

An Extending Analytical Hierarchy Process by Fuzzy Measure and Game Theory

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ABSTRACT

As the economy is prosperous, the tourism is becoming a very important part in many countries. Therefore, how to attract more international travelers is curious to managers of international hotels. Since the service quality is popularly discussed in many fields, we extend the traditional analytical hierarchy process (AHP) to measure the service quality of international hotels in Taiwan. First, we create our attributes which was surveyed from the service quality reference to design the questionnaire. Second, the collected data of questionnaire are analyzed by the new AHP, which is developed on the fuzzy integral and μ -measure. Moreover, we apply the game theory to implement such a new AHP. Finally, this new AHP is designed for conquering the dependencies of a traditional AHP.

Keywords : Service quality, Analytical Hierarchy Process, Fuzzy integral, Fuzzy measure, Game theory, International hotel

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