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USABILITY EVALUATION OF WEB SERVICES BY STRUCTURAL EQUATION MODELING

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ABSTRACT

This paper is aimed at determining of the effect of subjective measures of web service usability on its objective measures. Using these results by appropriate design of web system its usability can be improved. A checklist combining the dimensions of web service usability and web service quality is proposed. For determining the subjective measures with the highest and lowest contribution to web service usability the structural equation modeling employed. A case study with 179 students using a student information system was carried out. By exploratory and confirmatory factor analysis the checklist was empirically verified and validated. Structural equation modeling was employed to evaluate the usability of the student information system. Data analysis revealed that the objective measures of web service usability have a strong and positive effect on its subjective measures. The most significant checklist dimensions affecting on web service usability were determined. For example the contribution of assurance was found to be highly influential on web service usability. Also the user navigation within the system can be neglected because of its low impact on web service usability. In contrary to previous studies this case study found a strong similarity between web service quality and web service usability. These results could be used for designing web services with better usability.

Keywords: web service usability, structural equation modeling.