

# Investigating the role of fuzzy as confirmatory tool for service quality assessment (Case study: comparison of fuzzy servqual and servqual in hotel service evaluation)

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**Abstract.** The problem because of some indicators qualitatively assessed has been discussed in engineering field. Whereas, qualitative assessment is presently used in certain occasion including in engineering field, for instance, the assessment of service satisfaction. Probably, understanding of satisfaction definition causes bias if between customers have their own definition of satisfaction level of service. Therefore, the use of fuzzy logic in SERVQUAL as service satisfaction measurement tool will be probably useful. This paper aims to investigate the role of fuzzy in SERVQUAL by comparing result measurement of SERVQUAL and fuzzy SERVQUAL for study case of hotel service evaluation. Based on data processing, initial result shows that there is no significant different between them. Thus, either implementation of fuzzy SERVQUAL in different case or study about the role of fuzzy logic in servqual will be interesting further discussed topic.

*Key words:* Fuzzy logic, SERVQUAL, Fuzzy SERVQUAL, Service Evaluation

## 1. Introduction

Presently, it is already known that service is increasingly important, even it is blended with product. Therefore, company pays attention in service improvement strategy as much as in product development strategy. The difference is that product tends to be tangible stuff and conversely service tends to be intangible stuff. Consequently, assessing the service performance for customer satisfaction is increasingly difficult because it is linguistic variable and relatively subjective. Meanwhile, assessing the product performance is relatively easier than the service performance because it is able to be conducted by using measurable variable, for an instance, durability of product is used for product performance.

In term of measuring service performance, customer satisfaction is able to be used as indicator which every customer may have different either standard or definition of satisfaction. Therefore, many strategies should be formulated by company to avoid the misleading because of interpreting the customer satisfaction. For an instance, company define that assessing service performance is conducted by using likert scale of 1-5 which the higher the value is, the higher the satisfaction is. However, the number of 3 may have different interpretation among customers. Some customers interpret that 3 is satisfy, but may be some other customers interpret that 3 is mostly satisfy. Probably, company anticipates aforementioned condition by defining that 3 is used for satisfaction situation. However, every customer still has different standard of satisfaction. Certainly, it would be very important in determining poor service needed to be improved. Misleading in interpretation of customer assessment for service performance causes mistake in decision making. Furthermore, it raise some cost to improve probably wrong service.

In many cases, evaluating service performance is conducted by using SERVQUAL as a tool. By using SERVQUAL, company understands the gap derived from the difference between expected service and perceived service. Based on the gap value, company arranges the service improvement priority. The raised problem is that assessment of expected and perceived service are linguistic and subjective variable, so that aforementioned problem probably occurs. In term of solving that problem, integrating fuzzy logic into interpretation of expected and perceived service assessment is initiated. Lately, aforementioned idea is called as Fuzzy SERVQUAL.