

**UNIVERSITI TEKNOLOGI MARA**

**CROWDSOURCING TASK MULTI-  
DIMENSIONAL MODEL FOR DIGITAL  
WORKER COMPETENCY ASSESSMENT**

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## ABSTRACT

Crowdsourcing is a process where a company outsources a task to a large group of the digital worker through an online platform. The digital worker is an individual having different skills, knowledge, experiences and education level. In Malaysia, the crowdsourcing ecosystem comprises of four major players which are job providers, platforms, digital workers and government agency. The cycle starts when a job issued by the job providers. Then the platform advertises it to the digital workers who registered themselves in the system. Those who are interested and has the capabilities to complete it will pull the job based on the first come first serve basis. Basically, the aim of the platform operator is to ensure that the tasks are taken immediately and completed within a given time by the right skill of the digital worker. However, the platform does not have a structured mechanism to classify the type of task that would confirm the task match to the digital worker. The certain digital worker may be suitable for the certain task but not for all type of tasks. A comprehensive mechanism to define and describe the task properties is important. Apart from enabling the determination of the remuneration value, it will also specify the amount of time to be given, skill required and their level of competency. To solve that issues, this study therefore analyse and model the relationships between the types of tasks and the competency digital workers. Towards the end of the study, a multidimensional model of the relationship has been developed and tested in visualization. The multidimensional model comprises of two type of tasks which are simple and complex. This indicates the outcome variations of low and high and required competency level. The competency level is mapped to the Blooms Taxonomy which divided into knowledge, comprehension, application, analysis, synthesis and evaluation. An association rule has been used to define the structure of relationship among the dimensions. Apriori algorithm obtained the strongest patterns and based on that an alluvial chart has been developed to visualize each relationship. 76% of respondents agreed that multidimensional model represented using alluvial chart shows a comprehensive relationship. As a conclusion, this study defined the multidimensional relationships among the variables and these will facilitate a platform to match between digital workers to the tasks.

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