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An Approach For Cost Management Model In Agile Software Development Projects

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The successful outcome of software development projects is a crucial issue for the economy at large. Yet, a majority of the software development projects carried out today fails when it comes to finishing on time, within budget and with requirements intact. The often cited reasons contributing to failure include inappropriate methodology, complex development processes, ineffective project management, project managers' incompetence, ineffective communication, uncoordinated stakeholders and the lack of automated tools. Due to these challenges and limitations, organizations are looking into agile software development which offers the advantage of having simple processes, involving active customers and project teams. Subsequently, past researchers attempted to define the determinant factors for agile success but there is still much ambiguity about these factors and how they can be determined. This study extends and builds on past research by focusing on one of the core factors, that is, cost management. Managing the cost of software development projects is a global phenomenon most frequently debated by software development communities since many projects suffer from budget overruns. Therefore, this study aims to develop a model for cost management in agile software

development projects to assist project managers in managing project costs with greater efficiency. This study began with the examination of cost management practices in agile software development projects. Next, determinants that contributed to the success of cost management in agile software development projects were assembled and analysed. To achieve the third objective, the competency of project managers in managing cost in agile software development was further analysed. Following this, the issues and challenges faced by these project managers in Agile cost management in agile software were also diagnosed and ascertained. Both quantitative and qualitative methods were used for data gathering. The survey results revealed that cost management in agile software development projects is commonly practiced. However, the level of practices differed in accordance to project managers' experience with agile methods. Cost was also not managed effectively due to the continued

use of manual processes. The interview results revealed that there are two main issues in managing cost of agile software development project which are the managers' or personnel's lack of knowledge on agile and the unavailability of computerized tools to help the project managers in managing costs. The findings of both methods are used as the basis for the development of a new cost management model that proposes simple steps in managing costs. A tool prototype was developed to verify the validity of the model. The tool was then validated through Software Measurement Usability Inventory (SUMI). Notably, results from the validation show that the model and tool enable managers to execute project costing in a more effective and efficient manner.