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## Service benchmarking for the co-creation of service ecosystem

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### Abstract

Service activities are basis of human living and should be treated as complex systems including mutual interactions of various players. The value of services should be evaluated from multiple perspectives such as customer satisfaction, employee satisfaction, profitability, or social value perspectives. We propose the service benchmarking method based on service engineering, by which service providers can learn their strong and weak points through inter- and intra-industry comparison. This paper discusses how we could support service providers to re-design sustainable service systems with actual data obtained thorough service benchmarking.

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### 1. Introduction

According to the World Bank report [1], ratio of value added by the service sector in GDP accounts for over 70% of economic activity in major countries. Moreover, nearly 70 % of those countries' workforces are employed in service sectors. Typical service industries represented by retail, hotel, restaurant or healthcare services includes many customers and employees. In those labor-intensive service industries, labor productivity tends to stay lower than that of capital-intensive service sectors such as financial, information or contents industries. Therefore improvement of productivity of service sectors has been major concern in many countries in recent years.

However, in some countries like Japan, many labor-intensive service industries including hotel, restaurant, retail, or healthcare industries suffer from severe labor shortage recently. This phenomenon could be caused by multiple factors including population decline, poor job terms, or oversupply of services in a limited area, etc. Therefore improvement of employee satisfaction becomes a key issue in Japanese service industries to maintain service businesses.

Moreover, the sustainability of service systems is crucial not only for economics but also for maintaining quality of life of residents. Although customer satisfaction has been the most important issue for the success of service businesses, nowadays, customers are expected to be included more proactively as a player to co-create sustainable service system. Therefore, value co-creation the core aspect of the service-dominant logic (SDL) proposed by Vargo and Lusch in 2004 [2] has attracted attention over the years. In the concept of emergent synthesis proposed by Ueda [3], the class III emergent synthesis model was defined as co-creative decision-making. He asserts that Class III (Co-creative) value cannot be used to clarify the value of sources of production (provider) of artifacts or the value of sources of consumption (receiver) independently [4]. In other words, the value of service system emerges through the interaction among various players such as customers, employees, companies and society.

For the co-creation of a sustainable service system, the value of services should be evaluated with various metrics (indicators) from customer, employee, company or social perspectives. This paper introduces our research concept of service benchmarking to evaluate the value of services from some different aspects of value.

## 2. Concept of Service Benchmarking

The authors proposed a new service benchmarking method and have developed supporting technologies based on service engineering.

Fig. 1 illustrates the research concept of service benchmarking. The value of services emerges through the mutual interaction among various players and it should be evaluated by some different metrics such as customer satisfaction, employee satisfaction, quality (or functionality), profitability, or social value (welfare).

However, there should be wide variety of customer needs or preferences based on their lifestyles. Therefore the authors have proposed a lifestyle segmentation method and applied various service fields [5, 6]. Our lifestyle segmentation method uses 30-40 questionnaire items that include demographic information, daily behaviors including household affairs, health condition, consumption patterns, and personality traits with regard to the BIG 5 factors. Using this method, we usually categorized consumers into 5-7 groups and analyze the relationship between actual behaviors and strength of lifestyle factors.

On the other hand, we also standardized employee satisfaction survey method based on 150,000 employees' data [7]. Using this method, we can evaluate the four factors of employee satisfaction (satisfaction with leadership, job meaningfulness, teamwork/human environment, and job terms) by normalized scores.

Moreover, we proposed a concrete method to describe business model and to type its structure generally based on the value creation model proposed by Ueda [3]. In this method, we classify companies into some groups based on their business models using questionnaire survey on service companies of a certain industry.

For the service benchmarking of service businesses, another important metrics are management indicators such as sales, profitability, occupancy ratio or turnover ratio. However, key performance indicators (KPIs) strongly depend on category of businesses or business models. Therefore, we testified management KPIs in some service industries such as retail, hotel or hair salon industries through service benchmarking. In this paper, it introduces a study example of service benchmarking which target at hotel industry in Japan.

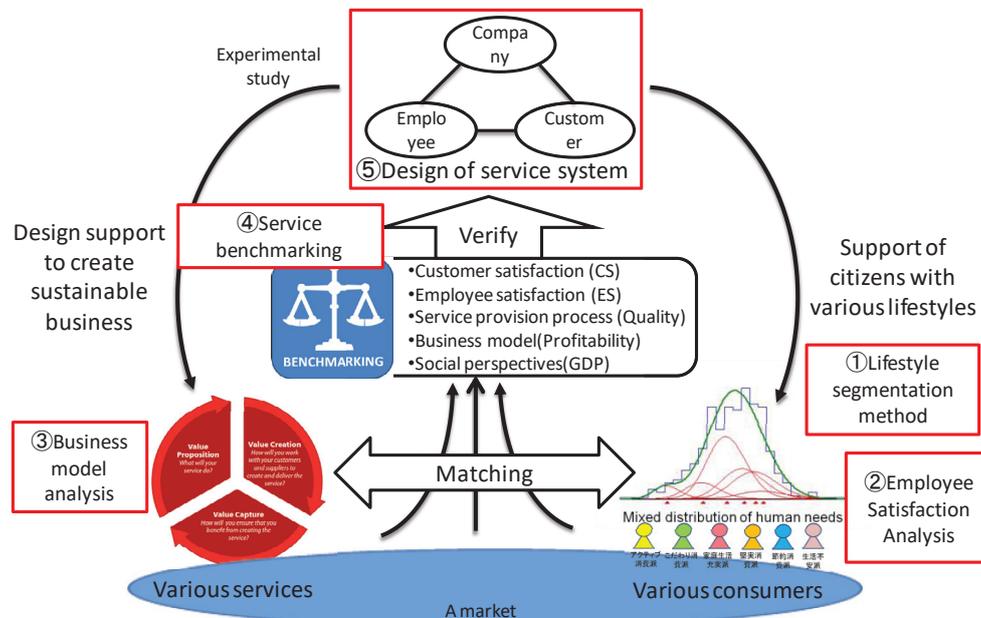


Fig. 1. Concept of service benchmarking.

## 3. Study example of service benchmarking in hotel industry

In this section, it introduces a study example of service benchmarking which is conducted for the purpose of productivity improvement of hotel industry in a Japanese local area. This project was conducted in 2016 supported by Oita prefectural government. The goal of this project is to clarify the

problem structure of hotel industry in this area and to find some clues to improve productivity. We sent a questionnaire to 300 hotel companies and acquired responses from 82 companies (80 valid answers). We designed a questionnaire by which relationship among, the business strategies, problems and management indicators of hotels can be clarified. Business strategies include daily activities (measures) for productivity improvement, labor management, technologies, customer relationship management (CRM). Additionally, we asked some management indicators such as sales amount, accommodation

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