The Exploratory Research on Object Activity Service Evaluation Model(OA-SEM) – The Application of Retail Industry

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Abstract

Purpose - This study aimed to develop a new practical and universally applicable service quality model by improving the service quality measurement model proposed by many previous studies.

Research design, data, and methodology - An in-depth analysis on what influences such service quality model had on the improvement effect of service quality, and Service Evaluation Model("SEM"), which was revised from the existing service quality measurement model, was developed. The model is divided into the two integrative categories: First, activity, that is the group of service-related activities. Next is item, the group of service-related objects. The level of service is evaluated for each category via survey questionnaire on service level evaluation. Based on the model, SEM has visibility by structuring the whole service industry.

Results - For the application of the new service quality model, this study attempted to examine the appropriateness of the newly proposed service quality model by applying it to retail service field.

Conclusions - As a result, the proposed service model would be a useful and applicable service quality measurement model required by many organizations. Service company can set up self check service levels. Through these results, they can look for the ways to provide better services to customers. Service users can ensure the objectivity of business plan based upon SEM.

Keywords: Service Evaluation Model, Evaluation Model, Distribution Service Industry.

JEL Classifications: C88, L84, L86, O14.

1. Introduction

Recently, service industry gains a lot of attention. From manufacturing industries, such as automobile and electronics, to many other industry fields, such as IT, distribution, and energy show high level of interest in service. It implies that industries have found presenting high-quality products as well as providing high level of service is essential to compete globally across the world.

The business paradigm of today focuses on the core competency of the corporation based on low cost and high efficiency, working on non-core features such as distribution, legal advice, Facility Operation Management, and IT etc. via Business Process Outsourcing (BPO). However, the methods to evaluate corporations providing service are still 'evolving' despite the daily growing size of service under the business environment; this evolution has been achieved through service evaluations, and played a role to enhance the variety of time, space, and human service provision and to increase the environmental goodness of fit for diverse services (Lee et al., 2016). Related to this, there have been many studies in regard to service quality. Parasuraman, Zeithaml, and Berry (1985, 1988, 1993, 1994) proposed the

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model SERVQUAL, and there have been many related researches, such as KS-SQI proposed by Korean Standard Associations and Seoul National University in Korea, but has showed limitations in its usefulness, applicability, and so on.

Lee et al.(2015) proposed a conceptual research on Open Source Software service evaluation model for IT industry based on BSEM (Behaviour Structure Evaluation Evolution Model), and the applicability of BSEM model in terms of open source software service was confirmed in Lee et al. (2016)'s study by actually applying BSEM model and assessing the level of service of the corporation providing open source software. Through this process, this study reviewed the fitness of the evaluation model in the perspective of stakeholders (user, assessee, assessor) on the initially developed and proposed open software service organization evaluation model and enhanced the effectiveness by applying extracted things to supplement on the service level evaluation model.

This study aimed to propose a universally applicable evaluation model in regard to the general service by developing and generalizing BSEM. Also, this study focused on proposing theoretical review on the existing service evaluation model and a service evaluation model (evaluation system, evaluation index) appropriate to domestic service organizations. To make the conceptual service evaluation model concrete, this study aimed to propose Retail Service Evaluation applied to the retail service field as an evaluation model case.

The evaluation model proposed by this study allows a service corporation to maintain the high level of the service quality by enabling the corporation to examine its own service level and to seek ways to provide customers better service. The suppliers are able to secure the objectivity of the evaluation results as they utilize it as the standard of the evaluation on open source software organization when establishing open software-based information business.

2. Literature Reviews

Requests on the quality index of service quality level have continued as requests on the management of service quality through objective evaluation increases.

However, service quality is very hard to measure objectively for the reason of the service quality characteristics itself like intangibility, heterogeneity and inseparability(Yoo & Song, 2006).

Gronroos(1984) set up the concept of perceived service quality and researches has been initiated by measuring service quality on consumer's perspectives. Gronroos separated service quality as Technical Quality and Functional Quality also argued Perceived Service Quality is consumer's subjective feelings based on two perceived feeling.

Studies on service quality have been applied to overall industries by SERVQUAL model of Parasuraman et al.(1985, 1988, 1991, 1993, 1994). SERVQUAL model consists of 10 standards of service quality evaluation integrated into 5 categories, which are tangibles, reliability, responsiveness, assurance, and empathy, suggesting the service quality is determined by the underlying concept of "achievement-expectation"(Parasuraman et al., 1994). But criticisms on the SERVQUAL model have pointed out this model might not be appropriate as a model covering the limitations of the perceived service in regard to achievement-expectation and differences among types of industries. For this, Cronin & Taylor(1992) proposed SERVPERF, a service quality measurement tool based on achievement, and Llosa et al. (1998) proposed SERVQUAL with adjusting the measurement variable(Kim, 2015).

In Korea, studies on measuring service quality have been conducted; for example, the studies majorly include KS-SQI(2000) co-developed by KSA and SNU, NCSI developed by KPC based on ACSI, and KCSI which was individually conducted and developed by KMAC. Each

<Table 1> Characteristics of KS-SQI, NCSI, KCSI

Items	KS-SQI	NCSI	KCSI
Conducted by	KSA	KPC	KMAC
Theoretical Basis	SERVQUAL - Concept of Expectation - Achievement	- Oliver's customer satisfaction - Expectancy Disconfirmation Theory	- Concept of Expectation - Achievement
Weight	Weight applied on each factor (determined by the respondent)	The average of weights on the majority of items of each factor (determined by the respondent)	Weight based on the level of significance for each factor (determined in advance by KCSI)
Aiming for	- General Service Industry (Manufacturing, Service) - Public sector	- Manufacturing Industry - General Service Industry - Public Administration	- Manufacturing Industry - General Service Industry - Public Administration
Size of Investigation	48 types of industries, approximately 200 organizations	37 types of industries, approximately 200 organizations	101 types of industries, approximately 320 organizations
Size of Sample	approximately 300	approximately 278	approximately 100

service quality evaluation model presents differences in detailed areas, such as evaluation framework, research methods of data, methods to evaluate service, but promotes the enhancement of competitiveness in service through service quality evaluation on the basis of the concept of customers' "expectation-achievement". The characteristics of the three service quality measurement models were as follows:

Yet, organizations and customers may be possibly confused due to differences presented by the evaluations since evaluations basically take place based on the concept of expectation-achievement with such evaluation model and thus show differences even on the same types of industries and the same organizations. Therefore, some are critical about the evaluation model in terms of its usefulness(Cho & Kim, 2008).
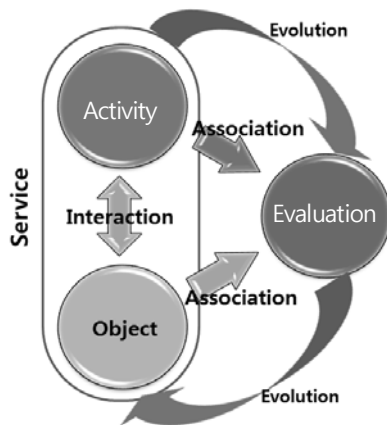
3. Data and Methodology

3.1. Service Evaluation Model Concept

The service evaluation model suggested by this research is universal evaluation tool covers whole service industries of service providers. The service evaluation model can evaluate precisely structured by Activity and Object. Service has various definitions from previous researches; however, in this research we define service as below.

"Service is activities that modifies substances of objects for creating values for customer"

The evaluation model proposed by this study is called "OBJECT ACTIVITY-SERVICE EVALUATION MODEL ("OA-SEM")", and it is composed of "Object" category including everything needed to attain the goals of service and of "Activity" category including collectively all kinds of service-providing activities modifying status of objects for value add. To evaluate services of service organizations, the
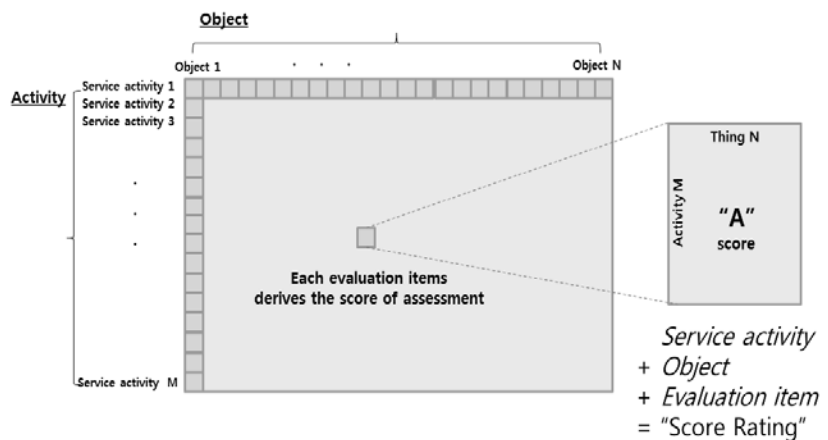
maturity of service is composed to be evaluated in terms of the integration of Activity and Object categories, as shown in <Figure 1>. The standards for evaluation are made detailed as Object category is classified in terms of Function while Activity category is classified in terms of Activity Process.

Service Evaluation Model is structured in the way of score calculation to set the level of the organization through the evaluation data model and evaluation itself. Via the proposed evaluation index, it is possible to evaluate the service activity level of the organization engaging in more than one service activities related to more than one object. The detailed model is presented in <Figure 2>.

- Activity: service-providing activities, based on time
- Object: everything necessary to attain the goals of service, based on the space
- Evaluation: the evaluation item for assessing activity and object

3.2. Example of Service Evaluation Model Application: the application of Retail Industry

To examine the universality and applicability of Service Evaluation Model, this study applied the model to retail industry. The model is structured in the way of score calculation to set the level of the organization through Service Evaluation Model and evaluation. First, the model is divided into Design, Sourcing & Procurement, Inventory management & distribution, Store operation, Marketing, Sales, Fulfillment, and Support in the dimension of Activity on the basis of Retail Value Chain suggested by Hagel et al. (2015) at Deloitte Consulting as shown <Table 2>. In the dimension of Object, the model is divided into Wholesale trade and commission trade, Retail trade and Sale of Motor Vehicles and Parts on the basis of Korea Standard Industrial Classification(KSIC)'s Wholesale and retail trade section presented in <Table 3>.

Source: Lee et al. (2015)
<Figure 1> Service Evaluation Concept Model

Source: Lee et al. (2015)
<Figure 2> Service Evaluation Framework

<Table 2> The retail industry value chain

Service Activity	Description
Design	Product prototyping
Sourcing & procurement	Purchasing or building inventory
Inventory management & distribution	Managing and distribution of products to be sold
Store operation	Managing the point of sale
Marketing	Promotion of goods for sale and/or the retailer's brand
Sales	Execution of the purchase transaction
Fulfillment	Delivering products to consumer
Support	Helping consumer maximize the value of products

Source: Hagel et al. (2015)

Such Retail Service Evaluation Model can be evaluated on each evaluation item as shown in <Table 4>; for instance, the results assessed with the evaluation item called Procurement Activity at Department Store may receive "C Score". The detailed explanations are presented in <Figure 3> below.

4. Result and Conclusion

In order to develop Service Evaluation Model, minimum quality of service elements should be standardized. We conducted several surveys and expert workshops for deriving common service activities of open source software companies and based on common service activities we made evaluation standards for measuring qualitative level. Certain level of superior authority was to grant a rating.
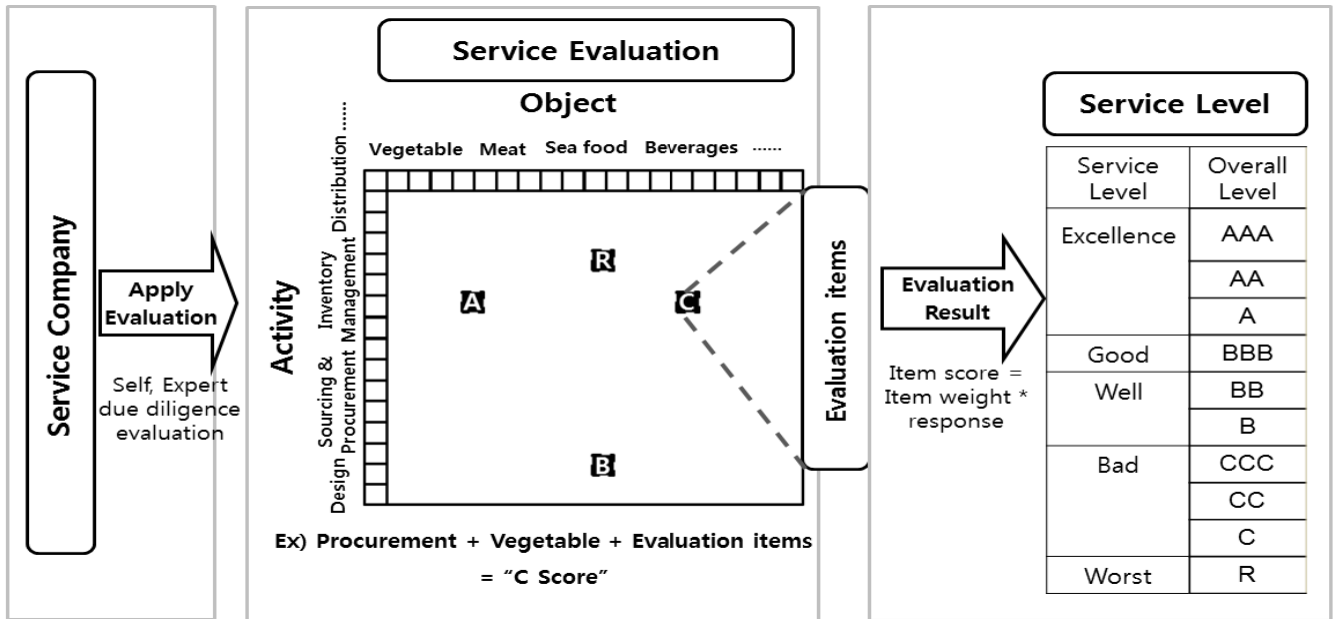
<Table 3> Wholesale and Retail trade industry framework

Area	Domain
Wholesale Trade and Commission Trade	Wholesale on a Fee or Contract Basis
	Wholesale of Agribultural Raw Materials and Live Animals
	Wholesale of Food, Beverages and Tobaccos
	Wholesale of Household Goods
	Wholesale of Machinery Equipment and Supplies
	Wholesale of Construction Materials, Hardware and Heating and Air Conditioning Equipment
	Other Specialized Wholesale
	Wholesale of Non-Specialized Goods
Retail Trade, Except Motor Vehicles and Motorcycles	Retail Sale in Non-Specialized Stores
	Retail Sale of Foods, Beverages and Tobacco in Specialized Stores
	Retail Sale of Information and Communications Equipment
	Retail Sale of Textiles, Clothing, Footwear and Leather Goods
	Retail Sale of Other Household Equipment
	Retail Sale of Cultural, Entertainment and Recreation Goods
	Retail Sale of Fuel
	Retail Sale in Other Specialized Stores
	Retail Sale not in Stores
Sale of Motor Vehicles and Parts	Sale of Motor Vehicles
	Sale of Motor Vehicle Parts and Accessories
	Sale of Motorcycles and Related Parts and Accessories

<Table 4> Retail industry service level evaluation index

Groups	Elements	Items
Leadership & Strategy	Leadership evaluation	01. Team organization (e.g.: Size of team, ratio of service team etc)
		02. Contribution (e.g.: Community commit, promotion etc)
	Business strategy evaluation	03. Specialized strategy & strategy development process (e.g.: Service related business budget & ratio)
		04. Strategy implementation planning & performance evaluation (e.g.: Strategy implementation plan and performance)
Company service evaluation	Service customer management	05. Service customer and market analysis
		06. Customer satisfaction improvement act (e.g.: Happy call etc)
	Service information analysis	07. Service related information gathering and analysis (e.g.: customer service information gathering and evaluation)
		08. Service performance analysis (Service improvement analysis)
	Human resource management	09. Human resource management system (Human resource management evaluation)
		10. Education support (Human resource education and support evaluation)
		11. Project participation institutional support (Project participation and work relatedness)
	Product, process management	12. Service (product development, service) process standard
		13. Product/service quality assurance system
		14. Service process improvement period and performance evaluation
		15. Product and service related support process
		16. Business partner company, staff size and management process
Company performance evaluation	Business performance	17. Service customer satisfaction performance
		18. Sales volume and performance
		19. Manpower size and maintenance
		20. Service related partner company size and performance
		21. Product adoption success case and other performance

Source: Lee et al. (2015)

<Figure 3> Retail Service Evaluation Process Concept

The result of this study suggest that evaluating model can provide evaluation result by various consumer's view point. Service company can notice the difference between self interpretation and customer's evaluation factor, then can be corrected self interpretation of open source software service level. Also, Some fields on the future policies and promote the activity of the basic data should establish a policy that can be provided.

In conclusion, this study provides evaluation model which can be evaluated for customer and service provider, so service company can set up self check service levels, based on this they can look for ways to provide a better services to customers. Service users can ensure the objectivity of business plan based upon Service Evaluation Model. For policy makers, service evaluation framework can be used as the cornerstone of future reasonable policy development.

Based on this study, the future of service company to systematically assess and monitor the activities carried out. Consumers who is going to adopt service can provide reliable information. Service providers can grow as high level service provider. We look forward to contribute to positive development of service industry.

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