Abstract

In recent years, the importance of service science has been discussing in various fields like sightseeing, finical business and production equipment business. In such new concepts, “value in use” concept is highly valued, that is, how service value is co-created is an essential issue in various fields. Absolutely, because of service value co-creation is the common issue for every service business, and it should be investigated more and more in the future. As it is generally believed that, the value of provided service is changed according to the imparity situation. For example, customers’ characteristics consist of interest, plan, time, the cost and so on. Even if the service providers could provide the same service, the service value is altered due to customers’ characteristics or situations. So, the “value in use” concept in here greatly depends on customers’ characteristics. A concept of service field has been proposed for creating service value that depends on the situation. However, until now there is no related research or mathematical method on the application or theory for evaluating service value, which considers the situation-dependent characteristics of service value. Therefore, Kosaka proposed mathematical method to measure and evaluate service value for maximizing it effectively also guide service provider and service receiver to find a way to evaluate both side of service provider and service receiver to value creation. The method by using the inner product to evaluating service value based on the concept of service field, which is analogous to the electro-magnetic field in physics. Based on the service field concept, service value is determined by an inner product of a provided service attribute vector and a required service attribute vector.

In this research, I verify the effectiveness of the proposed service value evaluation method through showing two effective applications. One is to apply this method to service value evaluation in service matching. Here, the service value evaluation method is applied to two evaluations, which are the evaluation of attractiveness in sightseeing of Japan and finical products of China. Through these applications, the proposed mathematical model seems to be effective for analyzing service value theoretically.

The other is to apply this method to KIKI model as a service value co-creation process model. KIKI model proposed the process procedure of service value co-creation, but does not show how service value is improved by co-creation. KIKI model does not consider service value created by co-creation process numerically. In order to improve KIKI model, we try to combine the service value evaluation method which calculates the service value by the inner product of a user’s service attribute vector and a provider’s service attribute vector. The enhanced KIKI model, which is proposed in this

research, can evaluate service value created by co-creation numerically, and proceed the co-creation process effectively. In order to demonstrate the effectiveness of the proposed methodology, we analyze the production equipment services for saving energy or generating energy. This case study shows that the service value co-creation process of energy saving services can be described clearly and executed effectively.

Keywords : service value, service field, value co-creation, inner product, service attribute vector, production equipment service, inner product, sightseeing, attractiveness, finical product.