Constructing A Value-Based Service Development Model

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ABSTRACT

The purpose of this study is to look at how services that can create customer value can be developed in order to increase the firm's competitive advantage. In this study, we refer to services that can create customer value as value-based services. By beginning with a discussion of issues related to the structural characteristics of this research, and by adopting the Delphi expert survey technique, this study establishes a consensus regarding the measurement structure of value-based services. It then examines the development structure of value-based services and their structural elements, and defines each structure and element, in order to arrive at a consensus and formulate a value-based service development model that can serve as reference for service industries developing value-based services or engaging in service improvements. From the results of this study, two major structures of value-based services are derived: a customer platform and an innovation platform, each of which includes a number of key elements. The structure and key elements of these value-based services are then summarized and a value-based service development model proposed. Through such a value-based service system that is characterized by customer orientation and an innovation platform, value-based services can be transferred and customer value created, and through the use of this kind of model, the profitability of enterprises can be enhanced.

INTRODUCTION

In recent years, industries have gradually attached increasing importance to the development of services. Regardless of whether these industries are traditional or newly emerging high-tech industries, in all of them lays the expectation that through the value added created by their services they can increase their competitive advantage. This is particularly true in industries with small profit margins, in which the room for making a profit on physical goods has been narrowed down to an absolute minimum. It has become very hard for these industries, given current costs, to gain an advantage in terms of generating profits or else pursue product differentiation. Thus services have become the means by which firms pursue product differentiation and by which their goods gain an advantage in terms of value as they explore and cultivate their markets. As the service economy pushes industries on to new battlefields, the key to victory lies in whether or not intangible services can be transformed into real business opportunities and profits. Traditional services strive to satisfy the customer, in the belief that customer satisfaction is equal to service profitability, with the service advantage being based on raising service quality in order to meet the customers' demands. Value-based services by contrast stress that the core competitiveness of services lies in the creation of customer value. Besides giving rise to customer satisfaction, value-based services also take into account the degree of loyalty formed as a result of the value provided by the service that is felt by the customer, as well as the subsequent willingness on the part of the customer to repurchase and recommend the product. In other words, value-based services transcend the boundaries of customer satisfaction, by pursuing the creation and realization of customer value.

Value-based services constitute the new horizons and directions in which the new service economy is growing. The successful or otherwise development of new service industries depends on whether a value-based service system can be nurtured and realized, a task that includes learning how to establish a customer value identification system, how to respond to customer requests for value, and how to develop and promote value-based services that satisfy customers' requests. For this reason, as competition within the service industry becomes increasingly fierce, developing innovative services in order to transfer customer value has become a necessary condition for the enterprise's profitability. How to grasp hold of this customer value, and develop and promote services that can create customer value, and thereby satisfy customers' requests and create customer loyalty leading to repurchases and recommendations to purchase is where the main value of the new wave of service competition will lie in the future.

Based on the above research motive, the objectives of this study are:

1. To construct a measurement structure for value-based services, as well as the key elements of each structure, and define the meaning of each structure and element.
2. To summarize the features of the value-based service development reference model referred to above.

LITERATURE REVIEW

Kelly and Storey (2000) defined the new products of service-type enterprises as: (1) core products that, as far as the company is concerned, are new or world-class creations; (2) core products that are able to improve existing products; (3) complementary and value-added services. Tatikonda and Zeithaml (2002) defined new service development as combining marketing and operating resources in order to plan, design and implement the service organizational technical progress deemed by the customer to have value.

Customer value is the core factor of new service development. Slywotzky (1996) pointed out that customers engage in consumer selection based on what they regard as their consumption priorities. It is necessary to understand that the customers' consumption priorities are not limited to merely understanding the customers' demands. What the customers really need has to do with a complicated decision-making process, and moreover these decision-making processes are affected by a great many external factors, for example, regulations, technology, existing and new suppliers, etc. Knox and Maklan (1998) noted that the component elements of customer value include information, relationships, customerization and customer orientation, among other things. Simchi-Levi and Kaminsky (2000) defined customer value as the cognition approach adopted by the customers in relation to the tangible products and intangible services provided by the enterprise. Customer cognition encompasses several directions: satisfying demand, product selection, price and brand name, value-added services, and relationships and transactions experience, etc.

Tyndall et al. (1998) defined customer value as the provision of products and services that exceeds the customer's demands and expectations, i.e. that enhances the extent of the customer's performance, with the emphasis that the provision of products and services must be able to benefit both the the supplier and the consumer. To explain this further, customer value refers to the efforts made by both the customer and the supplier to lower cost, and is not only limited to delivering the product on time in order to satisfy the customer. They emphasize that the services provided by superior-quality suppliers, besides satisfying the customer, should also enable the customer to profit from them. Once the upper limit of the cost lowering is reached, the enterprise must concentrate on generating income and profit, as well as associated value in terms of its relationships with customers, and not merely focus on economizing on costs. While the new service model must surpass that of traditional commerce, and through product and service differentiation satisfies the customer, what is even more important is that it should provide an excellent trading experience as it attempts to please the customer. Parolini (1999) defined customer value on the basis of value, price and cost. Parolini (1999) referred to the concept of a value-creating system, which he defined as the combining of activities that create value for the customer. The customer value created by the value-creating system is composed of two parts, namely, the value obtained by the final customer and the value obtained by the value-creating players. The overall net value created by the value-creating system is defined as the difference between the total values attributed by the customer to the product/service and the total cost incurred by the value-creating system. The net value obtained by the final customer is defined as the difference between the overall value attached to the product or service by the customer and the price paid to acquire this product or service. The net value obtained by the value-creating players is defined as the difference between the total price paid by the buyers and the total cost borne by the value-creating players. Parolini (1999) emphasized that customer value has a very strong relationship with the value that the customer attaches to the product or service, and that there are many factors that influence the value recognized by the customer. These factors include the consumer's individual characteristics, environmental factors, and the prices of complementary and substitute products.

Nicholas De Bonis et al. (2003) pointed out that the essence of an enterprise's creating customer value lies in defining who the target customers are, and promoting a better case than the competitors in order to create benefits for the customers and enable the firm to make a profit. They referred to a more complete customer value model as follows: $\text{Value} = \text{DB}/\text{RC}$, where DB refers to the benefits that the customer expects to derive, and RC refers to the price that the customer must pay in order to derive these benefits from this service. This price to be paid consists of the acquisition cost, holding cost, usage cost and related opportunity costs. There are two ways in which this customer value can be increased: either by increasing the expected benefits or else by lowering the related costs. Nicholas De Bonis et al.

(2003) went further to point out that the creation of customer value involves five steps, namely, discovering, committing, creating, assessing and improving. They emphasized that in order to create customer value, it is first necessary to distinguish and locate the target customer group, and that the target customer group must possess an identical or similar value model. That is to say, the factors that drive the decisions to purchase behind the scenes are identical, and this value model also provides the enterprise with a competitive advantage.

Simchi-Levi and Kaminsky (2000) referred to customer value measurement indicators, including the standard of service, customer satisfaction and supply chain performance. Storey and Kelly (2001) at the same time by focusing on case studies and planning discussed new service development performance indicators, including the financial structure (profits, sales, rate of return on investment, market share and cost), the customer structure (the degree of customer satisfaction, new customers, market response, customers retained and competitiveness), and the internal structure (future potential, efficiency, the success rate, and so on).

Weinstein (2002) referred to three indicators, namely, customer retention, customer loyalty and customer satisfaction that serve as measurement indicators of customer value, and also mentioned the factors used to measure customer loyalty, including the recency, frequency and monetary value of transactions.

After understanding customer value, the enterprise goes a step further to develop and promote new services. From the literature it can be seen that research in other countries on the success factors of service innovation and new services has already developed to a considerable degree. However, related research on how to develop new services is greatly lacking. Tatikonda and Zeithaml (2002) divided new service development processes into three major areas: the front-end stage, the back-end stage and the product introduction stage, and especially pointed out the importance of marketing research in relation to the front end. Each of these stages is explained in Table 1 below:

Table 1
The Steps And Major Activities In New Service Development Processes

Stage	Main Steps	Activities
Front-end	Strategic positioning	<ul style="list-style-type: none"> • Determine market opportunities and niches • Define the differences between latent new services and already existing services • Determine the congruency between market opportunities or latent services and the enterprise's strategies and abilities
	Idea generation	<ul style="list-style-type: none"> • Deal with appropriate encouragement or correction received in relation to the new service concepts to accord with market positioning
	Concept development	<ul style="list-style-type: none"> • Screen and fine tune the abstract service ideas in order to derive more objective service product concepts • Obtain feedback through discussing with shareholders or customers the concepts in their embryonic form • Clearly define service concepts
Back-end	Concept execution	<ul style="list-style-type: none"> • Draft up and execution plan in order to realize the service concept • Develop the personnel function and staff training, design and match supporting products and materials, design and test service implementation, and confirm the overall service transmission process • Repeatedly develop and improve the service transmission process model and the specially-determined service units
	Full prototype testing	<ul style="list-style-type: none"> • Test the whole service transmission process in the real world or a simulated environment
Introducing the Product	Market development	<ul style="list-style-type: none"> • Promote the services to one or more business locations
	Performance evaluation	<ul style="list-style-type: none"> • Analyze the results of sales and business operations • Continue to improve the service transmission system

(Source: Tatikonda and Zeithaml, Managing the New Service Development Process: Multi-Disciplinary Literature Synthesis and Directions for Future Research, *New Directions in Supply-Chain Management*, 2002, p. 207)

Tatikonda and Zeithaml (2002) in particular emphasized the importance of sales and marketing research to new service development. The main reason why new products and services that are developed are not successful is that they fail to grasp market demand. The development of new services is constantly based on the enterprise's managers' or employees' subjective viewpoints and they completely neglect the collection of objective data on customer cognition and market demand. When Cooper et al. (1994) studied the extent of the success of new service development

plans, they discovered that moderately and highly successful plans each have the following special characteristics: they understand the customer's needs and purchasing behavior, they input plenty of data into their sales and marketing research, and they use the results of their sales and marketing research to test the customer's reaction to their new services. Gustafsson and Johnson (2003) pointed out that new service development consists of the following stages: idea generation, overcoming strategic and cultural barriers, new service design, testing and execution, and so on. Alam and Perry (2002), from the standpoint of the customer's orientation refer to a new service development model, in their research they for the first time referred to a new service development model that includes ten steps. These ten steps in order are strategic planning, idea generation, idea screening, business analysis, formation of cross-functional teams, service design and process/system design, personnel training, service testing and pilot runs, test marketing, and commercialization. The main meaning of customer orientation in Alam and Perry's (2002) new service development model lies in the customers playing an exceedingly important role in each stage of the new service development process, with each stage having its own unique contribution. In their study, they discover that the three stages in which the customers most frequently provide information for reference purposes include idea generation, service design and process/system design, and service testing and pilot runs.

In terms of service innovation, Robert, Andersen, and Hull (2000) pointed out that the relationship between service and innovation is based on the self-service economy. The first stage of the innovation process involves raising the current service transmission efficiency. The second stage lies in raising the quality of service arising from the new production system. The third stage of the innovation process consists of successfully implementing the new technology. Tether and Hipp (2000) referred to three forms of innovation, namely, service innovation, process innovation and organizational innovation. Storey and Kelly (2001) noted that within the fiercely competitive service industry, enterprises need to continue to change the combination of services. Terrill and Middlebrooks (2001) pointed out that a successful service innovator will, within the constraints imposed by the risk that he is able to bear, consistently create, design and provide the same combination of services, in order to cater to the customer's most pressing and common requests. Gustafsson and Johnson (2003) noted that maintaining and improving the existing service link is only defensive, the main function being to satisfy and maintain existing customers. Service innovation; however, tends to be more offensive in nature. Not only can existing customers be retained, but new customer resources can also be developed. A successful service company must be able at the same time to continue to both improve existing service connections and develop and innovate new service connections.

Gustafsson and Johnson (2003) pointed out that the service innovation process includes determining the direction of innovation, fully understanding customers' requests, producing and combining concepts, acting as a filter, designing and manufacturing prototypes and testing and executing.

In referring to case studies on customer opinions being transformed into sources of innovation, Ulwick (2002) stressed the need to avoid the traditional approach where the customer is directly asked questions. Instead it is necessary to adopt a professional and systematic approach where in-depth discussions are held with customers and analyses performed. Through the collection of such information, the customers' real needs and values can be determined. Searles (2004) pointed out that innovation involves the actual application of new ideas and new concepts, which are used to become a new source of customer satisfaction. He emphasized that the key factor in innovation lies in innovation culture and benchmark learning, and in screening innovative ideas through funneling and value-cost analysis matrices.

With the above-mentioned literature review serving as the basis which two major structures of value-based services are derived: a customer platform and an innovation platform, each of which includes a number of key elements (see Appendix).

METHODOLOGY

In this study, a two-round survey was conducted to obtain the opinions of experts using the Delphi technique. A total of thirteen experts from industry, government and academia were invited, and the research method adopted consisted of the following:

1. The value-based service measurement structure prototype was arrived at based on a review of the literature.
2. With the above-mentioned structure serving as the basis for the design questionnaire, we invited experts to engage in the survey questionnaire based on the Delphi method, constantly eliciting opinions on the

measurement structure of value-based services until a consensus was established. In this study only a two-round survey was conducted, at which point a consensus had largely been reached, and so the results of these two rounds were subsequently analyzed inductively.

The research framework is given in Figure 1. The principal meaning of the research model (see Figure 2) is as follows. The customer serves as the core of the operations. By means of a customer platform and an innovation platform serving as two major axes, a value-based service development model is constructed, value-based services are developed, customer value is transmitted, and a mechanism to evaluate the customer value derived from the new services is established. This study can serve as a means of adjusting the service model or of promoting new services.

Figure 1
Research Framework

Figure 2
Research Model

RESULTS

According to the results of the two-round survey conducted, the degree of consensus reached in relation to each structural element is classified according to one of three levels, namely, strong, moderate and weak. The results of the survey are compiled together as shown in Appendix 1.

Degree of Consensus = # of Items in Sample for which the Particular Element is Considered Appropriate / Total # in Sample (1)

Each of the three levels is defined as follows:

Strong: Degree of Consensus $\geq 12/13$, Moderate: $12/13 > \text{Degree of Consensus} > 7/13$, Weak: Degree of Consensus $< 7/13$

In summarizing the results of the two-round survey conducted on the experts' opinions, the measurement structure of value-based services established in this study has already achieved a very high degree of consensus. The measurement structure of value-based services based on this consensus reached by experts may be briefly explained as follows:

1. Customer participation: The development of value-based services should attach importance to inviting customers to participate in the service development process.

The following structural elements are included:

- Idea generation stage: This refers to the stage in which the customer participates in the formation and screening of new service concepts. Degree of consensus among experts: Weak. Explanation: The

experts are of the opinion that it is not easy for customers to participate when the exclusivity of services in relation to the idea generation stage is not clear.

- Service design stage: This refers to the design stage that takes place after the customer participates in the screening of the products or services. Degree of consensus among experts: Moderate. Explanation: Some of the experts believed that in the case of products or services where the investment threshold was low, it was not appropriate in the initial stages of R&D to elicit participation from customers who did not bear any responsibility for the success or otherwise of the venture.
- Service testing stage: This refers to the testing stage where the customer participates in the launching or testing of the new product or service prototypes. Degree of consensus among experts: Strong
- Service adjustment stage: This refers to the fine-tuning and adjustments that take place after the customer participates in the testing of the new products or services. Degree of consensus among experts: Strong

2. Interactive interface: In developing value-based services, attention needs to be paid to the design of the customer interactive interface.

The structural elements include:

- Convenience: For new services, the customer should be provided with a convenient interactive interface, to make it convenient for the customer to make inquiries related to the services and to offer suggestions. Degree of consensus among experts: Strong.
- Variability: For new services, customers should be provided with a variety of interactive interfaces (such as the Internet, telephone et al.), to make it easier for the customer to use different channels to interact with the firm. Degree of consensus among experts: Strong.
- Efficiency: Importance should be attached to the customer's feedback and improvements in regard to the interface, and cost efficiency in relation to the use of the interfaces should be maintained. Degree of consensus among experts: Strong.
- Exclusivity: For new services, customers should be provided with an exclusive interface (such as a personal and exclusive service representative), to enhance the feeling of the value attached to the service. Degree of consensus among experts: Moderate.
- Rapid Response: Advice and opinions provided by customers in relation to new services should be rapidly responded to. Degree of consensus among experts: Strong.

3. Customer Value: The development of value-based services should attach importance to the installation of a customer information system, in order to collect customer information, and analyze where customer value lies.

The structural elements include:

- Constructing a Customer Value Analysis System: For new services, a customer data collection mechanism should be constructed, in order to understand, analyze and grasp customer value. Degree of consensus among experts: Strong.
- Analysis of Competitors: When developing new services, the strengths and weaknesses of competitors should be analyzed. In this regard, the customer can be invited to assist in evaluating competitors' products and services, to serve as reference for analyzing the firm's competitors. Degree of consensus among experts: Moderate. Explanation: Some of the experts believed that while in the analysis of competitors emphasis should be placed on an analysis of the current situation, in relation to innovative services, priority should be given to future developments, and thus it is not necessary for an excessive amount of resources to be expended on analyzing the present.
- Degree of Customer Satisfaction: For new services, customer satisfaction surveys should be conducted on a regular basis, and the survey data should be used to establish a comprehensive database, in order to analyze the evaluations and expectations of customers in regard to services, and serve as reference for the improvement of services and new service development. Degree of consensus among experts: Strong.
- Customer Response: The firm should establish a customer response system, and constantly monitor

the speed of response and the way in which the response is handled, in order to see if the customer's demands are satisfied, and whether or not the customer's suggestions can practicably be incorporated into improving the services provided. Degree of consensus among experts: Strong.

- Degree of Customer Loyalty: For new services, the degree of customer loyalty should be examined on a regular basis to analyze the customer's willingness to repurchase and make recommendations to others, in order to firmly grasp the enterprise's scope for making profits. Degree of consensus among experts: Strong.

4. Innovation Culture: The development of value-based services should involve the formation of organizational operations that enable the innovative spirit to prevail and where employees can think creatively.

The structural elements include:

- Organizational Change in Response to Service Innovation: When the organization's culture is unable to adapt to developments in service innovation, adjustments should be made. On the one hand, strict precautions should be taken against resistance on the part of employees to change and, on the other hand, the way in which the organization operates needs to be adjusted, the organization's culture needs to be thoroughly transformed, and an innovative organizational culture established. Degree of consensus among experts: Moderate. Explanation: Some of the experts believed that it was necessary, under the premise that service innovation has positive value for the customer, to reform the organization for the innovation to be effective. If not, then the organizational culture would not create value, and the customer would not feel any involvement in the organization's reform in relation to that service.
- Top Management Support: Top management should support and participate in new service development. Degree of consensus among experts: Strong.
- Encouraging Employee Innovation: The firm should establish an incentive mechanism to induce employees to put forward innovative ideas, and encourage those who contribute to the innovation of new services. Degree of consensus among experts: Moderate. Explanation: Some of the experts believed that many of the employees' innovative ideas were hastily written, and did not have any real benefit to the development of new services.
- Innovative Learning System: There should be an innovative learning system within the organization that captures the innovative spirit, so that employees constantly learn both within and outside the organization, thereby giving rise to innovative concepts and proposals. Degree of consensus among experts: Strong.
- Team Spirit: Only innovative services that are developed through cooperation within teams are truly unique, and not easily imitated by competitors. Degree of consensus among experts: Strong.

5. Innovation Technology: The development of value-based services should attach importance to the use of innovation technology and concepts.

The structural elements include:

- Determining the Customer's Future Requests: The initiative should be taken to adopt research methods that differ from traditional methods (such as the value differentiation approach) to determine customer demand and value in the future. Degree of consensus among experts: Strong.
- Screening the Service Concepts: Innovative methods should be used to screen the innovative ideas of employees or customers. Degree of consensus among experts: Strong.
- Product/Service Innovation: This involves combining the development of products or services that are based on innovative concepts or innovative designs. Degree of consensus among experts: Strong.
- Benchmark Learning from Different Industries: To pursue breakthrough innovations, the enterprise should cross industry boundaries, and learn from the benchmark cases of other industries. Degree of consensus among experts: Strong.

6. Innovation Process:

- Process Improvement: Existing service processes should be examined and discussed, and based on customer demands; service processes should be improved or redesigned. Degree of consensus among experts: Strong.
- Process Innovation: The development of new services should be oriented toward customer demands, in order to provide value-based service based on innovative service processes. Degree of consensus among experts: Strong.

7. Innovation Evaluation:

- New Services as a Share of Total Sales: The share of total sales revenue attributable to new services for specified periods serves as one of the indicators used to evaluate innovative performance. Degree of consensus among experts: Strong.
- Proportion of Innovative Ideas Transformed into Products: The proportion of innovative ideas transformed into products for specified periods serves as one of the indicators used to evaluate innovative performance. Degree of consensus among experts: Strong.
- Average Number of Ideas Generated by Each Employee: The average number of ideas for specified periods generated by each employee serves as one of the indicators used to evaluate innovative performance. Degree of consensus among experts: Moderate. Explanation: Employees' new ideas are not necessarily directly related to the enterprise's innovative performance.
- Innovative Knowledge Sharing Indicator: The amount of innovative knowledge shared by employee's serves as the innovation evaluation indicator. Degree of consensus among experts: Moderate.
- Innovation Process Systematization: The traditional approach to the promotion of new services through brainstorming combined with trial and error is no longer suitable for what is needed. Instead, in order to use innovative services to establish the enterprise's competitive advantage, it is necessary to systematize the innovation process. Degree of consensus among experts: Strong.
- Ratio of Newly-added Benefits to Costs: The ratio of the benefits derived from promoting new services to the associated costs involved serves as an evaluation indicator. Degree of consensus among experts: Strong.

Figure 3 presents the measurement structure of value-based services in diagrammatic form.

Figure 3
The Measurement Structure Of Value-Based Services

Note: Those words in bold type represent structural elements for which there is a high degree of consensus. Those in normal type are represent elements for which the degree of consensus is moderate.

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study is to look at how services that can create customer value in order to increase a firm's competitive advantage can be developed. In this study, services that can create customer value are referred to as value-based services, with the emphasis of the research being on advancing a value-based service development reference model. By beginning with a discussion of issues related to the structural characteristics of this research, and by adopting the Delphi expert survey technique, this study establishes a consensus regarding the measurement structure of value-based services. Such a model can serve as valuable reference for the development of new services in the service industry or when engaging in service improvements.

The emphasis on customer participation in the relative literatures on service idea generation and the service design stage is only recognized in a very small way in this study. This indicates that the development of Taiwan's service industries has proceeded in a different way from those literatures. The initial deliberations over services and the design prototype stage do not tend to be oriented toward inviting customers to participate. In relation to the customer platform, value-based services need to be able to provide the customer with a convenient and varied interactive interface, and such an interface must be designed in such a way so that it is efficient, if it is to continue to reap economic benefits over the long term and rapidly respond to the customer's advice and recommendations, and thereby effectively interact with the customer. Using innovative technology to determine customers' future requests, engaging in service idea screening, engaging in the design of product and service innovation, and crossing industry boundaries to learn from benchmark case studies are all key factors for developing value-based services. In addition, in developing value-based services it is also necessary to examine current processes, with the focus of attention being on customers' requests, and to promote innovative processes in order to provide customer value. The transmission of value-based services needs to be mediated by an innovative industrial culture. Not only is it necessary for the enterprise's top management to support and participate in the development of new services, but what is more important is that within the organization a learning system that is essentially innovative should be set up. Through this, the employees should constantly be learning and launching creative ideas. Strong teams for developing value-based services should also be formed, because it is only innovative services that are developed through team cooperation that will possess a certain uniqueness that will not be easy for competitors to imitate. Service innovation evaluation indicators should focus on the proportion of innovative ideas that are actually developed into mature products or services, on the proportion of total business income accounted for by new service business promoted by the enterprise within a specified period, and on the ratio of the benefits derived from the promotion of the new services to the corresponding costs involved. Service innovation should also attach importance to developing new services and promoting the systemization of processes, so that successful developments of new services can be followed in the future.

The collection and analysis of data related to customer value constitutes the core of value-based services. Besides examining the degree of customer satisfaction and customer loyalty on a regular basis and analyzing the customer's willingness to repurchase and make recommendations to others, it is also necessary to actively establish a customer opinion response system, and constantly monitor the speed of response and whether or not the ways in which customers' viewpoints are handled satisfy the customers' demands. What is most important is whether the customers' views actually result in improvements in services.

This study has not been used actual case studies to validate the value-based service structure established on the basis of experts' opinions. It is thus recommended that future studies refer to the reference model mentioned here, and seek to validate it with real case studies on the development of value-based services in enterprises, and provide a development model that is more valuable for reference purposes. Whether or not the value-based service development model differs according to the industry or the state the industry is in is another issue that would benefit from further research.

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APPENDIX 1 RESULTS ON THE INVESTIGATION OF THE APPROPRIATENESS OF THE MEASUREMENT STRUCTURE OF VALUE-BASED SERVICES

Structure	Structural Elements	Meaning	Degree of Consensus		
			Strong	Moderate	Weak
1. Customer Participation	1.1 Idea generation stage	This refers to the stage in which the customer participates in the formation and screening of new service concepts.			•
	1.2 Service design stage	This refers to the design stage that takes place after the customer participates in the screening of the products or services.		•	
	1.3 Service testing stage	This refers to the testing stage where the customer participates in the launching or testing of the new product or service prototypes.	•		
	1.4 Service adjustment stage	This refers to the fine-tuning and adjustments that take place after the customer participates in the testing of the new products or services.	•		
2. Interactive Interface	2.1 Convenience	For new services, the customer should be provided with a convenient interactive interface, to make it convenient for the customer to make inquiries related to the services and to offer suggestions.	•		
	2.2 Variability	For new services, customers should be provided with a variety of interactive interfaces (such as the Internet, telephone et al.), to make it easier for the customer to use different channels to interact with the firm.	•		
	2.3 Efficiency	Importance should be attached to the customer's feedback and improvements in regard to the interface, and cost efficiency in relation to the use of the interfaces should be maintained.	•		

	2.4	Exclusivity	For new services, customers should be provided with an exclusive interface (such as a personal and exclusive service representative), to enhance the feeling of the value attached to the service.		•	
	2.5	Rapid response	Advice and opinions provided by customers in relation to new services should be rapidly responded to.	•		
3. Customer Value	3.1	Constructing a customer value analysis system	For new services, a customer data collection mechanism should be constructed, in order to understand, analyze and grasp customer value.	•		
	3.2	Analysis of competitors	When developing new services, the strengths and weaknesses of competitors should be analyzed. In this regard, the customer can be invited to assist in evaluating competitors' products and services, to serve as reference for analyzing the firm's competitors.		•	
	3.3	Degree of customer satisfaction	For new services, customer satisfaction surveys should be conducted on a regular basis, and the survey data should be used to establish a comprehensive database, in order to analyze the evaluations and expectations of customers in regard to services, and serve as reference for the improvement of services and new service development. Customers include internal customers (the firm's employees) and external customers.	•		
	3.4	Customer Response	The firm should establish a customer response system, and constantly monitor the speed of response and the way, in which the response is handled, in order to see if the customer's demands are satisfied, and whether or not the customer's suggestions can practicably be incorporated into improving the services provided.	•		
	3.5	Degree of Customer Loyalty	For new services, the degree of customer loyalty should be examined on a regular basis to analyze the customer's willingness to repurchase and make recommendations to others, in order to firmly grasp the enterprise's scope for making profits.	•		
4. Innovation culture	4.1	Organizational Change in Response to Service Innovation	When the organization's culture is unable to adapt to developments in service innovation, adjustments should be made. On the one hand, strict precautions should be taken against resistance on the part of employees to change and, on the other hand, the way in which the organization operates needs to be adjusted, the organization's culture needs to be thoroughly transformed, and an innovative organizational culture established.		•	
	4.2	Top Management Support	Top management should support and participate in new service development	•		
	4.3	Encouraging Employee Innovation	The firm should establish an incentive mechanism to induce employees to put forward innovative ideas, and encourage those who contribute to the innovation of new services.		•	
	4.4	Innovative Learning System	There should be an innovative learning system within the organization that captures the innovative spirit, so that employees constantly learn both within and outside the organization, thereby giving rise to innovative concepts and proposals.	•		
	4.5	Team Spirit	Only innovative services that are developed through cooperation within teams are truly unique, and not easily imitated by competitors.	•		

5. Innovation Technology	5.1	Determining the Customer's Future Requests	The initiative should be taken to adopt research methods that differ from traditional methods (such as the value differentiation approach) to determine customer demand and value in the future.	•		
	5.2	Screening the Service Concepts	Innovative methods should be used to screen the innovative ideas of employees or customers.	•		
	5.3	Product/Service Innovation	This involves combining the development of products or services that are based on innovative concepts or innovative designs.	•		
	5.4	Benchmark Learning from Different Industries	To pursue breakthrough innovations, the enterprise should cross industry boundaries, and learn from the benchmark cases of other industries.	•		
6. Innovation Process	6.1	Process Improvement	Existing service processes should be examined and discussed, and based on customer demands; service processes should be improved or redesigned.	•		
	6.2	Process innovation	The development of new services should be oriented toward customer demands, in order to provide value-based service based on innovative service processes.	•		
7. Innovation Evaluation	7.1	New services as a share of total sales	The share of total sales revenue attributable to new services for specified periods serves as one of the indicators used to evaluate innovative performance.	•		
	7.2	Proportion of innovative ideas transformed into products	The proportion of innovative ideas transformed into products for specified periods serves as one of the indicators used to evaluate innovative performance.	•		
	7.3	Average number of ideas generated by each employee	The average number of ideas for specified periods generated by each employee serves as one of the indicators used to evaluate innovative performance.		•	
	7.4	Innovative knowledge sharing indicator	The amount of innovative knowledge shared by employees serves as the indicator for evaluating innovation.		•	
	7.5	Innovation process systematization	The traditional approach to the promotion of new services through brainstorming combined with trial and error is no longer suitable for what is needed. Instead, in order to use innovative services to establish the enterprise's competitive advantage, it is necessary to systematize the innovation process.	•		
	7.6	Ratio of newly-added benefits to costs	The ratio of the benefits derived from promoting new services to the associated costs involved serves as an evaluation indicator.	•		