

UNIVERSITI TEKNOLOGI MARA

**A FRAMEWORK ON IMPROVING
INTEGRATION OF SUPPLY CHAIN
IN INDUSTRIALISED BUILDING
SYSTEM (IBS) USING DESIGN &
BUILD PROCUREMENT IN
MALAYSIA**

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ABSTRACT

The Malaysian Construction Industry Master Plan (CIMP 2006-2015) identified the innovative approaches of Industrialised Building Systems (IBS) and its supply chains as having important roles in improving productivity in construction processes. Supply chains in IBS involve relationships between many organisations and processes, with the evolution of specialised roles and embedded relationships. The procurement method is utilised as a mediator tool and as the means of controlling integration between players. A good supply chain integration practice leads to good integration among players. Although efforts exist to enhance IBS practice in Malaysia, establishing integration between IBS players is still a major hindrance. A framework for improving supply chain integration is needed. The research problem investigated is lack of supply chain integration and togetherness in IBS project delivery in Malaysia based on four objectives: (1) to investigate the SCM understanding and implementation in IBS projects; (2) to determine the challenges at each tier between players in order to facilitate supply chain integration among the players; (3) to identify means and dimension factors influencing successful integration at each tier between players; and (4) to develop a framework to enhance supply chain integration for successful IBS projects. This study adopted a multiple methods approach involving two stages: Stage 1, an exploratory stage using a mixed approach of quantitative (with 27 respondents) and qualitative methods (with 6 respondents); and Stage 2, a qualitative methods stage consisting of semi-structured interviews (with 35 respondents) and four (4) project observations. The study identified eight challenges: (1) lack of sufficient knowledge, understanding, and familiarity; (2) attitude and mentality; (3) financial matters; (4) work planning and arrangement; (5) supply chain flow and interaction; (6) guidelines and requirements; (7) risk and conflict liability, and (8) contractual and procurement matters, and means and dimension factors influencing successful integration were grouped into four categories: (1) human and behavioural means, (2) supply chain process and exchange flow, (3) supply chain structure and collaboration, and (4) work environment. The research outputs seek to facilitate and provide a framework as a term of reference for improving integration between supply chain players for the successful implementation of IBS project delivery.

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