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**Qualitative SMI based Cloud Service Selection using Intuitionistic Fuzzy TOPSIS**

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**Abstract**

Cloud Computing allows access to a public resource pool on demand and easy network connection for the same. Due to the popularity and profits of using Cloud Services, many organizations are moving to Cloud .So selecting a suitable and best Cloud Provider is a challenge for all the users. Many ranking approaches had been proposed for solving this multicriteria decision making problem like AHP, TOPSIS etc. But many of the works focused on quantitative QoS attributes .But qualitative attributes are also important in the case of many application scenarios where the user may be more concerned about the qualitative attributes. CSMIC has released Service Measurement Index attributes for effectively comparing the Cloud services. The comparison of Cloud Service providers based on SMI attributes which are qualitative in nature by using a ranking approach that handles fuzziness in the dataset is the objective of this paper. The proposed approach uses the MCDM algorithm called Technique for Order Preference by Similarity to ideal Solution and uncertainty is handled by Intuitionistic fuzzy values. The qualitative SMI attributes are used as criteria for ranking the Cloud Services.

**Keywords:**

MCDM, fuzzy, Intuitionistic, SMI, Cloud Service.

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