

ASSESSING THE INTENTION LEVEL OF SERVICE ADOPTION: A 2-TUPLE FUZZY LINGUISTIC APPROACH

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ABSTRACT. *Service adoption analysis is a useful instrument for reducing the risk of new service development and launch. The purpose of this study is to develop a 2-tuple fuzzy linguistic approach for assessing the intention level of service adoption. In doing so, a theoretical framework for service adoption analysis is proposed. Under this framework, a 2-tuple fuzzy linguistic approach is then proposed for assessing the intention level of service adoption using potential adopters' expectation and perception. In this method, a linguistic aggregation operator is defined to calculate the deviation degree between expectation and perception and to map the computation result to a linguistic value. The overall intention level of service adoption is obtained by aggregating the deviation degrees. Additionally, a case is used to illustrate the potential application of the proposed approach.*

Keywords: Decision support, 2-tuple, Service adoption, Expectation, Perception

1. **Introduction.** Environment conditions increasingly force service firms to innovate and bring new services to the market. New service development becomes volatile in terms of constant changes in customer needs, technology, competition and political environments [1]. Service firms are facing with an intense competitive pressure of innovation and a high failure risk of new service [2]. Thus, service adoption analysis of potential adaptors is strongly necessary for reducing the risk of new service development.

A number of service firms usually provide service experiment and probation to potential adopters (or targeted customers) in the phase of service development in order that they could analyze the intention level of service adoption before official service. For instance, insurance, mobile, bank, e-commerce, digital consultant, health care, entertainment and face-beauty companies often actively provide service experiment to their potential adopters [3,4]. The service firm assesses the intentional level of service adoption by collecting the responses of the pioneers who went through a service experiment or probation. The service firm improves its new service to ensure the success of new service according to the assessment results. Such an analysis is widely employed in the research of marketing and operations management, and the researchers and practitioners call it experimental economics. In the process of service adoption, potential adopters'