

Factors Influencing Service Innovation in an Open Environment

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Abstract: In this dynamic and fierce environment, how to enhance the organizational capability and create service innovation to maintain their competitive advantage is set a top priority for most service firms. In order to keep following the changes and seize the opportunities in time, KIBS (knowledge intensive business service) firms usually collaborate with their customers to gain knowledge and resources and try hard to train their employees to have dynamic capability. In this paper, we aim to focus on KIBS firms and research on the antecedents of co-production and its impacts on service innovation.

Keywords: Co-production, Service Innovation

I. Introduction

During the past years, there are more and more researchers emphasize on the researches related to services such as the relationship among customer satisfaction, customer loyalty and the frontline employees (Groth et al., 2009 [27]) and the influences of organizational behaviors on service quality (Gittell, 2002 [26]) etc.. Moreover, Homburg et al. (2009) [31] pointed out the service-profit chain to explain the whole value delivery process of servicing company. At the mean time, Lusch & Vargo (2004) [56] provided a different point of view to explain services. In service- dominant logic, customers evaluate the value when they use the product or service, which is experiences (value- in- use) (Lusch et al., 2006 [37]), instead of the price of the product (value- in- exchange). Co-produce with clients becomes an important issue in service innovation.

Prior researches proposed that services need to cooperate between producers and consumers. Other researchers also recognized that customers invest resources or capabilities to service providers in the form of either information (Kelly et al., 1990 [36]) or knowledge (Blazevic & Lievens, 2008 [11]) to accelerate the value co-creation. Except for the inputs invested from service providers and receivers, there are still many studies recognized the outcome of co-production. Lovelock & Young (1979) [39] suggested that firm can increase their productivity by customer involving. Prahalad & Ramaswamy (2000) [48] advocated co-opting customer competence as a competitive strategy. On the other hand, co-production is more important in KIBS

firms. The definition of KIBS refers to the firm which highly dependent on their knowledge in order to be able to create value for and with clients (Tale Skjølsvik et al., 2007 [52]). Some argues even see some function of KIBS as co-producers of innovation (Pim Den Hertog, 2000 [47]). Lots of studies in the field of KIBS put emphasize on the importance of the co-production role of the client firm within the consultancy's innovation activity (Skjølsvik et al., 2007 [52]). However, few studies pay attention on the role of KIBS firms itself and the effect of the organizational behavior of their employees in the process of co-production. Therefore, we are going to clarify the role of dynamic capability and see the impact of organizational behavior within the process of co-production based on KIBS firms.

II. Literature Review

Service dominant logic

The distinction between service and product is not as clear as before. Lusch & Vargo (2004) [56] pointed out the concept of service- dominant logic. They suggested that service should not be definite by in and out of the boundary of manufacturing activities. On the contrary, because the role of service economic activities has becoming more important all over the world, many manufacturing company began to see themselves as a service provider and see intangible product as something to enhance the value. Lusch (2004) [56] define service as the application of specialized competences (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself. They suggested that resources can be disaggregated into operand and operant resources. Compare to operand resource, operant resources usually are intangible and invisible. All the values are integration of operant resources, no matter which is invested from company or customers.

The role of customer is another important point we need to pay attention. In the proportions of Vargo & Lusch(2004) [56], they mentioned about that company should see their customers as a co-producer instead of value receivers. Based on S-D logic, Michel, Brown & Gallan (2008) [40] further pointed out that the change of role of customer in users, buyers and payers. In addition, because the role which customers play has changed, company need to change their view of value creation. Company can only make value propositions (Vargo & Lusch,2004) [56], when they involving the operant resources they collected and

reassemble the value. No matter employee or customer, when both of them are seen as service providers, company should have the capability to integrate operant resources enable to create new service value. Nevertheless, prior researches mention little about the impact on inter-organizational benefits. Thus, we are going to discuss whether company can increase their capability through co-production with customers.

Service profit chain

The traditional service profit chain pointed out that the customers' behaviors will be influenced by the employees' behaviors. According to the prior research, the relationship among satisfaction and loyalty of customers and employees satisfaction is positive. Homburg et al (2009) [31] enhance this concept based on social identity based view. They proved the relationship among customer satisfaction and loyalty and employees satisfaction. In this study, the definition of employee and customer identity is involved the degree to which customer and employees respectively identify with a company to fulfill self-definition needs and the resultant motivational reactions to this identification (Bhattacharya & Sen 2003 [7]; Mael & Ashforth 1996 [3]). That means while the employees identify the company, they will be willing to do something benefit to the company.

Furthermore, they collected the data from the financial report of companies to see the influential effect between customer behavior and financial performance and the results show the relationship is positive. However, customer satisfaction only significant in some limited markets. Accordingly, getting customer satisfaction is not the only thing that company can do for building up the relationship. Instead of the satisfaction of internal employees, employee loyalty is the other important thing that should be noticed. After all, the better quality of services only can be provided by the employees who commit their companies. Therefore, our study develops based on this theory to see the influence of employee commitment, and make some appropriate suggestions.

Co- production

The concept of co- production is developed based on customer involvement. Dabholkar (1990) [13] defines customer involvement as the degree of customer involving in the process of manufacturing and service delivery. Similar to customer involvement, the concept of co-production is border. Customer involvement emphasizes that collaborate with customer to produce service but S-D logic also sees customers also as a service providers. In the definition of customer involvement, customers still play as customer and they only participate in the process of service creation. On the other hand, however, the role of customers and service providers are different while co-production.

Company acquires resources and information from their clients (Lovelock & Young, 1979 [39]), and although they provide services and problem solutions, the actual value only can create by clients themselves (value- in- use).

Get al.(2007) [38] pointed out that it involves the participation in the creation of the core offering itself. Co-production can occur through shared inventiveness, co-design, or shared production and can occur with customers and any partners in the value networks. Moreover, the scholars also recognized that company can gain competitive advantage through engaging customers and value network partners in co- production activities. In addition, Bovaird (2007) [10] defines co-production as collaboration among professional service providers and users or other community or members. It's through a stable and long-term relationship and all of the members are all resources contributors. Therefore, because the role of customer has changed, scholars suggest that organization should see their customer as one of inter-organizational employees and provide appropriate promotion and culture to manage them (Bowen, 1986). Especially for knowledge intensive business service firms, Antonelli (1998) [2] mentioned that ad hoc and online knowledge exchanges by customers and providers on the markets almost replace traditionally integrated based on R&D. thus, co-production become an important strategy for acquiring competitive advantages in nowadays and service firms definitely need to pay attention on this way to increase their profits.

Service innovation

Innovation The concept of innovation from Schumpeter's view included five areas : (1) introduction of new product or new quality of product (the innovation of product), (2) introduction of manufacturing which involved processing new commercials through a new way (the innovation of process), (3) discovering the new market (innovation of market), (4) new materiel supplying or input (the innovational of input) and (5) creating new organizations in the new industry (organizational innovation) (Schumpeter, 1934 [49]). Moreover, De Jong & Vermeulen(2003) [17] mentioned that all the definitions of innovation are including developing and implementing something new. Thus, we can conclude that the there is a very close relationship between innovation and new. During the past, innovation only focused on the R&D of product or manufacturing process. However, because of the coming of service economy, more and more people pay attention to the innovation on service area. Therefore, to survive in this dynamic market, service innovation is an important issue which companies shouldn't neglect.

Services The four generic characteristics of service are intangibility, heterogeneity, inseparability, and perishability (Avlonitis et al., 2001 [4]). Compare to the usual tangible product, service is dynamic and perform through gathering

continual events and steps during a period. Bitner (2008) [8] also suggested the importance of service experiences. They mentioned that all of the employees in the company should focus on the same purpose- create an integrated, memorable and enjoyable customer experience. The definition of services is no longer the activities beside the manufacture. Instead, it's the application of specialized competences (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself. According to this definition, service innovation not only focuses on the innovation of service product but every activities or processes which can create new value are part of service innovation.

Service innovation Due to more and more people realized the importance of services, there are many researches about services. Gadrey, Gallouj & Weinstein (1995) [23] suggested that innovative service is process or organization of innovating on existed service product. According to Gallouj & Weinstein (1997) [24], there are several characters: service outcome, competence and technology of service provider, and customer's competence. In addition, de Vries (2006) [20] mentioned that service innovation is not from single source, instead, the innovation comes from a collaborative network, which includes different employees with different competences, partners and supplier collaboration and the competence from combination of company and deliver technology. Any change in this network can produce new service. Except for improving company's financial performance, exited organizational process also can increase efficiency through service innovation. These studies shows service innovation is necessary for company.

Froehle & Roth (2007) [22] divided successful factors of service innovation into two groups. One is resource-orientation NSD practices and the other one is process-orientation NSD practices. Ulrike & Emmanuel Ragot (1996) [55] separate the factors which can affect B2B professional service from factors- internal factors and external factors. Accordingly, Allard et al. (2004) [1] developed long-term, short- term and indirect success based on internal factors and external factors. Gallouj and Weinstein (1997) [24] introduce six types of innovation which is appropriate for services: (1) radical innovation, (2) incremental innovation, (3) improvement innovation, (4) architectural innovation, (5) formalization innovation and (6) ad hoc innovation. Among these six types, lots of argues are about ad hoc innovation. Some scholars argue that ad hoc innovation is more specific and can't be reduplicated and formalized. It might lose its economic value. However, de Vries (2006) [20] still see service innovation as a kind of ad hoc innovation, which refers to the interaction to solve a specific problem of customers. As the result, we infer that service firms can create successful service innovation through co- production.

Proposition 1: co-production with customers has a positive effect on service innovation

Dynamic capability

In this dynamic environment, customer change their needs and wants very quickly. In order to respond the environment quickly, company need to sense and seize the opportunities in short time. Zott (2003) [59] mentioned that dynamic capability is more than a simple addition to resources based view because they manage the resources and capabilities that directly engender rents. In order to quickly response to the market, organizations are not only competing on their ability to exploit their existing resources and organizational capabilities, firms also competing on their ability to renew and develop their organizational capabilities (Teece et al., 1997 [53]). Therefore, dynamic capability becomes very important for every company.

Zollo & Winter (2002) [58] define dynamic capability as 'a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness'. Teece (1997) [53] define it as the firm's ability to integrate, build and reconfigure internal and external competences to address rapidly changing environment. Furthermore, he develop the concept of dynamic capability more deeper in 2007, and disaggregated it into the capability to (1) sense and shape opportunities and threats, (2) seize opportunities, and (3) maintain competitiveness through enhancing, combining, protecting, and reconfiguring the business enterprise's intangible and tangible assets (Teece, 2007) [54]. In Teece's point of view, opportunity creation and discovery by individuals require both access to information and the ability to recognize, sense, and shape developments. The ability to recognize opportunities depends in part on the individual's capability and extant knowledge particularly about user needs in relationship to existing as well as novel solutions.

In order to develop effective dynamic capability, Winter (2002) [58] recognized that ad hoc problem solving is a viable alternative to developing a dynamic capability. For Zollo & Winter (2002) [58], it is created by firms that draw on their experiences from acquisitions or joint ventures to manage projects in systematic and relatively predictable fashion. Especially in KIBS firms, client firms and KIBS providers work together to find out the solution to the problems and changes. During this process, service providers integrated the resource and capability they already had and learned the knowledge and experience from their clients. Finally, they reorganize and reconfigured all the assets they got, either new or original assets, to provide a specific and innovative solution for their clients. According to these studies, we infer that KIBS firms can enhance their

dynamic capability through co-producing with customers.

Proposition 2: Co-production with customers has a positive effect on dynamic capability

Besides, dynamic capabilities' refers to the ability of managers to create innovative responses to a changing business environment (Lei-Yu Wu, 2006) [60]. Organization with dynamic capability can perceive seize the opportunities easily. It's a kind of capability usually link with change renew. Therefore, we think that dynamic capability is a key capability for creating service innovation.

Proposition 3: Dynamic capabilities has a positive effect on service innovation

Antecedent of co-production

According to service profit chain, customers' perception will be affected by internal employees. Therefore, in order to create customer satisfaction and better service, lots of researches focus on the impact factors of organizational behaviors (Gatignon et al., 1997) [25]. Recently, strategic orientation has been seen as an important factor in the field of innovation (Yuan et al., 2010). In addition, some researches integrated customer orientation and competitive orientation as market orientation (Webster et al., 1993) [16]. Thus, we are going to see the effect of strategic orientation through discussing market and technological orientation.

Market orientation Many prior researches saw market orientation as an organizational resource (capability) which can help the organization to achieve a stable competitive advantage and even better performance (Hult & Ketchen, 2001) [32]. It has been proved that the relationship between market orientation and company performance is positive (Jaworski & Kohli, 1993) [34]. The definition of market orientation refers to require, share and respond the market information to provide the guideline of behavior. Jaworski & Kohli (1990) [35] define the market orientation from combining customer focus, marketing collaboration and profit till acquiring market intelligence, disseminating among inter departments and the responses of organization. The point is realizing the target customers and potential competitors and collaborating the inter- functional resource and activities. The consequence of market orientation has been researched a lot. Narver & Slater (1990) [43] indicated that market orientation plays an important role on profit creating and customer value maintenance. Furthermore, market orientation can lead employee team spirit, customer orientation (who is willing to satisfy customer needs) and job satisfaction (Kohli & Jaworski, 1990) [35].

Proposition 4: Market orientation has a positive effect on customer co- production

Technology orientation On the contrary, doesn't like the philosophy of customer- pull of market orientation, technology orientation reflect the philosophy of technological push. Namely, customers prefer products and services with better technique (Gatignon et al., 1997) [25]. A company with technology orientation will promote R&D, acquire new technology and commitment of new technology applying (Gatignon et al., 1997) [25]. Both market orientation and technology orientation are improving acquiring new ideas, but the front one tends to acquire the ideas which can satisfy customers' needs and the other one encourage employees to use the newest technology. A company with technology orientation usually would endure and encourage their employees have "crazy idea" or come out some interests to invent something new. Because technology orientation more focus on new technology applying and inter- organizational inventing, we assume that a company with technology orientation will not willing to share their knowledge and skills with others outside the organization.

Proposition 5 :Technology orientation may obstruct the effect of customer co- production

III. Conclusion

In our study, we used Statistical Packages for Social Science (SPSS 15.0) and Partial Least Square (PLS) approach to analyze the data collected. Consistent with expectation, the results from this study show that market orientation do affect co-production. However, contrary to our expectation, technology orientation didn't have any effect (negativity and positive) on co-production. On the other hand, the relationship of co-production, dynamic capability and service innovation is also proved in this study. Contrary with our expectation, the direct relationship between co-production and service innovation was not significant, which means service innovation need to be created only when the organization has dynamic capability. In this study, we confirmed some propositions by statistic analysis. However, only focus on KIBS firms is one of the limitations in this study and further researchers can deeply examine these relationships in different Industry.

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