

Utility Assessment Model for Wireless Technology in Construction

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Abstract : Construction projects are information intensive in nature and involve many activities that are related to each other. Wireless technologies can be used to improve the accuracy and timeliness of data collected from construction sites and shares it with appropriate parties. Nonetheless, the construction industry tends to be conservative and shows hesitation to adopt new technologies. A main concern for owners, contractors or any person in charge on a job site is the cost of the technology in question. Wireless technologies are not cheap. There are a lot of expenses to be taken into consideration, and a study should be completed to make sure that the importance and savings resulting from the usage of this technology is worth the expenses. This research attempts to assess the effectiveness of using the appropriate wireless technologies based on criteria such as performance, reliability, and risk. The assessment is based on a utility function model that breaks down the selection issue into alternatives attribute. Then the attributes are assigned weights and single attributes are measured. Finally, single attribute are combined to develop one single aggregate utility index for each alternative.

Keywords : analytic hierarchy process, decision theory, utility function, wireless technologies

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