

**INTERNATIONAL TECHNOLOGY TRANSFER (ITT) AND DEVELOPMENT OF  
TECHNOLOGICAL CAPABILITIES IN MALAYSIAN CONSTRUCTION INDUSTRY: A  
CONCEPTUAL FRAMEWORK**

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Tuan/Puan,

**TAJUK PROJEK FRGS: INTERNATIONAL TECHNOLOGY TRANSFER (ITT) AND DEVELOPMENT OF TECHNOLOGICAL CAPABILITIES IN MALAYSIAN CONSTRUCTION INDUSTRY: A CONCEPTUAL FRAMEWORK**

Dengan segala hormatnya perkara di atas adalah dirujuk.

Sukacita dimaklumkan Jabatan Kementerian Pengajian Tinggi Malaysia telah meluluskan permohonan projek penyelidikan tuan/puan bagi FRGS Fasa 1/2008 seperti tajuk di atas dengan keputusan seperti berikut:-

***"Disokong dengan peruntukan RM45, 000.00". Recommended, however aspect related to Data Analysis need to be discussed."***

Kelulusan ini juga tertakluk kepada syarat-syarat seperti berikut:-

1. Tempoh projek penyelidikan ini ialah 2 tahun iaitu bermula **1 Julai 2008** sehingga **31 Julai 2010**.
2. Kos yang diluluskan ialah sebanyak **RM45, 000.00** sahaja. Sila kemukakan bajet yang baru mengikut kos yang diluluskan dengan menggunakan borang Bahagian E-Budget/Belanjawan. Perbelanjaan hendaklah mengikut butiran Belanjawan yang telah diluluskan.
3. Semua pembelian bahan/peralatan adalah diminta agar tuan/puan mematuhi prosedur perbendaharaan di mana pembelian melebihi RM500.00 hendaklah mengemukakan sebutharga.

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## **5. Report**

### **5.1 Proposed Executive Summary**

(Original proposal – 300 words)

The phenomenon of International Technology Transfer (ITT) projects has emerged as an important business and managerial concern for many developing countries across the globe as well as Malaysia. According to many researchers, ITT projects involve cross-border transfer of technology with the main purpose to enhance the local technology capabilities in response to a changing economic environment. These technology transfer projects could be viewed in the form of knowledge (soft technology), skill, and tools (hard technology) which usually congregate from advanced countries to the developing countries through construction project development.

Numerous modes (known as channels) of ITT could occur from the public and private firms of advanced countries to private and public sector locally. Some of the channels are considered effective while others are regarded as less effective. Therefore, the objectives of this paper are three folds; to investigate the major channels of international technology transfer (ITT) projects in Malaysia and how these channels and technology capabilities are diffused within the Malaysian construction industry. Finally, a conceptual framework is proposed for a successful ITT and development of technological capabilities for the Malaysian construction industry.

## **5.2 Enhanced Executive Summary**

(Abstract of the research)

The phenomenon of ‘international technology transfer’ or ITT projects has emerged as an important business and managerial concern for many developing countries. ITT in construction is seen as an effective mechanism to advance the flow of technological development by acquiring newer technology from abroad in response to a changing economic environment. The concept of ITT in construction organisations could occur simultaneously, involving the flow of imported technology (i.e., knowledge, skills and tools) via construction projects. Thus, the aim of this research is to develop a framework to enhance implementation of International Technology Transfer (ITT) in Malaysian construction projects.

Empirical research undertaken by means of Initial Survey among two academicians and three practitioners involved in technology transfer research and projects, followed by Case Studies (by means of semi-structured interviews) among the six (6) Malaysian International Companies with experience in ITT projects. The response rate was 48.6% (35 out of 72 respondents) within a-year period. The results were analysed by means of content analysis techniques using NVivo software version 8.

The findings from the research were then used to develop a conceptual framework for ITT and development of technological capabilities in Malaysian construction industry. The Framework was validated using a validation questionnaire survey. The research showed that the five major factors (or components) that influence the process of international technology transfer (ITT). There are: types of technology (i.e., knowledge, skills and tools); the organisations (i.e., public and private sectors); the level of absorptive capacity; the level of technological capabilities, and benefits and barriers of ITT projects. The results of the research could provide an insight into the Malaysian construction project development and will hopefully provide valuable guidelines, especially to public or private sectors in Malaysia that are looking forward to global construction market.