

## **Impacts of adding knowledge flow to an activity-based framework for conceptual design phase on performance of building projects**

### **ABSTRACT**

The construction industry suffers from an incomplete knowledge flow that leads to overrun cost and time. A considerable portion of this problem is attributable to the design stage which is a tacit knowledge-dominated area. Since knowledge tacitness results in an incomplete knowledge flow, we posit that adding the knowledge flows beside the workflow of the architectural conceptual design phase can attenuate both the overrunning cost and time. In order to fulfill such an objective, we integrated the Nissen multidimensional model of the knowledge flow theory for the enterprise life cycle with Macmillan's framework of the conceptual design framework to test whether or not adding the knowledge flow to the conceptual design work flow could attenuate the cost and time overrunning. This paper elaborates on the process of validation testing by means of Simvision. Analysis of the results reveals that specifying the entity of the required knowledge during the conceptual design phase could reduce the cost and time overruns.

**Keyword:** Knowledge flow; Tacit knowledge; Knowledge transfer; Work flow