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FACTORS INFLUENCE CONSTRUCTION TIME PERFORMANCE FOR IBS IN MALAYSIA CONSTRUCTION INDUSTRY

SITI NUR HAFIZEANIE BINTI SALAHUDDIN

A project report submitted in partial fulfilment
of the requirements for the award of the degree of
Master of Science (Construction Management)

Faculty of Civil Engineering
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DECEMBER 2010

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Special dedicated to;

The most lovely parents in the world, papa and mama..

My beloved husband, Muhamad Asmawi…

My cute sweet little babies, Ariesya, Damia and Sofea…

And to all my family members….

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ABSTRACT

The demand of building construction in Malaysia has increased rapidly from year to year together with the establishment of Industrialized Building System (IBS). IBS have been introduced to speed up the construction time and built affordable and quality houses. However, the traditional construction method still widely accepted as a convention and safe option incurring lower cost even slow in production rate. The implementation of guideline and practice within this industry are inconsistent among the players involved and it required more exertion or research to improve the construction time performance (CTP). The objective of study is to identify the main factors that influence CTP. For the second objective, the identification factors that influence CTP for IBS and conventional method of construction has been made. The last objective in this study is to established factors which can help to improve CTP. The survey research methodology is through the literature review, questionnaires and personnel interview with construction players. About thirty seven respondents out of fifty respondents had contributed their opinion and ideas and the data collection was analysed using an 'Average Index'. From the study, six main factors that influence the CTP which are management, financial, materials, workers, machineries and weather was discovered. Based on the factors highlighted, four of the factors which are financial, materials, workers and machineries mostly affecting the CTP for IBS as compared to conventional construction method. The factors to be improved CTP also was highlighted in this study.

ABSTRAK

Permintaan pembinaan bangunan di Malaysia meningkat secara mendadak dari tahun ke tahun sejajar dengan pendedahan Sistem Bangunan Industri (IBS). IBS telah dikenalpasti dapat mempercepatkan masa pembinaan dan menghasilkan rumah yang mampu dimiliki dan berkualiti. Walau bagaimanapun, pembinaan secara tradisional masih diterima secara meluas kerana ia melibatkan kos yang rendah walaupun masa yang diambil agak lama. Perlaksanaan IBS dalam industri pembinaan di Malaysia masih tidak konsisten dan memerlukan kajian terperinci dalam meningkatkan prestasi masa pembinaan (CTP). Objektif kajian ini adalah bertujuan untuk mengenalpasti faktor-faktor utama yang mempengaruhi CTP. Objektif kedua adalah untuk menentukan faktor-faktor yang mempengaruhi CTP bagi pembinaan secara IBS dan tradisional. Manakala objektif ketiga adalah untuk mendapatkan faktor-faktor yang boleh membantu dalam meningkatkan CTP. Kajian telah dijalankan melalui penilaian penulisan, kajian soal selidik dan temuramah mereka yang terlibat dalam projek pembinaan. Tiga puluh tujuh daripada lima puluh orang responden telah terlibat dalam memberikan pendapat dan idea. Data yang diperolehi telah dianalisa dengan menggunakan kaedah 'Average Index'. Melalui kaedah ini, enam faktor utama iaitu kewangan, bahan binaan, buruh, mesin atau alatan dan cuaca telah dikenalpasti sebagai faktor yang mempengaruhi CTP. Empat daripada faktor tersebut telah dikenalpasti sebagai faktor utama yang mempengaruhi CTP bagi pembinaan yang menggunakan sistem IBS iaitu kewangan, bahan binaan, buruh dan mesin serta alatan. Faktor-faktor yang dapat membantu dalam meningkatkan CTP juga diberi penekanan di dalam kajian ini.

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LIST OF ABBREVIATIONS

AI	-	Average Index
CBPP	-	Construction Best Practice Programme
CIDB	-	Construction Industry Development Board
CTP	-	Construction Time Performance
GDP	-	Gross Domestic Product
IBS	-	Industrialized Building System
KPI	-	Key Performance Indicator
MMC	-	Modern Method of Construction
OSC	-	Off-site Construction
OSM	-	Off-site Manufacturing
OSP	-	Off-site Production
R & D	-	Research and Development
SPM	-	Stakeholders Perspective Measurement
UiTM	-	Universiti Teknologi Mara
UKM	-	Universiti Kebangsaan Malaysia
UTM	-	Universiti Teknologi Malaysia

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