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HOST-COUNTRY TRAITS, INTRA-FIRM TECHNOLOGY TRANSFER AND COMPETITIVE ADVANTAGE: A CONCEPTUAL STUDY

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Abstract

Technological innovations have emerged as crucially significant factor for sustaining market competition and achieving competitive advantage in the 21st century. The Multinational Corporations (MNCs) as celebrities of innovation play significant role in diffusing technological knowledge throughout firms both nationally and internationally. Although numerous studies exist on technology transfer the majority of existing literature addresses the issues related to inter-firm transfer of technology only while the area related to intra-firm transfer of technology has been largely underexposed; study of which is believed to be ideal for fruitful exploration of profitability in technology transfer projects. Using data from MNCs in Malaysia the current study for the very first time would attempt to empirically find the effect of host-country traits on the performance of technology transferred by the MNCs and its subsequent impact on competitive advantage. Findings of this study are expected to contribute both theoretically in the body of knowledge and also in terms of practical implication for policy makers and MNCs and

hence enriching the existing literature simultaneously.

Keywords

Host-Country, Multinational Corporations, Intra-Firm, Technology Transfer, Competitive Advantage

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1. Introduction

1.1 Overview of the Study

Technological innovations have emerged as significantly important in order to sustain market competition and acquiring competitive advantage. On the other hand gaining optimum benefits from Technology Transfer processes is the current issue in developing countries (Al-Abed *et al.,* 2014). MNCs as wholesalers of innovation play significant role in diffusing technological knowledge throughout firms both nationally and internationally (William, 2014). For nations such as Malaysia technology transfer plays significant role in the overall economic growth and development of states (Abu Hassan *et al.,* 2012). In such regards where international technology transfer is involved the effect of hereditary knowledge from parent company on the performance of foreign subsidiaries is vital important both for the MNC (Cui et al., 2006) and for the host nation that hosts the subsidiary. This study is in response to the fact that not enough research has been done on intra-firm transfer of technology by MNCs in Malaysian context among international literatures of management.

This current study is an effort to restore balance in literature by focusing on the impact of host-country traits on the performance of the technology transfer process in context of intra-company technology transfer by MNCs in Malaysia within the boundaries of Organizational Contingency Theory and Resource Based View where the effectiveness of the transfer process is strongly related with the performance of technology transferred to the MNC subsidiaries which is in turn is expected to influence the competitive advantage of the technology receiving unit.

1.2 The Problem Statement

Articulating a clear and concise description of the issues that would be addressed in the study is the basis of any research. Although being complicated to define the problem statement of the current study, in general it could be described as the gap between the expected and the actual technological performance of Malaysia and the unenthusiastic approach of the MNCs to transfer key technologies in this country that would be addressed in this study.

Malaysia has been ranked 12th position by the IMD World Competitiveness Scoreboard 2014 in overall performance out of 60 economies in contrast to previous year's 15th position (IMD World Competitiveness Rankings, 2014). The report seemed to be complimenting Malaysia's claims to be a fully developed nation by 2020. But according to the World Economic Forum (WEF, 2014) Malaysia is still behind other developed nations like Singapore and Korea in terms of technical performance. According to the Malaysian International Chamber of Commerce and Industry Malaysia is 19 years behind South Korea in terms of productivity (MICCI, 2014). The Malaysia Productivity and Investment Climate Survey Report (PICS) also contended that lower levels of capacity of the firms in Malaysia are linked to the lower technical performance by Malaysia (World Bank, 2009). Additionally previous studies found that the MNCs are unenthusiastic to share the key technological knowledge to Malaysia (Zaidah et al., 2007).

So Malaysia's claim to be developed a nation by 2020 and the aforesaid facts logically create a gap in expected verses actually results. In other words clearly a problem exists that seeks attention. By means of this study it is proposed that the mentioned gap can be minimized and the issue can be addressed by means of maximizing technology transfer as we attempt to expose the relationship between host-country traits and technology transfer supported by logic and numerous existing literature (Example: Sazali el al., 2009).

1.3 Objectives of the Present Study

The general objective of this study is to empirically examine the effects of host country traits on the performance of technology transferred and on subsidiary competitive advantage. The specific objectives of the study include the following:

- Examining the relationships between host-country traits and their dimensions with performance of intra-firm technology transfer.
- Investigating the associations involving host-country traits and their dimensions with subsidiary competitive advantage.
- Assessing the relationships linking performance of intra-firm technology transfer and receiving unit's competitive advantage and its dimensions.

2. Review of Literature

2.1 Technology Transfer

The technology transfer process may be as simple as shifting codified information from one organization to another or may be complex because of the fact that the ability to understand and use information varies. According to Farizah (2012) technology transfer is process consisting three basis stages, specifically, planning or strategy building followed by negotiation and implementation which would result in successful transfer of technology and not just exchanging information between parties. According to Rahimi et al. (2013) technology transfer is a substitute method for developing and adopting technology from others while Chiranjibi, N. (2005) considered technology transfer as diffusion of information, synchronizing technology with the needs and creatively adapting innovations for novel uses. According to Minbaeva et al. (2003) Technology Transfer is a process that initiates when the technology receiving unit begins utilizing the transferred technology. The key element in technology transfer is not the actual knowledge, but instead it's the extent of receiver's potential to utilize the new knowledge in their own operations. Technology transfer is a vital factor that not only affects cross-country income in the long run, but also supports economic growth and union of countries for mutual benefits (Nune, H., 2012).

Al-Abed et al. (2014) recognized technology transfer as an extensive and complicated process mutually for the sender and the receiver of technology whereby the recipient must be the able to utilize, reproduce, improvise and, re-sell the innovation at the end of the process. The complex process of technology transfer is more specialized and complicated in contrast to transferring general goods because we can only label the delivery as successful when the technology transferred is utilized and adds value to the receiver's competencies (Teasley et al., 2005). Summarized based on literature we put forward the operational definition of Technology transfer for the purpose of the current study as an extensive and complicated process between autonomous entities where both sender and receiver of new technology exists mutually whereby the process is complete and effective only if the recipient is able to utilize, reproduce, improvise, re-sell and add value to its competencies by means of the innovation at the end of the process (Minbaeva et al, 2003; Russel & Richard, 2005; Al-Abed el al, 2014).

2.2 MNC and Technology Transfer

MNCs are established not only as major manufacturers of technology but also as channel for bulk transferring technology. Transfer of technology by multination organizations are considered as intra-firm transfer in nature because the property rights are not shared with any external party. Nune, H. (2012) stated that MNCs can transmit its technology to foreign associates in both tangible and intangible forms. Royalties and license fees paid to MNCs can be termed as evidence for the intangible technologies transferred whereas exported goods for further processing from the MNCs can be established as proof of tangible technologies.

Gunnar (1996) attributed MNCs for the creation and attribution of intangible assets like technological knowledge, managerial know-how, marketing expertise, and patents and brand development and therefore considered them major players in international technology diffusion. According to Gunter and Philipp (2014) MNCs are very dynamic in making innovative technologies accessible both by purchasing spin-offs or employing them as service providers. On the contrary of the stated Irogbe (2013) argued that unchecked operations of the MNCs globally destabilizes the sovereignty of underdeveloped nations by exploiting their natural and human resources and do not support in the transfer of technology as other studies claim.

2.3 The process of Technology Transfer in Multinational Corporation

MNC are responsible to transfer innovative knowledge to various interrelated units, departments or subsidiaries (Minbaeva et al., 2003). Almeida, Song and Grant (2003) defined technology transfer within the MNC as a process of creating, transferring, application and subsequently developing through combinations of transferred knowledge along with the receivers' existing knowledge. According to Jordan (2013) MNCs mainly transfer technologies to most developing and developed countries by means of foreign direct investment mechanism. Gunnar (1996) on the other hand stated that a firm may either export technology embodied goods, or licence the technology to foreign firms or it may set up a foreign affiliate to manufacture the goods locally in order to exploit its technological assets in foreign market. Firms availing the third option become a multinational enterprise. Although a firm may use more than one channel to take advantage in foreign lands but intra-firm technology transfers remains favourite in case of most advanced technologies to avoid leakage to competitors in foreign countries.

According to Rogers (1995) innovations are diffused through two different channels in an

MNC, namely centralized and decentralized channels of diffusion. In centralized channel the technology is created by dedicated R&D experts and transferred by a central administration who dictates as to how much technology would be transferred and to whom; whereas in case of decentralized diffusion technology is created by non-experts for their own usage which comes from their on-job learning through a trial and error method and is dispersed. In regards to intra-firm technology transfer by multinational issues such as motivation deficiency; insufficient absorbing capability; inadequate retaining ability of beneficiaries; formal systems and structures; less frequent individual interactions, strenuous relationship between the transfer partners (Szulanski, 1996) along with the size of MNC, its country of origin (Sazali et al., 2009) , the age of the subsidiary (Foss & Pedersen, 2002), the location of the subsidiary and the cooperative or competitive relationship between subsidiaries (Dan Li et al., 2007) play important roles in terms of technology transfer performance.

2.4 Effect of Host Country Traits on Technology Transfer

Host country variables affecting Technology Transfer are easy to identify but difficult to refer since sufficient information is not available about them. The first and foremost variables on the issue to be discussed would be the education and technical training, labour skills and learning capability traits of the host country. According to Teece (1977) and Behrman and Wall ender (1976), higher education and skill levels of human resources translate into lower transfer costs, shorter adsorption time and higher imports of technology. According to Kokko (1992) the other set of host country traits affecting technology transfer would be development-related traits. Next in line would be adaptation costs traits of the host country. Findlay (1978) expressed that expensive wages and scarcity of human capital pushes MNCs towards developing economies where labour supply is abundant and cheaper to avail. Next to be focused would be the different technology transfer requirements imposed by the host country. Forcing MNCs to hire local labour, making their technologies available to local entrepreneurs, restricting imports, requiring them to avail suppliers locally are some of the impositions of the host country that affect the MNC's profit maximizing behaviour thus depressing the amount of technology transfer (Kokko, 1992).

Preference of local products and MNC products can be called examples of other host-country traits affecting technology transfer. Burenstam Linder (1961) mentioned average income as one of the other determinants. Koko (1992) on the other hand mentioned domestic investment

and competition as traits of the host country affecting revenue of affiliates (indirectly technology transfer). Other related traits of host country include Production or Manufacturing capacity (Nune H., 2012; Berry, 2014), host country market size (Gunnar, 1996), GDP and fixed entry costs (Hayakawa et al., 2010) the laws, rules and regulations, systems and policies, customs, traditions and norms of the host country (Chesbrough, 1999), Intellectual Property Rights (William, 2014 & Bilir, 2014), FDI supportive environment (Shujiro et al., 2006), tax policies and tax credits (James, R., 1994; Maskus, 2004), economical and technological advancements (Cantwell, 1998), technology policies technology licensing payments , capital market restrictions, R&D expenditures (Maskus, 2004) and domestic competition (Sinani and Meyer, 2004).

2.5 Performance of Technology Transfer

Waroonkun (2007) defined the performance Technology transfer as a result achieved for local counterparts by means of employing technology transfer projects with the foreign affiliates. From an organizational perspective Jian & Li-Hua (2006) stated that the ability of a firm to achieve goals or objectives is an indicator of successful technology transfer. Rose et al., (2009) stated that technology transfer performance comprises the learning, acquiring, absorbing and utilizing capabilities of innovative external knowledge and technologies deeply rooted within the materials of product, tangible assets, production and procedures, and management skills and are not just limited to possessing the capacity of operating, maintaining or repairing the machineries in the level of production.

According to previous scholars Technology Transfer Performance is based on four stages (Bradley et al., 1995; Narayanan and Lai, 1993; and Santikarn, 1981). The first step initiates when the transferred technology is applied by the technology recipient and hence the process can be stated as transferred. In the second stage the local workforce should be enabled to grasp the technology, which means employing the transferred technology skilfully. The third concept specifies that technology can be considered as transferred only when it gets dispersed among the different units of the recipient by means of dynamic distribution activities. And lastly the fourth stage specifies that when workers are able to acclimatize the transferred technology in order to accommodate the needs of their particular business environment, transfer of technology can be said to be successful.

2.6 Competitive Advantage and Technology Transfer

The main interest of MNCs has always revolved around the transfer of technologies from developed countries to emerging markets (Tihanya & Roath, 2002) and Subsidiaries rationally are believed to be safest mode of transferring knowledge in order to void risk of leakage by competitors thereby making the competitive advantage of the MNCs' subsidiaries in the host countries vitally important. This is why studies on subsidiary performance have been standing out as the main focus of technology transfer literature (Chung, 2001; Chen, 1996; Lin, 2003; Cui *et al*., 2006). Simultaneously the motive behind encouraging transfer of technology processes by developing nations is due to the fact that technology transfer positively inspires economies to perform better. According to Al-Abed *et al.* (2014) and Waroonkun (2007) the innovation receiving states achieve a degree of advancement in their respective economies only when they acquire the capability to absorb the transferred technologies.

According to Kogut & Zander (1993) performance of an entity observed as compiled competencies obtained by organizations. They further extended that MNCs constantly need to produce and transfer innovative knowledge from the headquarters to subsidiaries and vice versa in order to acquire and sustain competitive advantage. According to Gilbert and Corday-Hayes (1996) the ability to achieve and implement innovative technologies could improve mean performance level which in turn would maximize the competitive advantage of a firm. Liao and Hu (2007) reported that transferred technology enhanced the organizations' competitive advantage. Sazali *et al.,* (2009) stated that transferring technologies could make considerable contributions towards competitive advantage. Therefore summarizing the aforesaid rationally a logical connection could be drawn putting forward that technology transfer influences competitive advantage of the firm.

2.7 Technology Transfer: Malaysian Overview

Malaysia, as a rapidly growing economy is believed to be much more involved in transfer of technology especially in regards to the adaptation of new emerging technologies. In recent observations it is noticed that the issue involving technology transfer in Malaysia has been the talk of the town in almost every technological conference taking place locally by both public and private stakeholders. Lim (2000) confirmed that, as Malaysia is aware that time and expenses does not allow it the opportunity to develop and produce all the technologies required; therefore, Malaysia has opts for importing technology which is inexpensive and relatively faster gears of

accelerating the utilization of science and technology. In terms of Asian developing countries like Malaysia, China, Myanmar, Sri Lanka, Thailand, Ghana, etc, who are experiencing speedy development International Technology Transfer continues to play as a key catalyst for economic growth (Abu Hassan & Muhammad Asim, 2012). Moreover, according to Siti Aisha et al., (2009) the areas of technology transfer and knowledge management contribute significantly to the productivity and organizational efficiency along with economic development that influences nations like Malaysia to concern deeply to manage knowledge and adopt innovative technology as determining factors for the processes related to technology transfer.

The aim of Malaysia to leverage its existing strengths and resources for enhancing its competitiveness and flexibility to accomplish global excellence is reflected in its Third Industrial Master Plan 2006-2020. The Tenth Malaysian Plan 2011-2015 has also stressed on the importance of supporting innovation-led growth, developing a first-world talent base in terms of human assets, and application of high technology in fields of biotechnology, nanotechnology, high-end engineering, green technology and Technology Parks by acquisitions and utilizations through Government established bodies like the Malaysian Technology Development Corporation and Malaysian Venture Capital (The Tenth Malaysian Plan, 2010).

The Malaysian approach seem to be synchronized with the Second National Science and Technology Policy that opted for increased investments in research and development, increase indigenous technology producing capability, establishing new major research and technology development institutions, building long-term bridges between universities and industries for technology transfer and training, financing support for technology development and techno-entrepreneurship in collaboration with Malaysian Technology Venture Association, establishing Malaysian Technology Credit Guarantee Scheme, enhancing management of technology intelligence and information system and development of innovative technology-based companies involved in the endorsement and marketing of technological innovations (The Second National Science and Technology Policy, Ministry of Science, Technology and Innovation). Simultaneously the Ministry of International Trade and Industry (MITI) has also been actively playing its role in enhancing technological capabilities of Malaysia by focusing on promoting investments in high technology and knowledge-based industries. It thus contributes towards Malaysia's efforts in creating a high income economy which would be knowledge-driven, high technology industry-based, industrially knowledge-intensive and higher in value, and Research

and Development active, falling in line with the objectives of the New Economic Model (NEM) in order to transform Malaysia into a high income nation by 2020 (The Malaysia International Trade and Industry Report, 2013).

On the contrary to the facts above, studies do exist that found technology absorbing capabilities of Malaysia as inadequate. According to Zaidah et al. (2007) the MNCs are unenthusiastic to share key technological know-hows to Malaysia. Additionally, Suhaimi and Yusof (2006) pointed out that Malaysia was not able to produce technology indigenously. Studies like Jegathesan et al. (1997); Lall (2002) recommended that the Malaysian workforce were not able to infuse and carry out complicated repairs because of inadequate academic knowledge that does not allow the local human assets to conduct operations independently. Narayan & Wah (1993); Zainal (2004), indicated Malaysians are still stuck at lower levels of technological exercises. In a separate study Burhanuddin et al., (2009) pointed out inadequate capital investment and managerial skills, inaccurate information or data, insufficient skilled workforce, limited capability for managing technology and acquiring knowledge, difficult access to industrial experts, and limited human resource to perform R&D task as reasons that constrain adopting new technology by SMEs in Malaysia.

2.8 Multinational Companies and Related Policies in Malaysia

For Malaysia, Foreign Direct Investment (FDI) specifically MNCs has always been a foremost factor in developing the industrial sector (Halim, 2000) and the employment trend of its citizens. According to World Investment Report, 2014, Malaysia is ranked 19th among the world's 21 attractive countries for foreign investments and 15th out of 17 countries for prospective host economies (2014-2016). It is one of the largest FDI recipients in the ASEAN amounting to $12 Billion. According to another report by the Ministry of International Trade and Industry (MITI) it is stated that Malaysia hosts 400 MNCs (MITI, 2012). Intel's design centre for microprocessor for its hand held equipments, Motorola's R&D centre in Malaysia, world's largest producer of thin-film disks Komag USA (M), Matsushita R&D centre for air-conditioners, are few of the many MNCs in Malaysia (FMM Directory, 2014, Bursa Malaysia).

Foreign Investments like the MNCs are screened by the MIDA (Malaysian Industrial Development Authority) to ensure that the FDI is consistent with the strategic and social policies of Malaysia. Exceptions like establishing Representative Office for foreign banks do require Central Bank (Bank Negara) approvals as well. Acquisitions, of assets, mergers, or take-overs on

the other hand (of such Multinationals) are overseen by the FIC (Foreign Investment Committee) in Malaysia. Multinational Companies have the option of either setting up a representative office, or registering an office branch, or setting up a Joint Venture with a local entity, or grant patent or franchising licences to local affiliates in order to start business in Malaysia.

3. Theoretical Perspective and Conceptual Framework

The current issue attempts to establish the effect of the host-country traits on the performance of technology transferred by MNCs to their subsidiaries in Malaysia and its relationship with subsidiary competitive advantage. To do justice considering the internal environment of the firm and its traits are just not enough, the external environment where the firm operates, the host country, its traits, its policies regarding the operations of the firm and protecting the interest of businesses need to be scrutinized thoroughly. This impels to follow a theory that can accommodate the different dimensions of the current endeavour.

Considering the above the present study is based on the Organizational Contingency Theory that can be deployed to illuminated the dependency and relationship between internal environments of the subsidiaries with the external environment of the host country where it operates. According to a recent study (Boyd et al., 2012) the development of contingency hypotheses is fundamental to strategic management and it is an approach prominently used by researchers of strategic management in areas considering internal and external environments which is the case in the current study as well. According to Russel & Richard (2005) Contingency theory hypothesizes that organizations and their external environment are interdependent and organizations are expected to perform optimum when they are in alignment with the contextual environment. Therefore connecting logically the issue related to the relationship between host country traits and the performance of technology transferred effecting subsidiary performance is governed by the Organizational Contingency Theory to serve the purpose of this study.

On the other hand the issue on how transferred technologies forms competitive advantage is completely an issue that could be posed by the RBV (Lin, 2003). The prime focus of the RBV perspective is to demonstrate the capability of organizations to develop and achieve competitive advantage from replicable knowledge and resources and as derived from the RBV, knowledge is the major source that leads to build up competitive advantage (Barney, 1991). Based on the RBV

perspective, it can also be deduced that technology transfer improves knowledge, work practices locally and technological adaption capabilities, which in turn contributes to the competitive advantage of the subsidiary (Lin, 2003; Barney, 1991).

3.1 Conceptual Framework

The conceptual framework has been adapted from existing related literature to suit the context of current study.

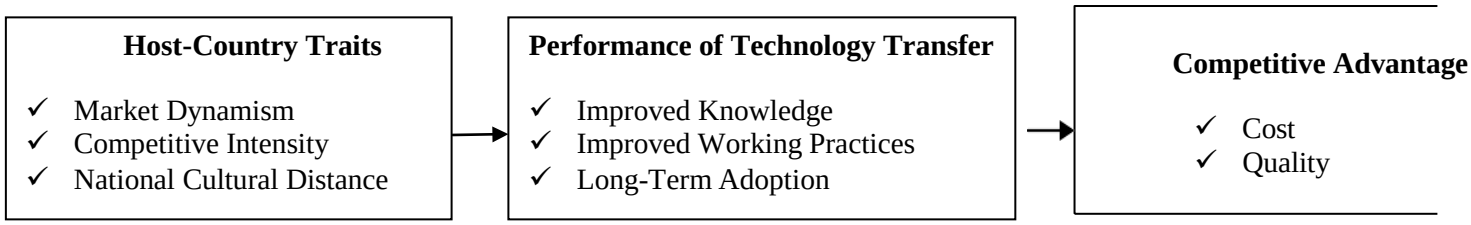

Figure 1: *Conceptual Framework of Present Study*

3.2 Variables and Measures

3.2.1 Dependent Variable: Performance of Technology Transfer

The current study would adapt a multi-dimension measuring approach for this variable adapted from Waroonkun (2007) and Al-Abed *et al.* (2014). Deriving from Resource Based View the current endeavour defines performance of technology transfer as the outcome acquired from the processes of technology transfer in terms of three particular dimensions as follows: (1) Improved knowledge in terms of technology, management techniques, business management, and Technology Transfer implementation, (2) Improved work practices in terms of knowledge integration, resources allocation, transformation and applications, and (3) Long-term adoption of technology transferred in terms of adapting innovative approaches in methods, management, advanced technologies, and innovative skills.

3.2.2 Dependent Variable: Competitive Advantage

In the present study, quality and cost have been identified as the two dimensions for measuring competitive advantage (Al-Abed *et al.*, 2014; Li et al., 2006; Koufteros, 1995). Quality refers to the ability of the organization to offer quality product and performance that would create higher value for consumers (Koufteros, 1995) while Cost could be described as the ability of the organization to compete against major competitors based on low cost strategies (Li *et al.*, 2006). The measures indicating the variable competitive advantage in the present study would be adapted eight questions from Al-abed et al. (2014), Al-Zoubi (2012), Feng, Sun, and

Zhang (2010) and Tan (2009).

3.2.3 Independent Variable: Market Dynamism

Market dynamism has been conceptualized as encompassing demands of the environment and business practices in regards to the host-country. Market dynamism would be measured by means of a two-item, seven points, Likert scale derived from Cui et al. (2006). The two items would assess the extent to which (1) the constantly changing host-country environment demands on the subsidiary and (2) the constantly changing business practices in the respective industry.

3.2.4 Independent Variable: Competitive Intensity

Competitive intensity has been conceptualized as the intensity of competition existing in the market of the host-country. Following Cui et al. (2006) and Grewal & Tansihaj (2001) a four item, seven points Likert scale would be used to assess the extent of competition present in the host-country in terms of (1) new competitive moves, (2) price competition, (3) promotional wars, and (4) general competition.

3.2.5 Independent Variable: National Cultural Distance

National Cultural Distance has been conceptualized as the fundamental dissimilarities in national cultures between the home and the host country of the MNC. Following Cui et al. (2006); Simonin (1999), national cultural distance would be measured by two items: (1) the national culture of parent company greatly differs from the host-country, and (2) the difference of language is a major obstacle in communicating with the parent company.

3.3 Research Hypotheses

The hypotheses of the current study are as follows:

Hypothesis 1: *There is a significant relationship between Host-Country traits and Performance of Intra-Firm Technology Transfer.*

Hypothesis 2*:* *There is a significant relationship between host-country traits and subsidiary competitive advantage.*

Hypothesis 3: *There is significant relationship between the performance of Intra-Firm technology transfer and receiving unit's competitive advantage.*

4. Research Methodology

4.1 Research Methods to be used

This study would be a cross-sectional quantitative one. The population frame would

include the entire Multinational Companies registered in Malaysia (as at 1st January 2015). The sample size would be determined using GPOWER analysis. The sampling type would be Census Sampling and the unit of analysis would be Organizations. Self administered Questionnaires based on subjective measure of the variables would be used as the instrument of research. The data collection method would be structured mail survey and data would be collected from both primary and secondary sources. Exploratory Data Analysis would be conducted to meet the preliminary assumptions of normality, homogeneity and linearity.

4.2 Respondents and Sample Size

The respondents for this study would be managers working with the different subsidiaries of Multinational Companies registered in Malaysia (as of 1st January 2015). The population would include multitude of top business, financial and marketing managers of multinational corporations in Malaysia from different industries to increase the overall generalization of this study. The sample size would be determined by G Power Analysis by considering total number of registered Multinational Companies found through databases of Bursa Malaysia and FMM (Federation of Malaysian Manufacturer) Directory of Malaysian Industries 2014 that can be considered the most official and authentic sources of information regarding foreign investments in Malaysia.

4.3 Research Questionnaire

The main research for this study would be conducted using a Questionnaire. The questionnaire for the survey would be based on previously tested and validated scales borrowed and adapted from existing literature. A Ten-point Likert Scale Questionnaire would be adapted to serve the purpose of this study. According to Cooper, Schindler and Sun (2006) a Likert scale is a summated rating scale constructed out of phrases that display either a positive or undesirable approach towards the object of interest and increasing the number of scale leads to increased reliability of the measure accordingly. Except for degree of technology transfer all other variables would be measured using ten-point Likert Scale (1 = strongly disagree to 10 = strongly agree). For the degree of technology transfer, the variable would be measured using ten-point Likert Scale (1 = very low transfer to 10 = substantial transfer).

4.4 Data Collection Procedure

Data would be collected by structured mail survey. Both Primary and Secondary Data would be used to achieve the objectives of the study. The self-administered questionnaires would

be mailed to the MNC Subsidiaries in Malaysia as listed with the Bursa Malaysia and FMM Directory, 2014 with a cover letter. If the response rate is not encouraging the respondents would be followed-up by means of phone calls, e-mails, reminders letters and personal visits seeking cooperation from the respondents for the survey. In Malaysian perspective a response rate of 15% to 25% might be acceptable and appropriate (Rozhan et al., 2001).

4.5 Statistical Analyses

In order to validate the data and the study Exploratory Data Analysis would be carried out to meet the preliminary assumptions of normality, homogeneity of variance, and linearity. The reliability would be tested by Cranach Alpha. Pearson correlation analysis and multiple models of linear regression would be used to test the significant relationships between dependent and independent variables. Tests of Normality, Linearity, and validity would be adopted multi-scale items from established scales developed by experts in related fields.

5. Conclusion and Expected Contributions

Converting technology into competitive advantage is an art developing nations need to master. However, for Malaysia there is still much to be achieved and not much of time left in order to adopt technological advancements and acquire fully developed and industrialized status by 2020 in the light of globalisations. Quality research can be translated as a process whereby significant research questions are transformed into answers that contribute to the existing theory. Studies need to provide an extension of an existing theory or a refinement of it. Technology Transfer is a concept blessed with voluminous literature but unfortunately not well explored. This study would attempt to study the effect of host-country traits in Malaysian Context for the very first time as no empirical research on intra-firm technology transfer examining the relationship between the traits of host-country and technology transfer performance and subsidiary competitive advantage in a single model was found. Thus, this study would contribute by filling the literature gap by examining empirically the relationship between host-country traits and performance of intra-firm transfer of technology and between the performance of intra-firm technology transfer and subsidiary competitive advantage within the frame of Organizational Contingency Theory and Resource Based View.

Findings of this study are expected to contribute theoretically in the body of knowledge by refining the scope of the theory by considering the effect of host-country variable on

technology transfer performance and subsidiary performance. Lastly the study is expected to enrich the existing intra-firm technology transfer literature in Malaysian context. For increasing generalization the current study would focus on Multinational Companies from all sectors in Malaysia.Simultaneously in terms of practical implications the study would benefit Malaysian policy makers in enhancing or restructuring existing policies and formulating new policies in order to attract further technology transfer from the MNCs and at an organizational level the MNCs (both existing and prospectus) in Malaysia can use the finding for technology transfer related decision making. Specifically the results of the present study are expected to have significant managerial implications for organizations aiming to augment the competitive advantage of their business units. Lastly the study is expected to enrich the existing intra-firm technology transfer literature in Malaysian context. For increasing generalization the current study would focus on Multinational Companies from all sectors in Malaysia.

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