EVIDENCE OF REVERSE BRAIN DRAIN IN SELECTED ASIAN COUNTRIES: HUMAN RESOURCE MANAGEMENT LESSONS FOR MALAYSIA

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Abstract. *Reverse brain drain (RBD) is a fertile area to examine in the inter-countries movement of professionals. The basic idea of RBD is that the professionals who migrated to the industrialized nations represent potential human resources for the socioeconomic development of their home countries. It is argued that every 'brain drain' is a potential 'brain gain' for a country. However, there is inconclusive evidence on the best practices of RBD that may become lessons for any country to adopt in tapping the valuable experiences of the intellectual elites. Using 'human capital theory' and 'diffusion of innovation theory', this conceptual paper specifically aims i) to illustrate evidence of the best practices of RBD in selected Asian developing countries of South Korea, Taiwan, China, and India that have commended track records in dealing with RBD; and ii) to suggest strategies for Malaysia, which is a beginner in developing the RBD programs, to adopt the best practices as experienced by the selected countries.*

Key words*: brain drain, reverse brain drain, adoption of innovation, human resource management, developing countries*

1. Introduction

Developing Asian countries, such as South Korea, Taiwan, China, and India, have successfully transformed their "brain drain" experience to "brain gain." Malaysia is now trying to emulate the efforts of these nations in encouraging its professionals to return

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from living and working abroad in a phenomenon we called reverse brain drain (RBD). We argue following the brain gain hypothesis (Hunger, 2002) that every brain drain is a potential brain gain for a country the professional originated from.

An important aspect of RBD is that it involves the movement of professionals among both developed and developing countries. Following Chacko (2007) and Malhotra (2009), we refer to RBD as the transnational re-migration of highly skilled workers or professionals from developed to less developed countries when the latter is considered to be their country of origin. The term RBD emerges to explain the consequences of brain drain, which include a loss or a destructive impact on the home country of these migrants. RBD is synonymous with brain gain, an optimistic term used to denote the huge economic and social benefits for both the sending and receiving countries if proper policies and management of talents are in place in both countries (Brzozowski, 2008; Mayr & Peri, 2008; UNESCO, 2011).

Historically, the term "brain drain" was used in the 1950s to 1970s to refer to researchers, scientists, engineers, and technopreneurs (RSETs) from less developed countries, such as South Korea, Taiwan, China, India, and Malaysia, as well as South American and Eastern European countries, who migrated to industrialized countries such as the United States, the United Kingdom, Australia, Germany, and Canada because of better employment opportunities (Straubhaar, 2000; Findlay, 2001; Khadria, 2002; Donald & Yan, 2005). The basic idea of RBD is that RSETs, who are intellectual and technical elites and who have migrated to the more industrialized countries, represent a potential resource for the socioeconomic development of their home countries (Hunger, 2002; Batista, Lacuesta, & Vicente, 2007). RBD began to occur in the 1990s as a result of professionals returning to their home countries to take advantage of the new growth and employment opportunities. Hence, many developing countries began to look at their skilled overseas diaspora as an asset that could be tapped for nation development (Hunger, 2002; Rosenzweig, 2007). Malaysia is no exception to this trend.

This paper addresses the following research questions: (1) What are the strategies or best practices adopted by countries such as South Korea, Taiwan, China, and India in managing their RSETs through RBD?; and (2) How would Malaysia adopt those best practices as experienced by the four countries in attracting and managing their RSETs to return and contribute to national development? Hence, this paper aims to delineate the best practices in the above countries' RBD programs and to suggest strategies for Malaysia in emulating and adopting the best practices of RBD in those countries. This article is significant to human resource management (HRM) as the knowledge helps the relevant institutions in exercising their roles and responsibilities in the development of their RSETs at stages of planning, implementing, developing, and sustaining them in Malaysia. The analysis is also significant as it gives insights on Malaysia's role in dealing with the country's professionals abroad by learning from the success stories and experiences of other developing Asia countries in dealing with RBD.

This article relies on literature reviews on RBD and its relevant constructs of brain drain and brain gain. In conducting the literature review, we used a variety of sources that include policy papers, journal articles, research reports, and country case studies. Various university databases were used to access these documents, such as Springer, Proquest, SAGE, Emerald, EBSCOHost, Science Direct, and Blackwell Synergy. The keywords that we used in the literature search are brain drain, reverse brain drain, brain gain, adoption of innovation, human resource management, and developing countries. Based on contents analysis of the documents, the best practices in relation to RBD of the selected Asian countries were identified. The strategies were then compared with the ongoing strategies that Malaysia is currently pursuing and consequently suggestions were made for Malaysia to adopt.

The article is organized as follows: first, the definitions of RBD and brain drain are given by tracing the origin of the two phenomena from an international perspective. Second, both the human capital and diffusion of innovation theories are discussed as its theoretical foundation. Third, a brief account is made of RBD in countries such as South Korea, Taiwan, China, and India in terms of strategies for attracting professionals, including the push and pull factors and strategies to retain them once they are at home. The paper continues with a review of RBD in Malaysia and initiatives currently undertaken by government institutions such as the Talent Corporation (TC); the Ministry of Science, Technology, and Innovation (MOSTI); and other science-based organizations, as well as suggested strategies based on the best practices as experienced by the selected countries. The paper ends with a conclusion and recommendations for practice particularly suggested RBD strategies for Malaysia to adopt.

2. The Meaning of Reverse Brain Drain

Reverse brain drain (RBD) originated from the expression "brain drain," which implies that the latter came into existence prior to the RBD. The term "brain drain" was first coined by the British Royal Society in 1960s to describe the migration of scientists, engineers, and physicians from Europe to North America (Thomas, 1968). The movement from European countries took place in two stages: the movement from Southern Europe and Eastern Europe to Western Europe and then the movement from those regions to the United States. Since then, "brain drain" has been used to refer to the general immigration of trained and talented individuals or "professionals" from the less developed to highly developed or quickly developing regions in the world. The Organization for Economic Cooperation and Development (OECD) has shown that 20 million RSETs have immigrated from developing countries to European countries within the past five decades (Docquier & Marfouk, 2006).

RBD refers to the return of these professionals from developed countries, such as the United States and the United Kingdom, to their home countries, such as India, China, Taiwan, Hong Kong, South Korea, Pakistan, and Malaysia, as well as many

African and South American countries. Many professionals of foreign origin have been recorded in the United States. In the early 1990s in the United States, there were approximately 900,000 RSETs, especially from India (specifically in the technology information sector), followed by China, Russia, and other OECD countries. However, we noted that many emigrants especially from Taiwan, India, and China were in their reverse mode to their homeland in the first decade of the millennium (Wadhwa, 2009). The reverse movement means brain gain for some of the developing countries and brain drain for the western countries. It has been found that Chinese and Indian professionals who have been educated in the United States are increasingly being drawn back to their home countries due to the economic turbulence and immigration system in the United States. On the other hand, it has also been discovered that 60% of Indian immigrants and 90% of Chinese immigrants return to their countries of origin because of equal business opportunities in the homeland. Specifically, 30% have returned due to job security, 28% due to better future prospects, 25% due to better education options, and 12% due to better employment packages at home (Gupta, 2011).

In the Asia-Pacific region, the movement of professionals has become a critical point among world economic movers, such as South Korea, Japan, Hong Kong, India, and China. It has been found in Singapore and Hong Kong that professionals moved from one country to another due to changes in demographic patterns such as a decline in the population, a shortage of professionals or highly skilled employees, large-scale mismatch between skills possessed by the employees and required by employers, and rising costs of living (PriceWaterCoopers, 2012). It has also been shown that 55% of CEOs in the Asia-Pacific region will be increasing their efforts to recruit highly talented professionals over the next 12 months (PriceWaterCoopers, 2012). Hence, this "talent war" is interlinked with RBD – a new strategy through which countries attract and retain professionals as an asset for national development.

3. Theoretical Framework

The Human Capital Theory

RBD can be explained using the human capital theory. It emphasizes the potential relationship between the talent, quality, and skills of the workforce and organizational performance (Becker, 1964), which ultimately influences a nation's development. The education system and employment practices represent investments in human capital, and the teaching and learning, as well as training, retraining and development activities, are the kind of interventions that are most likely to affect the quality of human capital in a country. Human capital, such as an individual's talent, knowledge (tacit and explicit), and experience are key sources of a nation's sustained competitive advantage within the global arena. Consequently, this human capital is categorized as valuable, rare,

incomparable, and non-substitutable (Barney, 1991). We relate to the importance of human capital to RBD in which the loss and gain of this capital influence the socioeconomic development of the receiving country. The implications are pervasive when the RBD involves a large group of intellectual professionals who represent a potential resource for meeting the present and future demands of their home countries. Educated professionals often migrate from poor countries to rich countries to pursue career advancement and to increase their standard of living. From the perspective of the individual professionals, their rights and freedom to travel and the opportunity to be mobile are also considered to be part of their human capital. When professionals migrate, their investments in education and work experience generate human capital for the receiving country and, at the same time, result in a deficit to the human capital of their home country. However, with RBD, the homelands of the professionals reap the investments that have been made in the individual professionals (Straubhaar, 2000).

Theory of Diffusion of Innovation

As the major aim of this analysis is to explore how Malaysia should adopt the best practices of RBD in South Korea, Taiwan, China, and India, the theory of diffusion of innovation is chosen to support the analysis. Diffusion is a process by which an innovation is communicated through certain channels over a period of time among the members of a social system or even among societies in different countries. An innovation could be an idea, best practice, or technology that is perceived to be new by an individual or social groups in the social system. Communication is a process in which an innovation is shared with another social system in the long process of adoption (Rogers, 2003).

Figure 1 shows the diffusion of innovation model. The relevance of this theory in this article is indicated by the shaded boxes. Perceived need for the innovation, which is one of the items in the receiver variable of the antecedent of the diffusion process, refers to Malaysia's need to adopt the best practices in managing RBD as experienced by countries of South Korea, Taiwan, China, and India. In the social system variables, a new variable is added on which is the country's mainstream development that requires a higher number of talents to fit into the New Economic Model (NEM) of Malaysia (NEAC) (2010). The diffusion of innovation goes on through the dimensions of knowledge, persuasion and decision, which consequently reaches the stages of adoption and continued adoption of the practices. The dimensions of knowledge, persuasion and decision proceed through the various channels of communications such as face-to-face meeting, at conferences and seminars of the interested individuals, mass media of digital and printed documents, personal visits of key individuals from Malaysia to the centres of interest in dealing with the RBD programs in the said countries and many more.

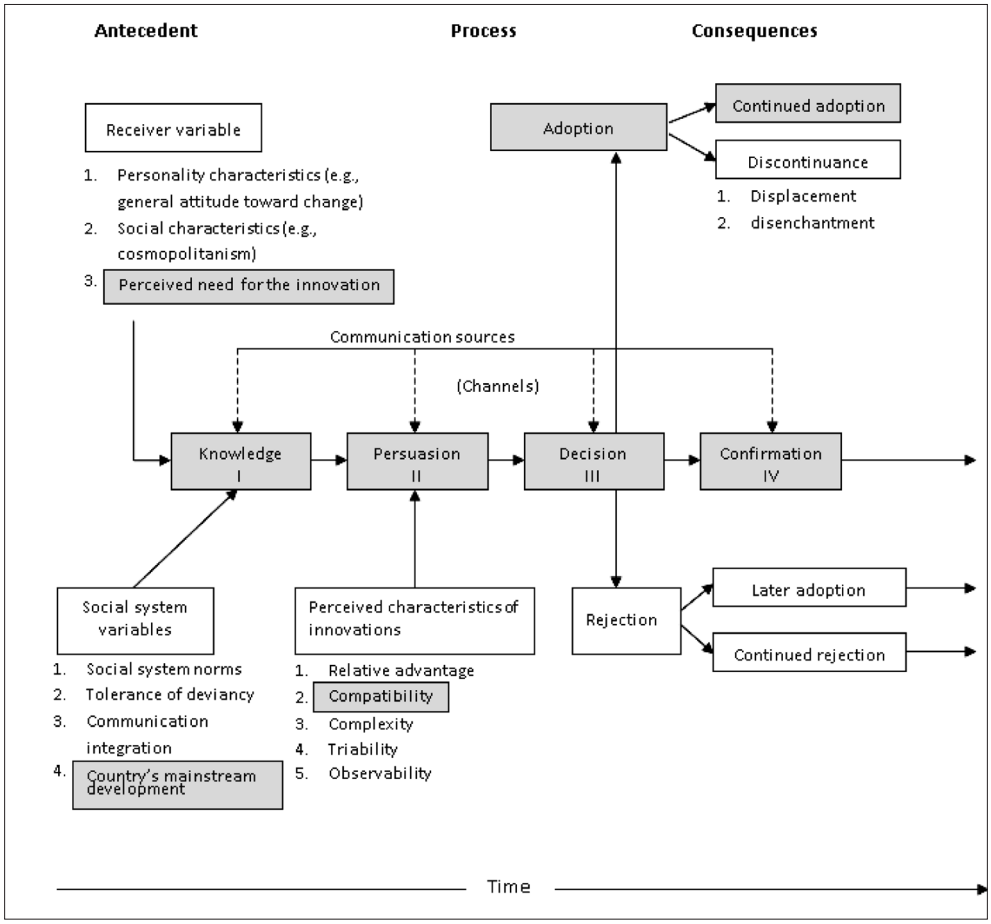

FIGURE 1: **Diffusion of innovation model.**

Source: Rogers (2003) http://en.wikipedia.org/wiki/Everett_Rogers

Note: The shaded boxes indicate the dimensions that relate to the analysis in this article.

4. RBD Experience of Selected Countries

South Korea

Brian's (2012, p.1) analysis shows that South Korea itself is becoming one of the most advanced democratic societies in the span of little more than a generation. The transformation of South Korea from a developing country to an industrialized country has become a role model for the countries in Asia including Malaysia. South Korea became the 7th exclusive member of the "20-50" club on June 2012. It is now the most successful country in East Asia, with a gross national income of USD 20,000 per capita and a population size of 50 million (Chiou, 2012). The other 20-50 club members are the United States (1988), Japan (1987), Italy (1990), France (1990), Germany (1991),

and the United Kingdom (1996). The World Trade Organization has ranked Korea as the world's seventh largest exporter at a value of USD 466 billion. The three biggest South Korea conglomerates, the Lucky-Goldstar Corporation or LG, Samsung, and Hyundai, are in the world's top 100 nonfinancial transnational corporations. South Korea is ranked 15th in the world according to nominal GDP and it is one of the G-20 major economies.

In general, South Korea's economic platform started as early as 1962 with the first "Five-Year Economic Plan" of the military-run government. During the formative periods, the country focused more on the human capital development because the country lacked natural resources, industrial facilities, sufficient land, foreign reserves, and business experience. However, through heavy and aggressive investments in education and training and the borrowing of foreign capital, Korea created a smooth road to success. For the past 60 years, human resource has been the key factor for Korea's economic development (PISA, 2011).

There are five main industries actively involved in research and development (R&D) in South Korea: primary industry, light industry, light and heavy industry, heavy industry and electronic, as well as electronic and transportation. Compared to other OECD countries, from 2002 to 2010, Korea had 49,470 researchers per million population with 3.4% of GDP spent on R&D in the mainstream industry, science, and technology (UNDP, 2013). In 2001, Korea implemented a three-stage nanotechnology initiative. The first stage was from 2001 to 2005; with an investment of USD0.9 billion, the Korea Nanotechnology Research Center and the National Nano Fab Center were developed. The main purpose of these centers was to develop a basic research and educational hub. The second stage was from 2006 to 2010; with a budget of USD1.2 billion, it focused on basic research, application, and education, and the Nanotechnology Roadmap was established. The last stage is scheduled for 2011 to 2020. All three stages have placed a high emphasis on the commercialization of products or services, as well as nano-manufacturing, metrology, and instrumentation with about USD2.3 billion. This is a demonstration of the dedication of the government and corporate organizations to developing and establishing nanotechnology advancement in Korea, which implies the country needs a high number of RSETs.

In 2001, the Korea Education Development Institute (KEDI) identified and implemented human resource development and management as key strategies for regional development. Economists have long seen these as a connection between the national education system and long-term economic prosperity. It has been found that Korea's education policy was tailored according to National Human Resource Development (NHRD) strategies and crafted by KEDI in 2001 to improve regional strategy development.

PISA (2011) reported that the Korean primary education system is far more advanced and is unchallenged by other OECD countries in terms of reading capability (digital and printed forms). The Korean Institute of Science and Technology nurtures

high-quality scientists and engineers in R&D. The Korean education system emphasizes continuous diverse talent qualities by providing national scholarships to reduce tuition burdens, to decrease private education spending, and tailor education welfare. They nurture talent in the younger generation by developing science, technology, engineering, and mathematics (STEM) education that encourages creative thinking and enhances problem-solving skills. Korea attracts talents from abroad with three competitive values: industry support, education growth, and advanced R&D. Koreans have a strong competitive spirit against the other superpowers in their neighborhood and are adept at picking up the latest technology opportunities for future economic development and reformation, especially since the 1997 Asian financial crisis. The younger generation is dynamic, has received heavy technology exposure and training (Cohen, 2001). The above evidence supports the needs for Korean intellectual diaspora of RSETs to return home to contribute to national development.

Taiwan

From 1970 to 1980, Taiwan spent millions of dollars to educate high potential graduates to help with developing the nation. However, only 20% of these students in the field of science and technology returned to Taiwan when they completed their undergraduate degrees (Chan, 2000). This percentage included the 16.2% who returned after graduation in 1977 and was further reduced to 8.2% by 1979. Since then, Taiwan has implemented various economic incentives to encourage them to return as the government realizes the importance of RBD. Policymakers have created an attractive environment to encourage these Taiwanese to return home such as a skill- and technical-based infrastructure, a supportive physical environment for entrepreneurs, positive venture capital for industry, and close professional networking with Silicon Valley (Saxenian, 2005).

We also found in the literature that in 1980, the Taiwan government built Hsinchu Science and Industrial Park (HSIP), which was inspired by Silicon Valley in the United States. The government offered a 5-year tax reduction; a maximum income tax rate of 22%; duty-free imports of machinery, equipment, raw material, and semi-finished products; and know-how as equity shares (www.weforum.org/talentmobility); as a result, from 1985 to 1990, around 50,000 Taiwanese returned home under this government development package. HSIP attracted many engineers to return home due to its strategic location; it is close to public research services, the Industrial Technology & Research Institute (ITRI), and a semiconductor manufacturing technology centre, the Electronics Research and Service Organization (Saxenian, 2002). HSIP offers various incentives to encourage Taiwanese to return, such as a fiscal package for technology investment, a high-quality residential area, a Chinese-American International School, and certain remote work options for some returnees. Furthermore, the strong development of information integration between National Chiao Tung University,

National Tsing Hua University, ITRI, and HSIP has created a human resources network that allows for research and creativity.

It has also been shown that the returnees who have been allowed to exercise "brain mobility" between Taiwan and United States have given themselves the nickname of "argonauts" as they travel regularly between these two regions (Saxenian, 2007). The development of the science parks has contributed to 70% of global technology industry growth and has developed high-end technology products. This program has successfully attracted many RSETs to return home through a high-quality education platform, quality on-the-job training, and a continuously cultivated research culture (www.weforum.org/talentmobility).

China

Literature shows that Chinese citizens began to immigrate to western countries after the Cultural Revolution of 1976. They left to further their studies in language, science, engineering, social science, humanities, and business administration at the undergraduate or graduate levels. China initially started RBD efforts by collecting a database of China diaspora overseas, including students, professors, and professionals (Chen, 2003). From 1990 to 1999, through the Ministry of Personnel, the government funded the best scientific research project from overseas through which research centers were established in China. The best research paper entitled "Serving for country" (cited in Zweig et al., 2008) had combined knowledge and technology networking from professionals in Silicon Valley, Canada, and China and distributed nationwide. China continued to develop many RBD projects that enhanced human talent inflow to China, such as the Spring Light Project (1996), the Hundred Top Talent Program (1998), the 985 Plan (1998), Serve the Nation (2001), the Incubator Projects (2001), Technology Parks (2002), and Green Channel (2007) (Zweig et al., 2008; Chen, 2003). Throughout the years, China has improved its economic stability, established a solid foundation in research, science, and technology, and instilled a patriotic ideology in the RSETs to serve their nation. China blended HRD policy in their 10th Economic Plan (2001–2005) by focusing on education, training, and R&D. Three important agencies have been given the task of attracting, retaining, and developing global talent namely, the Organization Department of the CPC, the Ministry of Personnel, and the Ministry of Labor and Social Security.

Current trend indicates that China is not worried about the brain drain phenomenon, despite the fact that it is supplying most of the world's highly skilled migrants, as it also sees a large backflow of overseas talent (Xue, 2012; Zeithammer & Kellogg, 2010). The percentage of the Chinese graduate returnees in 2010 was 32.6%, compared to 28% and 25% in 2008 and 2006, respectively. This shows a positive trend in the new generation to serve and develop their nation (Finn, 2010; Xue, 2012). The highest contributing factors for the return of these RSETs were proximity to parents,

social connections with relatives and friends, social status, and the educational opportunities for their children. The pushing factors were highly correlated with the work environments, political systems, and fertility policies in the host countries, such as Japan (Xue, 2012), the United States, and Canada (Zweig et al., 2008).

India

In the 1980s, India approached RBD with an intensive development of science parks that focus on the pharmaceutical industry (Hua, 2011). India developed biotechnology advances by collaborating with western drug companies in performing fairly simple lab work. Hence, India attracted Indian-born biologists and scientists to return home with attractive packages and even offered foreign citizens of Indian origin visa-free entry for life and guaranteed work in the country (Hua, 2011). By 2008, more than 280,000 green cards had been issued to foreign citizens of Indian origin. An analysis showed that 775 technology companies in Silicon Valley, California, belong to Indian-born engineers, with a gross profit of USD3.6 billion and 16,000 job vacancies (Saxenian, 2001; 2002). This becomes the pool of talents that have potential to be attracted to the packages.

India continuously plays an important role as a leading country in critical industries, such as R&D in the pharmaceutical industry in Bangalore and telecommunication, technology outsourcing, and advancement in Hyderabad (Wadhwa, 2009). In the research lab category, IBM India has successfully attracted half of all Indian PhD immigrants to return home. A team of Harvard professors conducted an Internet survey in 2008 among Indians and Chinese in the United States, and they found that Indians return to their homeland because of career opportunities, quality of work life, and family considerations. The study also found that the opportunity for professional advancement is 61% among Indians and 70% among Chinese (Wadhwa, 2009). The factors that pushed them back to their home countries were difficulties with getting work visas, citizenship requirements, traffic congestion, pollution, and politics.

Bangalore has been declared as one of top locations for RSETs who want to settle down. A residential area has been built based on American preferences, such as gated communities, a clean and safe environment, a sports arena, an international school, and an elite community club. The Indian government extends dual citizenship, tax breaks, attractive salary packages with comfortable living standards, and rights to own agricultural land for foreign passport holders. In 2009, there were about 160,000 technology professionals in Bangalore, while there were approximately 175,000 professionals working in Silicon Valley (Raymer, 2008).

Malaysia: Beginner in RBD and Implications for Adoption

Malaysia is the third largest economy in Southeast Asia and is hopeful of quickly becoming a developed country by the year 2020. For this reason, talent is a crucial factor, and it is directly connected with the percentage of Malaysians who are leaving

the country. In 2010, 1.5 million Malaysian nationals were living in other countries (or about 5% of the entire Malaysian population). The best beginner strategy is "calling back Malaysian expertise to return to its homeland" to be an anchor for economic development. Analyzing the success of South Korea, Taiwan, China, and India can provide a roadmap that will help Malaysia develop an RBD strategy to attract talent. The aim of developing "the right tools for the right job" will place Malaysia at the right junction with other countries, such as South Korea, which has shown achievement in educational development, industry attractiveness, and continual development in science and technology. Skills and talent are of utmost importance in developing a successful economy, yet the best talent is still leaving Malaysia. Malaysia falls below the average in talent bases across the world, achieving only 23.4% in the "labor force with tertiary education" (the OECD average is 27.4%), 28% in the "skilled labor force" (the OECD average is 37.6%), and 36.6% in "labor productivity" (the OECD average is 64.8%). Statistics also show that only one-third of Malaysians working abroad hold at least one tertiary education qualification. Knowledgeable employees, or k-employees, are an important weapon for determining a country's productivity level, as 80% of new jobs are based on "intellectual expertise". However, only a few Asian countries are able to see and adapt the need to have k-employees as their primary strategy, which directly contributes to their socioeconomic development. Creating the right environment for the emergence of such workers will be an important consideration in Asia throughout this next century (Silva, 1997).

One of the Malaysian government's strategies has been to use human resource development as a backbone for developing a k-economy nation by 2020 through the 9th and 10th Malaysian Plans. The 9th Malaysian Plan focused on human resource development by increasing the nation's capacity for knowledge and innovation and by nurturing a "first class mentality" workforce (Zabeda, 2009). Meanwhile, the 10th Malaysian Plan put more emphasis on overall growth, development through partnership, and talent development (Malaysia, Economic Planning Unit, 2010). A few agencies play important roles in nurturing, developing, and establishing human resource development as a part of country development including the Human Resources Development Fund (HRDF), the Academy of Science of Malaysia, the National Science and Technology Policy Plan, research institutes, science and technology parks, and business incubators. HRDF was established in 1993 with an objective of providing a payroll levy scheme for the industrial sector.

The sequence of agenda under the National Science and Technology Policy Plan is as follows: first, the National Science and Technology 1 was established through the 5th Malaysian Plan in 1986. Its main objectives were to enhance human capital through the improvement of skills and knowledge and to support the process of technology transfer by providing a conductive infrastructure for foreign investment. Second, the National Science and Technology Policy Plan was established in 2003 with the objectives of strengthening R&D capacity, promoting a scientific and technology culture, and

commercializing the research output. Third, the National Scientific Council was established in 2010 to focus on promoting the commercialization of technology. It has been considered under National Science and Technology II (2001–2010). Fourth, National Council of Science, Research, and Development was established in 2010 to ensure that the country's investments in science and technology were able to contribute greater value to increasing productivity, environmental quality, stimulation for R&D, and to enhancing Malaysian workforce skills (Vilasini, 2011).

The National Innovation Council was established in 2011 to strengthen and to support the innovation-led growth programmed under the 10th Malaysia Plan. The long term program has been implemented right in primary school to tertiary level in terms of emphasis on science, mathematics, and English language as tools for innovation and talent development (MOSTI, 2011; Mani, 2002). Numerous institutions directly contribute toward human capital development in Malaysia, such as the Malaysian Science and Technology Centre, the Malaysian Institute of Microelectronic, the Malaysian Institute of Government Group for High Technology (MIGHT), and the Malaysian Technology Development Corporation (MTDC). Moreover, to increase the participation of industries in R&D, the Malaysian government plays an important role by promoting incentives and research grants, such as the Research and Grants Scheme, the Multimedia Grant Scheme, the Demonstrator Application Grant Scheme, the Technical Acquisition Fund, the Intensification of Research in Priority Areas, the Program and Commercialization of Research and Development Fund, and a tax incentive for R&D activity (Mani, 2002).

Talent Corporation (TC) was established by the Prime Minister's Office to create various solutions to overcome talent issues involving brain drain and RBD directly; hence, programs such as 'The Returning Expert Program', Scholarship Talent and Retention (STAR); Talent Acceleration in Public Service (TAPS); and the Career Fair Incentive were introduced. Eventually, through the Human Resource Ministry, the government launched a program to encourage RSETs to return home via the "Returning Malaysians Experts Program" in 2001 (NEAC, 2010).

TC serves Malaysian brain gain by offering three package programs: REP, STARS, and TAPS. These three programs have significantly contributed to an increase of talented professionals in Malaysia. REP offers a flat tax reduction of 15% income for 5 years, a tax exemption for personal items brought back from abroad into Malaysia, no tax for two locally assembled automobiles, permanent residency for foreign spouses and children, and all foreign-born children are able to attend international school under the expatriate quota. Many diaspora communities were not only expecting tax reduction and free tax for local cars, but also opportunities for career and industry development (Talent Corporation, 2012). In addition to calling back Malaysian expertise, the Public Service Department (PSD) sponsored scholarship holders under a STAR package. STAR enables PSD scholars to serve their scholarship bond in the private sector. Most

STAR holders are given priority at key Malaysian companies to support the Economic Transformation Program. Another substitute program is TAPS, which is an on-the-job-training program for high-performing and high-achieving PSD scholars who recently graduated from top universities worldwide. This program is a joint venture program between TC, the Razak School of Government and PSD. The main purpose is to identify and nurture talents for the Malaysian public sector.

A concurrent survey, which was conducted by student communities abroad to help TC redefine its strategy, revealed that other than feeling of social injustice (80%), Malaysians left the country due to career prospects (70%), and compensation packages (73%). The same survey indicated that Malaysians living abroad would return if a new paradigm shift from a race-based evaluation to a need-based affirmative action changes (76%). Others also demand positive changes in the public sectors (74%) and positive changes in the business environment (54%) (www.wakecallupmalaysia.com). Some professionals felt that the TC return packages should be made more attractive for them in terms of preparing better career prospects.

5. Discussion and Conclusion: Suggested RBD Strategies for Malaysia to Adopt

Malaysia has been ranked as the 61st out of 193 countries on the Human Development Index (HDI) and was labeled as a high human development country in 2011 (UNDP, 2010). However, Malaysia needs many more initiatives to transform itself into a developed country by 2020. Even though statistics indicate that the outflow of Malaysians to developed countries is still high, especially to Singapore and Australia, TC and the Malaysian government believe that right strategies should be able to draw skilled professionals back to their homeland. Based on the above discussions, Malaysia should come up with more bold initiatives and strategies to complement the existing facilities in the country, based on the experience of the selected Asian countries discussed above. Some suggested RBD strategies for Malaysia to adopt in managing RBD are shown in Table 1.

TABLE 1: **Best Practices of RBD and Suggested RBD Strategies for Malaysia to Adopt**

	Best Practices of RBD in Korea, Taiwan, China and India	Suggested RBD Strategies for Malaysia to Adopt
1.	Collecting a database of diaspora overseas, including students, professors, and professionals. This was initially started in China (Chen, 2003).	There must be comprehensive databases about Malaysian diaspora abroad that comprises professionals according to fields of expertise, job positions, institutions to which they are affiliated, age, work experience and other demographic characteristics such as gender and family status. These databases should be updated periodically.

2.	Funded best scientific research project from overseas through which research centers are established as practiced in China (Zweig et al., 2008)	Malaysian government through the Ministry of Human Resources and the Ministry of Science Technology and Innovation (MOSTI) should fund the best scientific research project from overseas for a specified duration. Through this collaboration research centres can be established in Malaysia in which RSETs from abroad may be deployed together with foreign professionals. Not only does the country receive returnees, it also gains in terms of transfer of technology from the foreign researchers.
3.	RBD projects that enhanced human talent inflow to China, such as the Spring Light Project (1996), the Hundred Top Talent Program (1998), the 985 Plan (1998), Serve the Nation (2001), the Incubator Projects (2001), Technology Parks (2002), and Green Channel (2007) (Zweig et al., 2008; Chen, 2003).	Malaysia should continuously develop many more RBD projects that enhance human talent inflows to the country. The various programs that are already in place such as The Returning Expert Program, Scholarship Talent and Retention (STAR), Talent Acceleration in Public Service (TAPS) and Career Fair Incentive (CFI), should be further nurtured and injected with innovations to make them attractive and sustainable.
4.	During the formative periods, South Korea focused more on the human capital development because the country lacked natural resources, industrial facilities, sufficient land, foreign reserves, and business experience. However, through heavy and aggressive investments in education and training and the borrowing of foreign capital, the country created a smooth road to success. China blended HRD policy in their 10th Economic Plan (2001–2005) by focusing on education, training, and R&D. Three important agencies have been given the task of attracting, retaining, and developing global talent, namely, the Organization Department of the CPC, the Ministry of Personnel, and the Ministry of Labor and Social Security.	Malaysia should blend human resource development policy in their 10th Development Plan (2010-2015) by concurrently emphasizing education, training, and R&D right from the primary school up to tertiary level. More agencies in Malaysia should be given the tasks to attract, retain and develop global talent other than Talent Corporation (TC). Human resource development should be treated as key strategy. for regional development by integrating social and economic development in which developing these resources is one of the emphases. This should be understood by all policy makers including economists, educationists, politicians as well as public administrators. Emphasis must be made clearly toward producing diverse talent qualities.

5.	South Korean primary education system is far more advanced in terms of reading capability (digital and printed forms). The Korean Institute of Science and Technology nurtures high-quality scientists and engineers in R&D. The country's education system emphasizes continuous diverse talent qualities. They nurture talent in the younger generation by developing science, technology, engineering, and mathematics (STEM) education that encourages creative thinking and enhances problem-solving skills.	Malaysia should nurture talent in young generation by developing Science, Technology, Engineering and Mathematics (STEM) education that encourages creative thinking and problem solving skills. This is to prepare the population with wide science-based knowledge for them to have three competitive values, namely, industry supporting spirit, quality education, and advance R&D.
6.	Taiwan government built Hsinchu Science and Industrial Park (HSIP) in 1980, which was inspired by Silicon Valley in the United States. India developed biotechnology advances by collaborating with western drug companies in performing fairly simple lab work.	There is a need for Malaysia to set up biotechnology advancement centres by collaborating with western drug companies in performing fairly simple lab work. In order to establish this mission, Malaysia should be able to offer attractive packages for biologists and scientists to return home with attractive packages. Biotechnology is an area where many locally available flora and fauna can be utilized as the industrial raw materials of which it can generate outputs in numerous forms for the benefit of mankind.
7.	India approached RBD with an intensive development of science parks that focus on the pharmaceutical industry (Hua, 2011). India also developed biotechnology advances by collaborating with western drug companies.	Other than preparing economic incentives to encourage returnees, Malaysian government also needs to create attractive environment for them such as skill and technical based infrastructure, physical environment for entrepreneurs, positive venture capital for industry and close professional network with their former industrial ground such as Silicon Valley in the United States. A reasonable tax reduction based on year, maximum percentage of income tax, duty free imports of machinery, equipment, raw materials and semi-finished products and know-how as equity shares are also suggested.
8.	The returnees who have been allowed to exercise "brain mobility" between Taiwan and United States have given themselves the nickname of "argonauts" as they travel regularly between these two regions (Saxenian, 2007).	The returnees should be allowed to exercise brain mobility between Malaysia and the former country of their employment. The professionals should be allowed to travel regularly while doing business between the two regions.

As a concluding remark, this analysis shows that Malaysia has a lot to learn in relation to issues of RBD from the experiences of other developing countries in Asia who have gone much earlier in capitalizing on their RSETs abroad. In line with this, the Malaysian government should revise the various strategies that are already in place, or create new strategies appropriately in the process of adoption. It is hoped that Malaysia should gain much in re-deploying their talented human resources despite the challenge that the phenomenon of global human resource mobility through brain drain and brain gain is almost unstoppable.

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