An Efficient Approach for Semantic Web Service Selection Based on WSMO and MCDM

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ABSTRACT
Currently, Web Services has become one of the hot issues in the area of computer science as it makes the ability to collect capabilities and components in a unique interface to meet the user requirements. One of the significant issues in this area is to develop an efficient and automated service selection. There are many approaches in service selection to manage the issues in modeling aspect or algorithmic aspect.

In this research, author proposed an efficient approach called AMW based on Multi Criteria Decision Making (MCDM) and Web Service Modeling Ontology (WSMO) that take into account of both aspects. For this purpose, firstly a comparative evaluation of state-of-the-art approaches for Web service selection approaches has been performed and the strengths and weaknesses of those approaches have been discussed. Secondly, the weaknesses of the existing approaches have been covered by confidence level of service provider and power level of decision maker. Moreover to reach an efficient approach author have been taken into account of trust & reputation method. Finally, the AMW approach has been evaluated by applying case study in various situations. The results of the experimental validation demonstrate that AMW provides an efficient and flexible solution. The results of this research facilitate service consumers to attain a more efficient decision when selecting the appropriate service.

KEYWORDS
Web Service, Service selection, MCDM, QoS, VIKOR