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Designing the dynamics of service innovations

Arcot Desai Narasimhalu
Singapore Management University, desai@smu.edu.sg

A Method for Designing the Dynamics of Service Innovation

Arcot Desai Narasimhalu

Singapore Management University, 81 Victoria Street, Singapore 188065.
E-mail: desai@smu.edu.sg

Keywords: Service; innovation; design; supplier; customer, supply chain; unit cost; innovation attributes.

Problem: There is a need for a tool and a method to help design service innovations. Such a tool ought to also capture the constraints imposed by the vendors supplying goods and services to a service firm, in order to ensure that a proposed service innovation is deliverable.

Current Understanding: While there are a number of papers talking about different aspects of a service innovation, there is yet no reported research on a tool and a method for designing the dynamics of control and responsibility between the providers, customers and suppliers of service innovations.

Design / Methodology / approach: This methodology was motivated by complaints by service providers that they do not have a tool for designing service innovation. The proposed method derives its inspiration from value gap analysis and strategy canvas and value curve mentioned in the blue ocean strategy.

Findings: This paper presents a framework. This framework has been tested on a small scale in class settings and has not been applied in real world situations.

Contributions: The submission adds to the range of tools and methodologies in innovation in general and service innovation in particular.

Practical Implications: This method and tool can benefit service innovation designers.

A Method for Designing the Dynamics of Service Innovation

Arcot Desai Narasimhalu

Singapore Management University, 81 Victoria Street, Singapore 188065.
E-mail: desai@smu.edu.sg

Abstract: There is no serious tool available to design service innovations even as it is gaining in important attention from the academic and industrial worlds. This paper presents a method that is specifically developed to help service innovators plan and design their innovations. The method recognizes the dependencies that exist across a service provider, customers and suppliers and help identify potential inconsistencies in the design of service innovations.

Keywords: Service; innovation; design; supplier; customer, supply chain; unit cost; innovation attributes.

1 Introduction and Background

Service Innovation has been gaining attention from academia and industry in the recent years. In the last few years IBM has been spearheading the movement to define a framework for service innovation under the able leadership of Jim Spohrer [3]. Industrial Engineering researchers and practitioners have been the early drivers of service innovation related research and practice as much as the researchers and practitioners in Applied Mathematics and Electrical Engineering were the early drivers of Computer Science and Information Technology.

A number of clear differences separate service innovations from product innovations. A main differentiated feature of service innovations as acknowledged by the practitioners of is the short life cycles. Services generally have backstage and front stage [4]. Innovations in the back stages are generally better protected than those in the front stage and are less visible. Narasimhalu introduced a method for identifying service innovation opportunities [2]. While that was a good beginning, there is still no method or tool for designing the dynamics of service innovations. This paper presents a method and a tool that addresses the dynamics of designing service innovations in both the front and back stages.

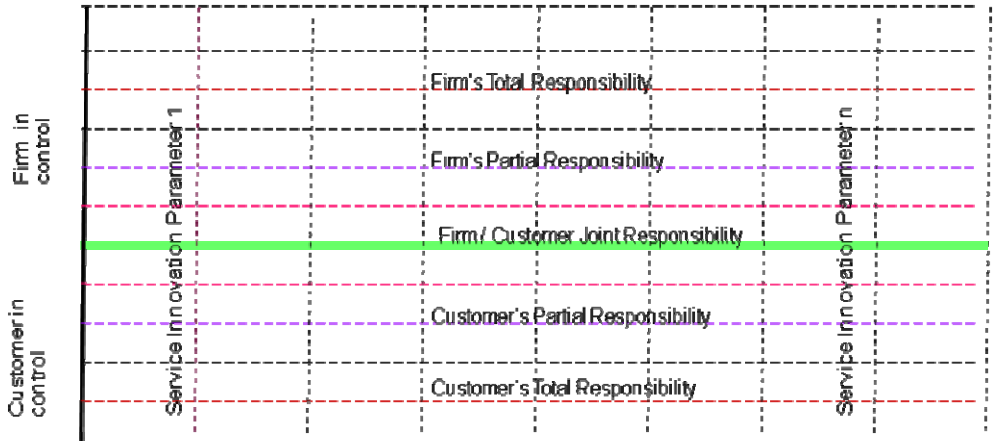
The tool for designing the dynamics of service innovations is called Service innovation Design (SD) Tool. This tool consists of a Service Innovation Design Canvas (SIDC) and Service innovation Value Curve (SVC). SIDC is defined in section 2, SVC is defined in

section 3 and an example of using these two is presented in section 4. Section 5 summarizes the SD tool and its use.

2 Service Innovation Design Canvas

Figure 1 presents a Service Innovation Design Canvas that binds customers with a firm. This canvas has two sections – the first section called "Customer in control" (CIC) and the second called "Firm in control," (FIC). The CIC part is above the midline and the FIC is below the midline. The midline represents the situation where the responsibility and control is jointly owned and exercised by both the customer and the firm or labelled "Both in Control," (BIC).

Figure 1 Service Innovation Design Canvas representing the dynamics of Customer-Firm relationship.



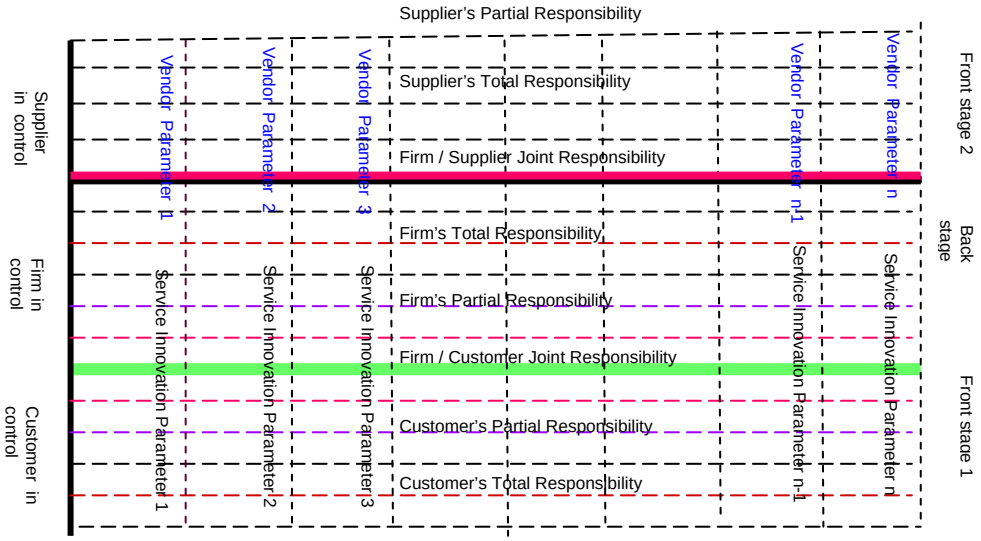
The CIC section corresponds to the front stage. Any innovation in this space will be visible to both the customers and competitors of the firm. The FIC section corresponds to the back stage. Any innovation in the backstage is invisible to a firm's customers and competition. The BIC is the intersection of the customers in control and firm in control. Most innovations in this space will be visible to the customers and the competitors alike.

The horizontal lines define the controlling party and the extent of control. The horizontal line in the middle represents the situation when both a firm and its customers have equal control in making decisions about a Service Innovation Parameter. The horizontal line labelled Customer's partial responsibility in a CIC section represents the situation when a customer has more control than a firm. The horizontal line labelled Firm's partial responsibility in FIC section represents the situation when a firm has more control than its customers.

Each vertical line represents a Service innovation Parameter (SIP). A SIP is defined to be a feature of the service provided by a firm. It is important that SIPs are decided with the customers' perspectives in mind. A service innovation designer can choose any number of Service Innovation Parameters of interest to the customers of the firm.

A Supplier Augmented Service Innovation Design Canvas (SASIDC) as shown in Figure 2 can be used when a firm believes that its service innovation decisions are dependent on their supply chains as well. This can also be called the Sandwich model since the firm is sandwiched between its customers and suppliers.

Figure 2 Service Innovation Design Canvas for representing the dynamics of Customer-Firm-Supplier relationships.



The SASIDC has a third section that represents the supplier's responsibility and control and this section is called "Supplier In Control" (SIC) section. Supplier's Total Responsibility and Supplier's Partial Responsibility horizontal lines have been designed to be symmetrical with the relevant horizontal responsibility lines of the firm. Also, notice the two front stages in this canvas – Front Stage 1 between the firm and its customers and Front Stage 2 between the firm and the supplier. The motivation for the introduction of SIC is to ensure that the SIP design is consistent with the service provider's supply chain constraints. This will become obvious when an example is discussed in section 4.

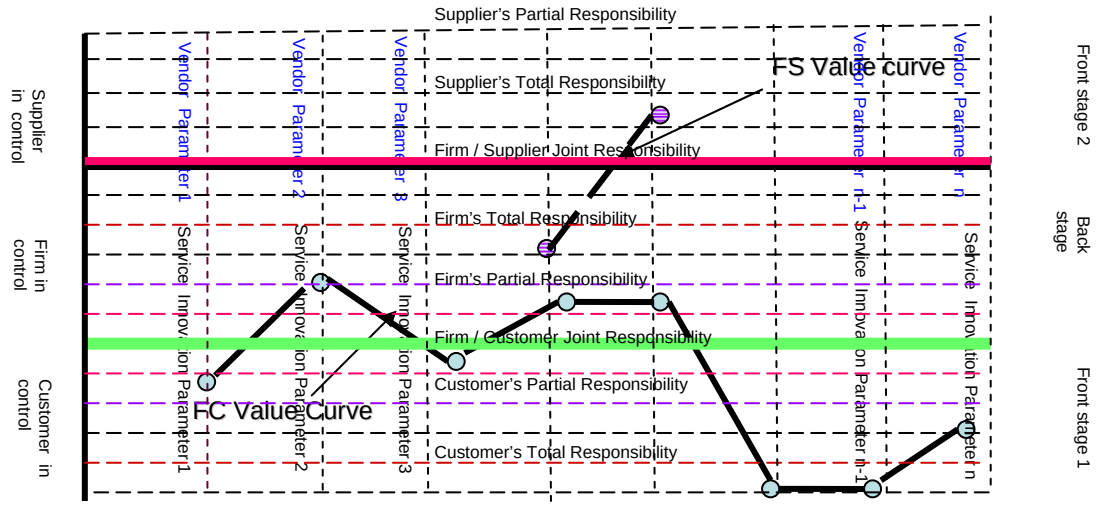
The Service Innovation Parameters will apply across the Backstage and Front Stage 1 and will be used to define the relevant value curves. The Vendor Parameters will apply across the Backstage and Front Stage 2. These will represent the supplies that a firm will need in order to fulfil the service innovations it plans to offer to its customers.

3 Service Innovation Value Curve

This section introduces the concept of Service Innovation Value Curve (SVC). An SVC is similar to the Value Curve used in Blue Ocean Strategy [1] and is yet different. It is used to represent the amount of control to be retained by a firm or to be given to either a customer or a supplier. It represents a specific value given to either a customer or a supplier- Control.

A Service Innovation Design Canvas will have at least one Firm-Customer (FC) Value Curve and at least one Firm-Supplier (FS) Value Curve corresponding to every FC value curve. Clearly, when a firm segments its services to meet the needs of more than one type of customer then there will be more than one FC Value Curve – one FC Value Curve for each customer segment. When a firm gets its supplies from more than one vendor, then there will be a FS Value Curve corresponding to each of the vendors. Figure 3 shows a sample Service Innovation Design Canvas with one FC Value Curve and one FS Value Curve. Service Innovation Parameter can also be referred to as FC parameter and Vendor Parameter can be referred to as FS parameter.

Figure 3 A sample SC with one FC and one FS Value curve



Such a Service Innovation Design Canvas and Value Curves can ensure that a service provider is able to represent the controls that they wish to offer their customers and vendors and ensure that there are no incompatibilities between the service innovations and supply chains.

4 An example

Figure 4 presents the Service Innovation Design Canvas and an FC and an FS value curve each for the customer and supplier using a Food and Beverage service provider such as a restaurant as an example.

Let the Service Innovation Parameters chosen by the restaurant be:

- Ambience
- Cuisine
- Seating
- Dishes
- Beverages
- Payment Mode
- Splitting Bills
- Custom Order

The restaurant can choose to retain control of all these parameters or share the controls for one or more of these parameters with their customers.

Service Innovation Parameters in turn determine the Vendor parameters. Let us consider two examples in this case.

- Dishes → Groceries
- Beverages → Ingredients for Beverages

A sample Supplier Augmented Service Innovation Design Canvas representing the above Service Innovation Parameters and the Vendor Parameters is presented in Figure 4.

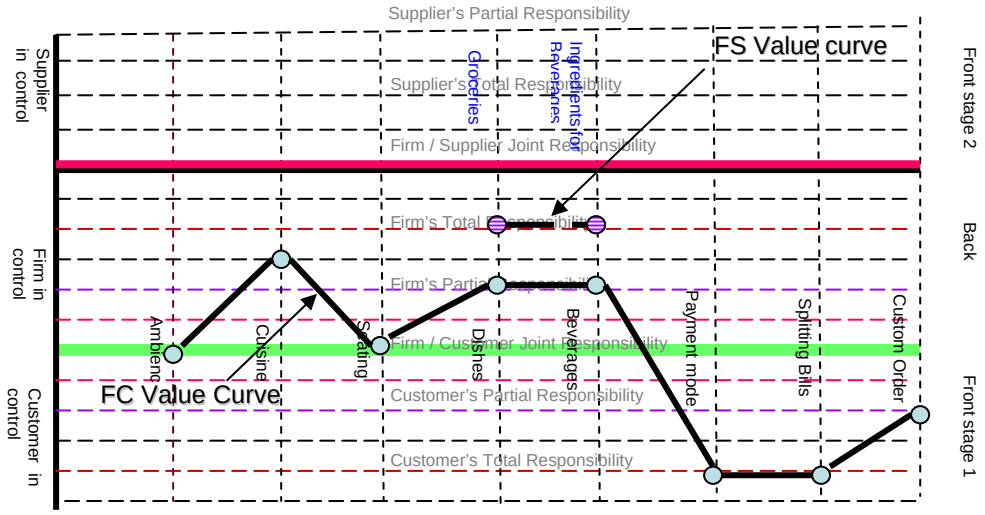
The FC and FS value curves represented in this canvas can be interpreted as follows.

From the FC value curve, note that the firm has decided to jointly decide with its customers, the ambience for the restaurant and the seat reservations. This might mean that some seats may be assigned at the discretion of the restaurant operator while the others could be listed on a web for the customers to choose. It has decided that it shall exercise total control over the cuisine. The restaurant has further decided that it will take inputs regarding the dishes it should prepare and the beverages it should serve. Since the firm has chosen to position these two SIPs as partial responsibility, it has chosen to exercise more control than its customers. This could translate to the restaurant getting inputs from the customers without any obligation to fulfil every one of the inputs. It has further decided to let the customers decide on the payment modes and whether and how to split the bill. The restaurant will give some inputs to customers who wish to order custom dishes but will defer the final decision to them.

From the FS value curve note that the firm will have the final say with respect to what groceries it will order from the vendor and also the ingredients it will need for making its beverages. This situation will hold when there is an assured supply of groceries and the

ingredients for the beverages from multiple suppliers and hence the restaurant is able to keep total control.

Figure 4 An SASIDC with an FC Value Curve and FS Value curve in alignment



There are situations when a restaurant has no control over some of its supplies. The Service Innovation Design Canvas in Figure 5 presents such a situation. In this Service Innovation Design Canvas, the supplier holds partial control / responsibility over the groceries. This could very well reflect a sea food restaurant which serves only catch of the day from their local seas. In this situation, the restaurant operator could be assured of all the groceries except the fish being available as per the restaurant's requirements. However, the fish supply is entirely in the control of the fishermen who supply the restaurant with the catch of the day. It would be difficult to expect such a restaurant to serve a particular fish requested by a customer, given that the supply of that fish cannot be guaranteed everyday.

The example shows how a Supplier Augmented Service Innovation Design Curve can be used to identify whether a control can be shared with or totally retained by a customer, a firm or its suppliers. The example shown in Figure 5 is simple one. A firm can establish a vertical line for every Vendor Parameter to distinguish the different levels of control that different vendors will or will not offer.

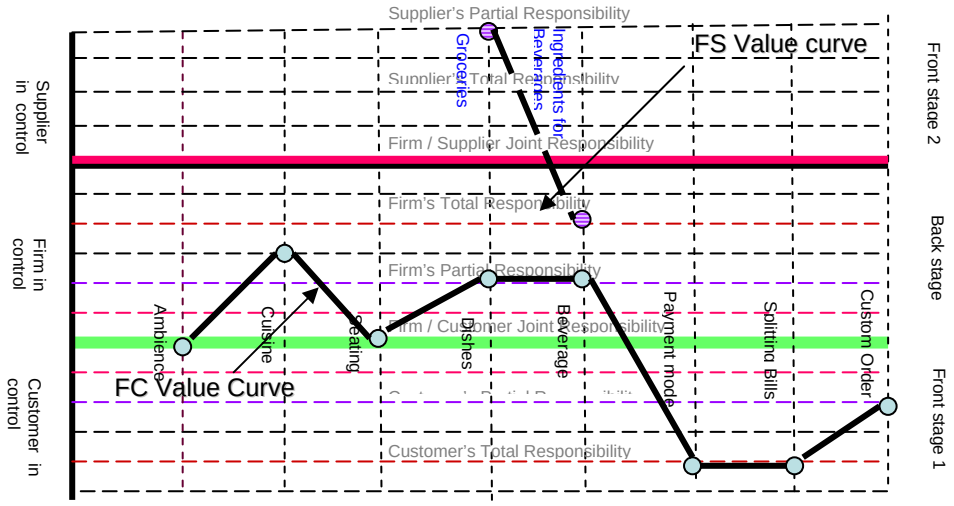
Although we use the word responsibility through out the canvas, it should be realized that the word responsibility actually translates into control. If a firm is totally responsible for a service innovation, it then controls that innovation totally. If a firm is partially responsible for a service innovation, it could let the customers choose some of the service innovation offerings and it can choose the rest. When a firm has a joint responsibility then it makes the decisions jointly and in agreement with the customers.

In a similar vein, when a supplier is in partial control, the firm can get some of its supplies as per its request and the other supplies will be subject to the vendor's terms and

control. When a vendor is in total control, then a firm has not choice but to accept what the vendor will offer. These situations arise when a vendor is a monopoly in a market. When a vendor has joint responsibility then there is a negotiated agreement between the vendor and the firm on the nature and quantity of supplies.

Note in Figure 2, a supplier will have more control over the ingredients required for making the dishes in the restaurant and hence the restaurant cannot assure customers any dish they require. In such a situation, the restaurant has to be make sure that it does not over promise the control available to the customer over the SIP in question.

Figure 5 An SC with a FC and a FS that are misaligned



5 Summary

This paper has presented a tool consisting of a (Supplier Augmented) Service Innovation Design Canvas and a family of value curves each for the Firm-Customer interactions and Firm-Supplier interactions. The process of designing the service offerings and validating the offering with respect to supply constraints in itself is the method used to build the tool. This tool and the accompanying method are novel and are hopefully used extensively for designing the dynamics of the service innovations.

References and Notes

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