figure is given by the system automatically, and the arrow points to the literature which is referenced. From the Figure 8 reveals, we can find out that the influential source documents of service innovation. DeBrentani (Figure 8, No. 42) discussed the development of new manufacturing services, success and failure, which was published in 1995, and probes into the new service development of five scenarios, three success types and two failure types.³⁶ Similarly in 1994, Cooper RG (Figure 8, No. 27) published the paper how to distinguish the new service products. Another original paper was published in 1995, the new model of innovation, service industry how to make a profit. The author Gadrey and Gallouj. discusses why service innovation is often overlooked in the study of economic theory, what the main form of service innovation is and how to broaden and enrich service innovation. The other three important paper is Sundbo (No. 154), Gallouj (No. 170), published in 1997 respectively and Drejer (No. 841), published in 2004. Related to the Figure 6 we can easily find that these paper not only have high citation, but also are in a top 3. Thus the following papers are based on these three and the circle also larger than the others.

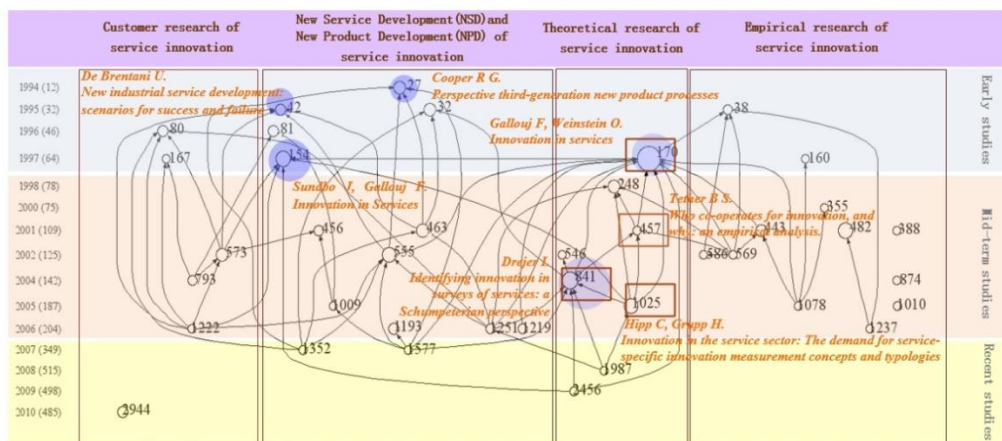


Figure 8. LCS of service innovation research in top 40 literature and interrelationship

According to the literature, we can observe the development of service innovation studies. From the vertical point of view, it can be divided into three different development stages, early studies, Mid-term studies and recent studies. 2000 and 2006 are the time nodes in each stage respectively. From the horizontal point of view, it can be divided into different development types, including customer, new service development and new product development, theoretical and empirical research.

As the research references illustrated above which have shown the LCS top 40 in Figure 8, we can analysis the research development of service innovation from the longitudinal and seek out the thread of thoughts (marked in red square). The first source paper is *Innovation in service* which written by Gallouj and Weinstein in 1997 (No.170), and referenced by Gadrey and Gallouj. in 2001 (No. 457). Tether studied German business case and supported the service innovation typology proposed by Gallouj and Weinstein. As time goes on, Drejer (No. 841) extended the concept and research methods of service innovation from the theoretical and conceptual and quite approve of Tether's standardization service concept. Based on the innovation research results in German, Hipp and Grupp believed that the analysis of manufacturing and services should be combined together, and it also conforms to Gallouj, Weinstein, and Drejer's point of view.

4.3 Development Phase of Service Innovation

From the horizontal perspective, the literature can be divided into three parts, ranged from 1994 to 1997, 1998 to 2006 and 2007 to 2010 (See Figure 9). In this section, we will discuss them respectively as following.

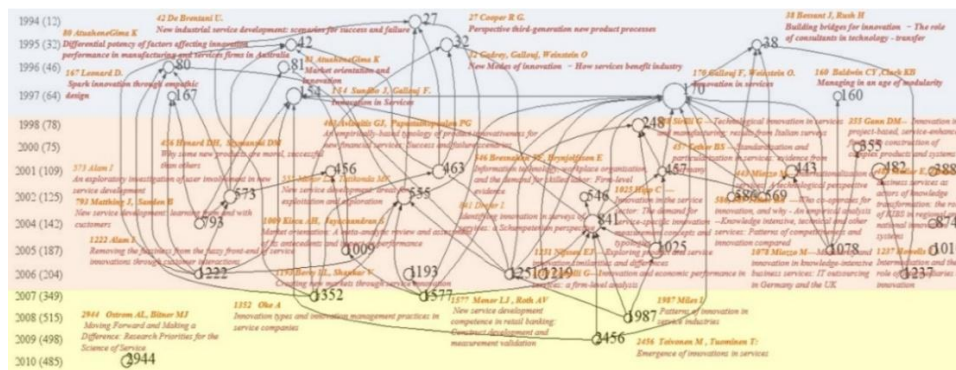


Figure 9. Literature analysis of service innovation

4.3.1 Service Innovation Research of Early Stage (1994-1997)

In the service innovation research reference diagram, there are two influential documents in this stage (See Figure 10). One of them is the *Innovation in services* published in 1997 written by Gallouj and be the top one in LCS (No. 170). This paper constructed the theoretical model of service innovation, and proposed six categories, including Radical innovation, Improvement innovation, Incremental innovation, Ad hoc innovation, Recombinative innovation, Formalization innovation. Another paper *Management of innovation in service* was published in 1997 written by Sundbo (No. 154), ranking 3rd in LSC. It theoretically discussed whether service innovation exists, and how to manage and organize service innovation activities according to the Danish service enterprise cases. This paper pointed out that there are very few research and development department (R & D) in service enterprises and innovation usually is a non-system research and study process. Atuahene Gima was also a highly influential researcher, and published two important documents in 1996, *Differential potency of factors affecting innovation performance in manufacturing and services firms in Australia* and *Market orientation and innovation*. First article mainly discussed the key influencing factors to new product development and the new service development, and the second continue to further study the relationship between market orientation and innovation.

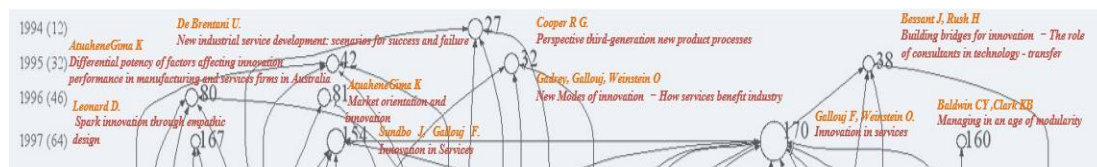


Figure 10. Service innovation research reference diagram of 1994-1997

Summarizing the research content in the early stages, we can draw the following conclusion:

- From the quantitatively perspective, the number of paper in each year is less than 100 before 1997, it is the exploratory stage of service innovation.
- From the research content, the paper mainly focus on service innovation definition, typology, and influencing factors. Be more specific, these paper emphasis more on the customers who have played important role in the process of the new services development and the comparison between new products development and new service development.
- In terms of research method, this period studies are mainly theoretical research, and the relevant conclusions was drawn through the investigation.

4.3.2 Service Innovation Research of Mid-Term Stage (2001-2001)

At this stage of service innovation, the research system of service innovation had formed, of which Drejer published *Identifying innovation in surveys of services: A Schumpeterian perspective* in 2004, ranking 2nd of LCS. This paper mainly emphasized the Schumpeter’s innovation point of view and sorted out the previews service innovation research. However, these concepts are still not out of Schumpeter innovation concept and

didn't expand and deepen the characteristics of service. During this period, the empirical research on service innovation had been studied plentifully. For example, Tether BS discussed the enterprises' innovation and external team cooperation based on the second investigation of Community Innovation Survey in European countries (CIS-2). This paper points out that we should be priority to the market, rather than the enterprise 33. In the same year, Tether BS explored the difference between knowledge intensive service and technology service enterprises according to the survey of service enterprise in Germany, pointing out these two companies will invest more than the other service enterprises. In addition, Avlonitis divided service innovation into New service in market, New service in enterprise, New delivery process, Service line expand, Service Improvement according to novelty, but this typology is still with the traces of product innovation.

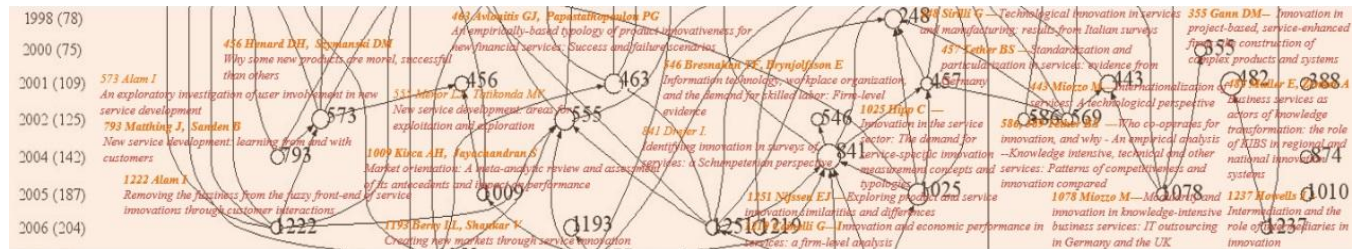


Figure 11. Service innovation research reference diagram of 1998-2006

The research period presents the following features:

- The article number increased significantly and the quantity of paper shows a trend of gradual increase in each year. From the Figure 8, the paper has appeared in each type and has a higher reference. This changing illustrated that researchers pay more and more attention to the field of service innovation and service innovation research system began to continuous improvement.
- Compared with early research, the studies in service innovation experienced an obvious progress. The researchers reached agreement to Gallouj's point of view and other relative issues, including the concept, typology and innovation process, and these articles are referenced by future researchers.
- Empirical research started to become more abundant. Researchers investigated and collected data from different countries and industries to support service innovation studies, including the knowledge intensive services companies, consulting companies, etc.

4.3.3 Service Innovation Research of Recent Stage (2007-Present)

The literature of recent years presents diversified development trend. Oke pointed out that there is a closer relationship between radical innovation and incremental innovation and radical innovation related to the innovation management practices, which published in *Innovation types and innovation management practices in service companies*. Service companies need to continuously pursue radical, imitation and incremental Innovation activities, especially the radical innovation. Moreover, innovation type, management practices and innovation performance are discussed and analyzed. Miles I advanced multiple development of service innovation in *Patterns of innovation in service industries* in 2008, and put forward that the market, product, enterprises and technology are totally different from the primary industry and secondary industry. The paper *Emergence of innovations in services* in 2009, written by Toivonen, addressed the general theories of service, general theories of innovation, and the relationship between new service development and innovation management in multidisciplinary perspective.

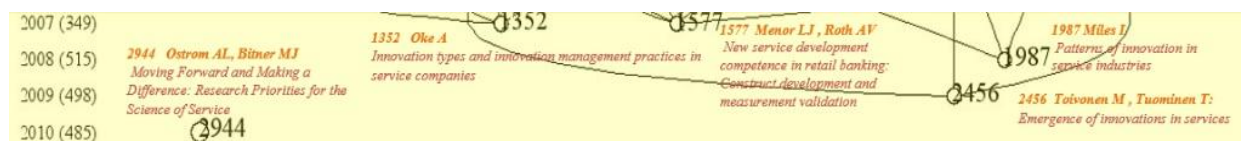


Figure 12. Service innovation research reference diagram of 2007-2010

Integrated the above, we can see that after 2007 service innovation shows the characteristics of diversified

development. The characteristics of the phase can be summarized as follows:

- Compared with early and mid-term studies, the number of articles has increased dramatically during this period, especially in 2008. Similarly, the literature citation is also increasing at the same time.
- Service innovation theory research begin to combine with other subjects, such as policy, public service, etc., and make more in-depth theoretical study, such as the nature of innovation and service innovation, radical service innovation and leaders combined management, etc.
- The method and tools are more diversified and the empirical research are more abundant. Financial sector, retail and manufacturing service innovation research are also involved.

4.4 Service Innovation Development Type

4.4.1 Customer Research of Service Innovation

From the horizontal perspective of literature reference diagram (Figure 8), service innovation can be mainly divided into four types. The first perspective stands in the left side in terms of customer. Atuahene Gima (1996) (No. 80) agreed that service enterprises should pay more attention to the quality relationship between the customer. Enterprises should choose those who have the ability to establish long-term and close-contact with customers. Similarly, the paper of Leonard (1997) (No. 1997) provided a new way of empathy design which bring customers into the company and observe their condition to experience the products and services. In this way they could know about the customer demand which cannot find by the questionnaire. Actually the customers were the designer of new service and enterprises should recognize the customer's requirements. Furthermore, Alam (No. 573) (No. 1222) and Matthing (No. 793) all explored customer target, customer interaction and customer service development model, etc. in service innovation.

4.4.2 New Service Development (NSD) and New Product Development (NPD) of Service Innovation

In Figure 8, we can find that there are more and more studies in this aspect. Avlonitis (2001) indicated that product innovation plays a pivotal role in new service development and performance, and service innovation development process can be divided into new service activities, new service development process and cross-functional participation. In Menor's paper which published in 2002 points out that NSD is not a traditional development process, requiring constantly exploration, utilization and elaboration. The paper identify the relevant concept as well, the process and performance of NSD. Henard (2001) integrated the literature of NPD performance and figured out the influencing factors, including product advantage, market potential, customer requirements and dedicated resources.

As the above literature demonstration, this perspective aspects are mainly concentrated on NPD and NSD exploration, the development process and the performance issues. In addition, Debrentani and Cooper who discussed before all probe into new service product and new service development.

4.4.3 Theoretical Research of Service Innovation

The theoretical research is also the main vein of service innovation. As Gallouj and Drejer stated before, they emphasized the concept, the typology, the process and the performance of service innovation and also indicated Schumpeter's innovation view need to be developed combine with characteristics of the service itself. These documents concentrated on summarizing the theory of service innovation.

4.4.4 Empirical Research of Service Innovation

This kind of service innovation research pay more attention to the empirical research. Bessant analyzed the technology transfer issues of service innovation based on investigation of consultation industry in 1995. On account of network operators Lucent technologies, the Application Service Providers (ASPs), Network Service Providers (NSPs) and service suppliers and providers (CCSPs) were discussed in Brenner MR's paper in 2000. Tether BS (2002) discussed the innovation pattern relation between innovation enterprises and external cooperation partners from the UK and the second commission innovation survey in service enterprise in Europe(CIS-2). In 2006, Howells J investigated the effect of mediation in the process of service innovation which based on the investigation of the service enterprises in UK. Throughout this kind of literatures, we can come to the conclusion that these articles analysis and summarize from the perspective of actual investigation, or investigation results of previous researchers, and figure out the research conclusions and results.

4.5 Service Innovation Research Summary

In this section, we make an analysis of research status and development on service innovation. It can be concluded as earlier, System formed and diversified development three stages from the longitudinal, and

Customer research, NSD, and NPD, theoretical research and empirical research from horizontal. Furthermore, this section reviews and represents the representative literature in different stages and types, highlights the key point and existing deficiency. It can make a more clear understanding of service innovation and it can also provide the enlightenment and reference for the further study.

5. Conclusion and Future Research

At present, researchers has already contended all aspects of the service innovation, basically reveals the service innovation discipline from micro level under the background of service innovation, but still lack of research in medium and macro level. Looking forward to future research, academics need to pay enough attention in following aspects.

(1) Summarized the theory with practice. Although service industry has certain common in itself, it is still a problem that whether the theory can be put into practice because of the difference in internal and external environment, development stage and consumption level. At present, the current domestic service innovation research mainly fix on the theoretical research. Service innovation studies should start from the enterprises demand, and do a lot of survey and in-depth interviews, and then really understand what kind of service innovation theory the enterprises need. In this way, we can summarize the service innovation theory which has the guiding significance to improve the enterprise service innovation ability, and to achieve the perfect combination of theory and practice.

(2) Pay more attention to the core role of ICT in service innovation and discuss the deep relationship between ICT and enterprises service innovation. And further discussed the ICT of service innovation in empirical studies.

(3) How to improve enterprise staff's service innovation ability. Enterprise staff played an important role in service innovation, especially in service innovation demand and promoting enterprise innovation ability. It is necessary to make an in-depth discussion in the relationship between enterprise staff and service innovation ability.

(4) In recent years, although there are more documents of customer orientation and customer loyalty, the importance of customers in service innovation didn't get enough attention in the study. Further research should take a deep research on how to make the customer actively participate in service innovation and how to improve customer satisfaction and loyalty.

At present, the economic development tendency of "service" has become increasingly apparent and important, the industry as a service and service industrialization have become the trend of the development of the modern economy. Compared the developed countries with developing countries we can find that there are still many gaps. In the process of development of service economy, we should carefully study how to establish and improve the service innovation management theory system and the practice of the service innovation management and try to make service innovation becomes a powerful tool for enhance the competitiveness of enterprises.

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