

UNIVERSITI TEKNOLOGI MARA

**DISASTER AND BUSINESS
CONTINUITY (DBC) FRAMEWORK
FOR CONSTRUCTION
ORGANISATIONS' RESILIENCE
IN MALAYSIA**

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Thesis submitted in fulfillment
of the requirements for the degree of
Doctor of Philosophy
(Built Environment)

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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

Disasters are unpredictable events that kill and affect people, demolish properties and disrupt the environment. The magnitude of human suffering caused by the disaster is huge, and many aspects of people's lives such as health, security, housing, access to food, water and other life commodities are affected. In Malaysia, more than half a million were affected by disaster events such as floods, landslides and earthquake. For instance, an enormous flood on December 2014 has paralysed almost the entire East-coast states of Malaysia which affected the community, including business operations of construction organisations. Among others, the social sector has been adversely affected and needed to bounce back by implementing community-based business activities. This is in-line with the agenda of Sendai Framework which promotes a comprehensive rehabilitation, reconstruction and resilience plan. As such, a comprehensive sustainability strategy, such as Disaster and Business Continuity framework is crucial for the construction organisations' resilience. It functions as construction organisations' reconnaissance in identifying potential disasters threats, formulating and implementing viable strategies to preserve and recovers for short and long term periods. Therefore, the aim of this study is to develop a Disaster and Business Continuity (DBC) framework for construction organisations' resilience in Malaysia. A mixed-method of quantitative and qualitative research of data collection was adopted. Empirical data for quantitative research was gathered through questionnaire survey to 226 respondents and qualitative data was collected via semi-structured interviews to 13 respondents from G7 construction organisations, that involved in disaster events. The data analysis is carried out qualitatively (thematic content analysis) and quantitatively (descriptive and Partial-Least Square of Structural Equational Modelling, PLS-SEM), by utilising IBM SPSS® Statistics v.25, Microsoft Excel 2019 and SmartPLS v.3.2.8 software programs. The findings from the research were used to develop a Disaster and Business Continuity (DBC) framework for construction organisations' resilience in Malaysia, which was validated by expert panels to confirm its external validity. The results revealed that the notion of implementing a disaster and business continuity plan as a strategy (understanding organisations' system through culture and disaster impact; DBC Strategies; DBC Response; and DBC Maintaining plan) to combat disaster events for construction organisations leads to increased disaster resilience. The findings also signify four important properties of disaster resilience (robustness, rapidity, resourcefulness, reorganise) for construction organisations. Furthermore, the validation feedback demonstrated that the respondents agreed with the proposed framework and it is appropriate for the context of this research and construction industry. The significance of the study is to ensure the continuity and resiliency of construction organisations whenever disaster strikes and to minimise the unsolicited disaster impacts.

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