

HOW TO BUILD A RETURNEE ENTREPRENEURSHIP TECHNOLOGY CAPACITY IN DEVELOPING COUNTRIES USING A LEARNING ECONOMY APPROACH? REPLICATING THE CHINESE EXPERIENCE IN MALAYSIA

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ABSTRACT

Purpose: In the current globalised economy, the brain-drain phenomenon is increasingly perceived as brain circulation. Returnee Entrepreneurs (REs) are vital players in this shift. REs are defined as people who return to their country of origin and start new businesses after settling overseas for some time as workers, students, or trainees. While REs have proven effective in assuming key roles in technology transfer and sustainable in some developing economies in the last two decades or so. This has been widely seen in China and some other Eastern countries, but is yet to find its way to other countries, particularly those enjoying global diaspora. In Malaysia -focused in this study-, despite the institutional efforts meant to attract both national and foreign talents, little research, if any, has dealt with issues related to returnee entrepreneurs in general and those in the technology sectors in specific.

Theoretical framework: The study builds on the learning economy theory and proposes a relevant approach that is likely to boost the development of technology returnee entrepreneurship in the country.

Method: Using a narrative review, the paper presents the Chinese model of developing returnee entrepreneurship and shows how its well-adjusted replication could benefit Malaysia as well as other developing countries to initiate, implement, and monitor an impactful returnee entrepreneurship in the technology sector.

Result and conclusion: Malaysia's strategies designed to attract technology returnee entrepreneurs must consider three principal components: infrastructure, training, and support, with primary emphasis on the establishment of advanced science and technology parks with university-industry linkages, university-overseas-student ties, conducive institutional framework, financial support, and updated understanding of return motives and conditions.

Keywords: returnees, entrepreneurship, Malaysia, technology, university, China, overseas, learning economy.

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COMO CONSTRUIR UMA CAPACIDADE TECNOLÓGICA DE EMPREENDEDORISMO DE RETORNO EM PAÍSES EM DESENVOLVIMENTO USANDO UMA ABORDAGEM DE ECONOMIA DE APRENDIZAGEM? REPRODUZINDO A EXPERIÊNCIA CHINESA NA MALÁSIA

RESUMO

Objetivo: Na economia globalizada atual, o fenômeno da fuga de cérebros é cada vez mais percebido como circulação de cérebros. Os Empreendedores Retornados (REs) são atores vitais nessa mudança. REs são definidas como pessoas que retornam ao seu país de origem e iniciam novos negócios depois de se estabelecerem no exterior por algum tempo como trabalhadores, estudantes ou estagiários. Embora as energias renováveis tenham provado ser eficazes na assunção de papéis fundamentais na transferência de tecnologia e sustentáveis em algumas economias em desenvolvimento nas últimas duas décadas, aproximadamente. Isso tem sido visto amplamente na China e em alguns outros países do Leste, mas ainda não foi encontrado para outros países, particularmente aqueles que desfrutaram da diáspora global. Na Malásia - focada neste estudo -, apesar dos esforços institucionais destinados a atrair talentos nacionais e estrangeiros, pouca pesquisa, se houver, tem lidado com questões relacionadas a empresários retornados em geral e aqueles nos setores de tecnologia em particular.

Estrutura teórica: O estudo se baseia na teoria da economia do aprendizado e propõe uma abordagem relevante que é susceptível de impulsionar o desenvolvimento do empreendedorismo de pessoas que retornaram à tecnologia no país.

Método: Usando uma revisão narrativa, o artigo apresenta o modelo chinês de desenvolvimento de empreendedorismo para repatriados e mostra como sua replicação bem ajustada poderia beneficiar a Malásia bem como outros países em desenvolvimento para iniciar, implementar e monitorar um empreendedorismo voltado e impactante no setor de tecnologia.

Resultado e conclusão: as estratégias da Malásia destinadas a atrair empreendedores repatriados de tecnologia devem considerar três componentes principais: infraestrutura, capacitação e apoio, com ênfase primária no estabelecimento de parques avançados de ciência e tecnologia com vínculos universidade-indústria, vínculos universidade-estrangeiros-estudantes, quadro institucional propício, apoio financeiro e compreensão atualizada dos motivos e condições de retorno.

Palavras-chave: repatriados, empreendedorismo, Malásia, tecnologia, universidade, China, exterior, economia do aprendizado.

1 INTRODUCTION

While world-leading countries are competing to attract global talent, this race is expected to become tougher in the future (Docquier and Machado (2016). For instance, the U.S. economy has benefited tremendously from foreign talent. Meanwhile, empirical evidence has shown that invention increases in the US with an increase in the admission



levels of foreign applicants under H1B visas which permits employers to temporarily employ foreign workers in patenting-related fields (Kerr and Lincoln, 2010). Scholars such as Michi Kaku describe H1B visas as a US secret weapon without which giant high-tech firms and the Silicon Valley itself would not have existed (Openculture, 2016). Similarly, for the same developmental purposes, many developing countries have initiated strategies to encourage the return of their diaspora and leverage their contribution to development. This is because over the last two decades, diasporas in general and skilled emigrants have been regarded as a vital source for supplying emerging markets with entrepreneurial talent (Qin and Estrin, 2015). One of the best ways to materialise this event is to encourage returnees to start businesses in their home countries. This phenomenon, also known as Returnee Entrepreneurship (RE), deals with individuals who return to their country of origin and start new businesses after settling overseas for some time as workers, students, or trainees.

In fact, the recognition of policy agendas, mixed with the growing globalisation of markets and cross-border movement of skilled labour, brought returnee entrepreneurship to the forefront of development in numerous countries, such as China, India, and Taiwan (Hugo, 2011; Kenney et al., 2013; Tsai, 2017). However, while the existing policies to attract returnees have primarily used formal institutions and economic incentives (Qin and Estrin, 2015), many developing countries, specifically those with large diaspora, are yet to take RE to the next level and assign it challenging roles in development and nation-building processes. In this regard, Ojo (2017) reiterated the need for greater appreciation of this actor in developing countries and recommended receiving countries to implement aggressive and ambitious policy actions.

China has perhaps benefited from returning to entrepreneurship more than any other country, thanks to its policy of attracting the global Chinese diaspora. In the Malaysian context, focused in this study- RE is barely seen in the current entrepreneurship discourse. To the best of our knowledge, no single study has addressed Malaysian returnee entrepreneurs. What is found in the existing literature on this matter are merely short narratives describing the intention of Malaysians to return and start a business after accumulating sufficient financial resources (Lam and Yeoh, 2004; Koh, 2014). In Yeo's (2016) doctoral study, for instance, it was highlighted that Malaysian migrants in Australia usually visit Malaysia for business or leisure. Unfortunately, this study did not provide details on the scope and nature of businesses (immigrant businesses).



The lack of research in the field of RE in Malaysia substantiates previous observations on the absence of research related to different forms of cross-border phenomena that directly or indirectly relate to entrepreneurship, such as immigrant entrepreneurship and students enrolled overseas (Mosbah et al., 2018a; Mosbah and Kalsom, 2018; Mosbah et al., 2019). Overall, three reasons may explain why RE is absent from the agendas of both policymakers and researchers: RE is a relatively new phenomenon in both practice and research (Bai et al., 2017). Second, policymakers may have not been provided with sufficient evidence on the socio-economic potential of returnees since not much has been written about it. This situation has left many important unexplored aspects (Wright, 2011; Issifu, 2018). Third, perhaps because of the absence of mediatic roles in showing the economic potential of technology returnees.

As Malaysia attempts to shift its economy to being more reliant on technology and innovation (Mohammed et al., 2018), the success of this aim requires heavy reliance on high-skilled talent. Returning talent can undoubtedly lead to creative technology solutions. Therefore, the current study attempts to highlight the potential of Malaysian returnee entrepreneurs and apprise policymakers to leverage its role in technology entrepreneurship.

Therefore, in this study, we build on the learning economy theory to propose a relevant approach likely to help boost the development of technology returnee entrepreneurship in the country. The paper will emphasise the Chinese model to draw lessons and propose ways for Malaysian policymakers to strengthen it. We assume that replicating the Chinese model of returnee entrepreneurship, with all the necessary adjustments, will allow Malaysia to attract its diaspora and enhance its contribution to entrepreneurship capacity. Malaysia shares two key socioeconomic commonalities with China. First, there is a considerable native Chinese community in Malaysia, which represents 22.8 per cent of the population composition (Department of Statistics, 2019). This community dominates the private business sector (Abdullah et al., 2015) and can serve as a bridge to technology transfer from China and business networking with the global Chinese diaspora. Second, as emerging economies, Malaysia and China are nearly at a similar stage of development, with their economies recording good growth rates and relying substantially on exports. Both countries display economic opportunities to attract returnees (Ahuis et al. 2017).



2 METHOD

The current paper adopts a narrative review approach to recommend a framework of actions on building a technology-based returnee entrepreneurship capacity in Malaysia. Narrative reviews analyze existing knowledge and evidence on a particular issue, they are flexible, and allow researchers to gather, evaluate, interpret and synthesize the findings to answer certain research questions. The methodology of the current paper starts with an overview of returnee entrepreneurship, the returnee entrepreneurship policy in China with its outcome, as well as the current states of affairs in the Malaysia context. It then presents the Chinese model of developing returnee entrepreneurship. In light of the learning economy theory, the study then explains how a well-adjusted replication of the Chinese strategy could be implemented in Malaysia. Although the study focuses on Malaysia, this learning approach would also benefit other developing countries to initiate, implement, and monitor an impactful returnee entrepreneurship in the technology sector.

3 THEORETICAL FRAMEWORK

The learning economic theory emphasizes understanding the fundamental concepts and principles of economics and provides a basis for analyzing and interpreting various economic phenomena including businesses particularly with reference to the allocation of resources. Therefore, this theory involves economic knowledge and learning, and perceives knowledge as a crucial resource and learning as the most important process (Lundvall and Johnson, 1990). According to Bell (1984) and Ernst and Lundvall (1997), a learning economy and capability formation help accumulate technological capacity in developing countries and foster industrial upgrading. However, while economic success depends on the learning ability of firms, industries, industrial districts, and the whole economy, the efficiency of learning, as an interactive and socially embedded process, depends on governmental policies, institutional setup, technology level, and innovation system (Almrshed et al., 2023; Chantes et al., 2023; Ernst and Lundvall, 1997; Storper, 1995). Given the availability of various forms of economic learning, this study adopted a restrictive approach based on intra-country or regionally adjusted replication.



3. 1 RETURNEE ENTREPRENEURSHIP IN A NUTSHELL

Returnee entrepreneurs can be defined as people who return to their country of origin and start new businesses after settling overseas for some time as workers, students, or trainees. One of the main features of returnees is their embeddedness in a dual context which provides numerous benefits. However, to date, research on returnee entrepreneurship has focused on the technological sector (Ahuis et al. 2017; Mosbah and Daghbir 2017; Mosbah et al. 2018b). This is partly because of the low entry barriers in highly growing markets for investing in technologies, such as IT (Ahuis et al., 2017).

Research findings have generally granted appreciation to returnee entrepreneurs because of their contributions to their countries of origin. This contribution takes several forms, including the acceleration of developmental processes in high-tech sectors (Kenney et al. 2013). Returnees also act as knowledge brokers in conducting innovation and the transfer of knowledge (Filatotchev et al., 2011; Wang, 2015), and participate effectively in building entrepreneurship ecosystems from a multi-level perspective (Liu, 2017; Xiang et al., 2018). In China, Returnees were found to have introduced new management styles and innovative financial approaches, profoundly influencing the entrepreneurship landscape (Wang and Bao, 2015).

Although some researchers argue that the strength of returnees is predominantly attributed to their international experience and overseas education (Kenney et al., 2013), human and social capital (Ma et al., 2019; Li et al., 2012) and learning (Liu et al., 2015) are crucial to the performance of returnee-owned firms as well. Research comparing returnee businesses to their local counterparts offers remarkable findings on their behaviour and performance. In fact, the empirical support for returnees' outperformance arguments is not in short supply. Bai et al (2017) observed a positive association of the international experience of returnee entrepreneurs with commitment to international market and the internationalization level of their firms. Similarly, Dai and Liu (2009) found that due to strong technological and commercial knowledge and transnational orientation, returning firms in Zhongguancun Science Park in China outperform firms owned by local entrepreneurs. In the context of business uncertainties, Liu and Almor (2016) concluded that entrepreneurs' involvement in the international environment allows them to better understand and react to the different facets of uncertainty. However, despite the advantages of overseas education and work experience, many returnees lack local knowledge and connections (Li et al. (2012).



3.2 RETURNEE ENTREPRENEURSHIP IN CHINA: STRATEGY AND OUTCOMES

China has adopted an aggressive policy to attract and involve its skilled diaspora in country development using different means, including entrepreneurship (Chen, 2008). In part, this policy emerged in response to the observed contributions of diasporas worldwide to host economies. Hugo (2011) highlights three stages of the Chinese diaspora policy. In the 1980s and 1990s, the so called “huiguo fuwu” initiative targeted skilled expatriates who wanted to stay overseas after graduation and tried to persuade them to return and serve the country. An updated view was embraced at the turn of the century. This new view was articulated in the term “weiguo fuwu” and urged ‘flexible mobility’ instead of permanent return. Current policies, however, encourage the Chinese diaspora to develop and maintain various types of relationships with individuals and institutions in China from their base overseas. These shifts in policy priorities show the flexibility and pragmatism in the way China wants its diaspora to contribute to the country. This is partly because many Chinese emigrants find it better to serve from their positions overseas, while many others may have assimilated Western culture (see, for example, Liu and Almor, 2016).

The key to China’s technological transfer and development is Beijing Zhongguancun Science Parks (ZGC). This Park is the largest hub for semiconductor, computer, and telecommunication firms in the country, comprising both domestic and foreign companies (Tan, 2006). The policy emphasis on attracting Chinese returnees aims to accelerate the industrial development of ZGC Park (Chen 2008). Park adopted a reverse-brain drain policy and aggressively attempted to attract Chinese returnees to establish technology start-ups aimed at stimulating the market economy (Wang et al., 2011; Wright et al., 2008). According to official Chinese statistics the number of Chinese talents overseas between 1978 and 2009 reached 1.62 million individuals. By the end of 2009, 497.000 students from abroad had returned to China (Ahuis et al., 2017). Until recently, the ZGC park comprised 26 universities of technology and science and 29 overseas student parks and is home to most China’s leading internet companies and 98 branches of Fortune 500 companies (Tsai, 2017). About 13,000 new start-ups were launched in the park in 2014 alone, and there are also over 6,000 enterprises employing more than 18,000 returnees and 1,090 high-end foreign talents (Liu, 2015). By 2008, there were around a thousand R&D centres established by multinational firms in different high-tech clusters in which experienced Chinese returnees held key positions. Equally



important, the potential for cooperation between MNCs' global innovation networks and Chinese regional innovation capabilities is eventually more promising (Chen, 2008). According to Fung et al. (2016), government support, spinoffs, and the agglomeration effect are among the ZGC-positive attributes of growth.

China's technological philosophy, as seen in the ZGC, shapes many of the characteristics and scope of involvement of returnee firms. These firms display behavioural patterns dissimilar to those of their counterparts in Taiwan, India, and other Asian science and technology parks. For example, in terms of sectorial concentration, Indian REs tend to target the global outsourcing niche, whereas Taiwanese REs are apparent in the manufacturing and hardware sectors. On the other hand, Chinese are active in the local Internet and ICT sectors, media, and biotechnology (Fung et al., 2016; Ahuis et al., 2017; Tsai, 2017). The sectorial specialisation of Chinese REs is determined by the synergy between the global environment and local circumstances (Zhou and Hsu, 2011).

Against arguments pointing to the fact that the effect of brain circulation on the reciprocal industrial upgrading of the Hsinchu (Taiwan) and Silicon Valley cases has not been visible in ZGC (Chen, 2008) one can argue that the “international circulation of talent” as indicator does not solely gauge the effectiveness of technology parks. Indicators, such as technology transfers, patents, and innovation, may be more important. In fact, the internationalisation of Taiwanese firms, particularly with the US, is seemingly impacted by geopolitical conditions, whereas the domestic focus of Chinese firms can be explained by the size of local demand. Recent evidence on the growing international role among returnees' firms seems to suggest that the limited internationalisation capabilities noticed by Chen (2008) have been overcome (see. e.g Bai et al., 2017). Furthermore, for returning firms that do not bring the latest international technologies, some experts argue that it is not necessary for returnees' firms to bring the latest or state of art technologies, but it is sufficient to bring technologies that are needed in China to help modernise the country's technological, scientific, and economic systems (Zweig, 2006). Overall, researchers tend to appreciate the realities and outcomes of Chinese returnee entrepreneurship within and outside the ZGC. Wang et al (2011, p. 131) summarizes the involvement and impact of Chinese returnee business very well:

“... overseas students are not only serving China from abroad or by returning, but after they return, they play a leading role in many aspects of China's 'going out' strategy. Returnee entrepreneurs present many advantages to the Chinese economy. They have studied at the best universities in the world, are deeply involved in the New Economy, and have



gained valuable experience in listed companies overseas. They often possess venture capital, many have experience working with some of the best MNCs in the world, and they serve to contribute enormously to China's current economic engagement with the world"

3.3 MALAYSIAN DIASPORA AND THE INSTITUTIONAL EFFORTS FOR ITS RETURN

The World Bank (2011) estimated Malaysian diaspora at 1 million worldwide as of 2010, one-third of which has tertiary education and falls under the brain drain category of the World Bank. This diaspora is ethnically skewed and geographically concentrated, with around 57 per cent (mostly dominated by the Chinese ethnicity) settled in Singapore, and the rest spread across Australia, the United Kingdom, Brunei, the United States, and the Philippines (Hugo, 2011; World Bank, 2011; Fleming and Soborg, 2012). To attract talented Malaysians from abroad, the government implemented three programmes (Rasiah et al., 2015). The first scheme was approved in 1994 to attract Malaysians from abroad as well as foreign scientists to work in Malaysia in sectors identified as a priority. The second scheme was launched in 2001 and was supported by incentives such as tax exemption, exemption from import tariffs of two personal cars brought from overseas, and granting permanent resident status to spouses and children of foreign scientists. For different reasons, these initiatives were not successful in bringing back Malaysian talent, while in some other instances, several foreign experts left Malaysia because of various problems (Thiruchelvam and Kamarul; Rasiah et al., 2015). To enhance research and development capabilities, a similar role was assigned to the Ministry of Science, Technology, and Innovation (MOSTI) which introduced policies for overseas Malaysians to materialise joint venture initiatives with local universities and laboratories ready to hire overseas Malaysian scientists (Koh, 2015).

The third initiative was implemented under the New Economic Model of 2010 which granted due consideration to innovation as a key instrument for transforming Malaysia into a high-income nation by 2020. However, political development and ethnic constraints appear to have restricted the restructuring process and prevented the government from integrating brain-gain plans with technological catch-up programs (Rasiah et al., 2015). In 2011, the Talent Corporation (TalentCorp) was established as an agency of the Ministry of Human Resources. TalentCorp targets global talent (Malaysian students and professionals) by increasing awareness of career possibilities and business opportunities in Malaysia, supporting business and training collaboration, and expediting



the returns for those who want (Koh, 2015). It also provides incentives in terms of taxes (Del Carpio et al., 2016). This young agency is yet to achieve a major impact. A World bank study conducted by Del Caprio et al (2016) for the purpose of examining how acceptance to the Returning Expert Program affect the probability of returning found that the approval in the program increases the return probability by 40 percent among applicants who have pre-existing job offer but has no significant effect on applicants without a job offer in Malaysia. In summary, it seems that the nature and outcomes of these efforts are mitigated by a variety of push and pull factors within and outside Malaysia.

4 DISCUSSION: THE WAY TO BUILDING AN EFFECTIVE TECHNOLOGY-BASED RETURNEE ENTREPRENEURSHIP CAPACITY: LESSONS FROM CHINA

We argue that the success of the Chinese returnee entrepreneurship model can be beneficial to emerging countries, particularly those sharing similar socio-economic traits with China, such as entrepreneurship ecosystems, globally embedded educational systems, and technological infrastructures. Therefore, the Chinese model of returnee entrepreneurship deserves close consideration from the Malaysian perspective. Malaysia has made efforts to upgrade the economy into a knowledge-based one. However, despite the government's endeavours to implement different policies and various state-led programs that have relatively driven entrepreneurial activities to be technology-oriented (Abdullah, 2009), these efforts and their outcomes remain insufficient for at least two reasons. First, Gross Expenditure on Research and Development (GERD) remains low compared to other East Asian countries such as Korea, Japan, Taiwan, India, Singapore, and China (Yusof et al., 2014). Second, technology and entrepreneurship related programmes like Master of Science Technopreneurship are falling short in fulfilling their objectives as many graduates appear to be unable to turn their IT skills and business knowledge into business ventures (Abdullah et al., 2008).

Thus, we contend that Malaysia's strategy, aimed at building an effective technology-based returnee entrepreneurship that helps in technology upgrading and transfer and aspires to reach a knowledge economy, must comprise three elements: infrastructure, training, and support. Having an advanced science and technology park capable of acting as an institutional intermediary is a priority. At this particular point, we



find it relevant to draw upon the recommendations of Fung et al. (2016) expressed in other contexts. That is, if Malaysia aspires to upgrade its development and strengthen its technological capacity, it must establish a major science park and support it with important research institutes. Science parks are arguably meant to compensate for a lack of knowledge of the local context by legitimising returnees to obtain public resources (Armanios et al., 2017).

One remarkable feature of this hub is its ability to accommodate research centres and state-of-the-art laboratories linked with local universities and embedded internationally to absorb Malaysian talent overseas as well as foreign scientists. In the context of this argument, we believe that the capacity and strength of the existing Multimedia Super Corridor (MSC) need to be boosted to serve this purpose. This could be achieved by enhancing the participation of large domestic and multinational firms with new companies in new corporate venturing and innovation programs and favouring the development of innovative ideas as well as the integration of these firms within global value chains (Kantis et al., 2020). However, despite the progress achieved by MSC towards attracting talent and industry and transforming the country economy into a knowledge-based one, the corridor seems to have faltered on the entrepreneurial aspect (Ramasamy et al., 2004). Hence, resolving this shortcoming must be considered a top priority given the pioneering role that small firms are expected to play in the economy.

Furthermore, given their status and role in knowledge building, universities and research laboratories are part of the infrastructure capacity and appear to act crucially as training hubs. Universities and research labs must be empowered to assume challenging roles in supporting the strategy of building technology-based entrepreneurship, including returnees' ventures. To this end, we recommend the realisation of important events. First, given the observations made by Abdullah et al. (2008) and others, which indicate a case of unappreciated outcomes (Shahali et al., 2017), there is a need to identify the reasons for such outcomes and establish efficient mechanisms capable of ensuring improved outputs among graduates. The outputs in question should fit market requirements and emphasise technology- and science-related disciplines. Many scholars have also pointed to STEM education (Science, Technology, Engineering, and Math) as lacking quality and research integration in the country, and have suggested approaches to reinforce it in schools and universities (Shahali et al., 2014, Shahali et al., 2017). Specifically, Bunyamin and Finley (2016) recommend that policy makers in Malaysia revise the



national science education philosophy and prioritise engineering design in teaching and learning to stimulate creative thinking skills.

The second role relates to collaboration with the industry -specifically, with new technology firms- to conduct applied research. This would help firms solve encountered problems and boost their innovation prospects but also provide students with opportunities and challenges to put their theoretical knowledge into practice. China, for instance, is considered the most developing country that has embarked upon building its research universities (Chen et al., 2016), with fast-growing university-industry joint efforts for technology transfer (Miesing et al., 2014). Empirical evidence from China indicates that university science parks boost the performance of returnees with commercial experience abroad (Wright et al. 2008). In Malaysia, Salleh and Omar (2013) advised universities to play a proactive role in this collaboration and believed that university/industry interaction will bring tremendous opportunities to all parties.

The third role is to enable universities to build, maintain, and strengthen their formal and informal connections with Malaysian students overseas. The importance of this feature method has been emphasised in many studies. According to Chen (2008), informal and personal ties are key to mobilising resourceful alumni-student-scholar ties. Empirically, Qin and Estrin (2015) found strong evidence of the effect of peers on the likelihood of returnee entrepreneurship based on datasets of a top Indian university. In both Beijing and Bangalore, entrepreneurs draw on school- and work-based networks, whether domestic or international (Tsai 2017). The network capacities linking universities to diaspora enable overseas individuals to keep abreast with updates in the country. These events need to be supported with further collaboration with Malaysian postgraduate students overseas who can undertake active responsibilities in various research projects, particularly the unique ideas that require multidisciplinary skills in their execution.

Similarly, providing necessary support is equally fundamental for talents' returns and the launch of impactful businesses. Support, as we see here, must be delivered by the government or its representative bodies through three different roles: (1) understanding the drivers or motives of return, (2) creating a conducive institutional environment, and (3) financial support. Umar (2013) shares the same view respect to the fact that support from government agencies, academics, and policymakers is critical to the survival and sustainability of new and small technology-based firms in Malaysia. Ideally,



understanding the factors that could drive migrants to return is likely to facilitate their return and business creation. According to Koh (2017), the reverse brain-drain policies implemented by Malaysian policymakers have not addressed the central issues that led to outmigration. As people vary in their motives for migration and return, Malaysian and Chinese students migrate with different return intentions. While some evidence proposed that career opportunities, family ties, and quality of life are major factors in the decision to return (Wadhwa et al., 2011), comprehending the relationship of returnees' expectations and the "reality" of the homelands' economies and societies remain decisive to their successful settlement and entrepreneurial engagement (Ojo, 2017). Similarly, it was indicated that the concerns among Malaysian overseas students who plan to return and work in Malaysia include a lack of practical skills relative to their local counterparts, language difficulties, incompatibilities in the field-related communication skills across cultures, fear of inability to adapt to the work culture related to task, supervision, and working hours (Chur-Hansen, 2004). It is worth noting that while the aforementioned factors impede the return of Malaysians in general, they directly apply to prospected returnees with entrepreneurial intentions.

Lin et al. (2016), found a positive effect of international knowledge transfer on returnees' decisions to become entrepreneurs. However, what is relevant to the current argument is the idea that this impact strengthens in the case of a positive perception of supportive policies for returnee entrepreneurship in the home country but weakens when there are perceived difficulties in readjusting to the prevailing norms and cultural values. Similarly, returnees' human and social capital acquired overseas may be a misfit with the business environment in the home country (Ma et al., 2019). This is primarily true for those who live overseas for extended periods of time as this becomes a serious barrier to business formation. Zhou et al (2016) found that REs' specific human capital leveraged from their 'host country experiences', increases business opportunity identification whereas the general human capital leveraged from both the home country and the host country assists in the formation of new firms and exploitation of opportunities. This may explain why returnees are slower in new venture entry in the home country than in local entrepreneurs (Qin et al., 2017). However, recent evidence from the field of Chinese university entrepreneurial culture acknowledges that the length of stay abroad may lead to a reverse impact. That is, returnee academics with overseas Ph.D. degrees were are likely to start new ventures than their peers with shorter postdoc experience from abroad



(Lai and Vonortas, 2021). This finding may be explained by the relationships these students maintained with their supervisors and peers at the university level. The importance of this idea has been highlighted above.

In addition, a conducive institutional environment is most likely to have a positive impact on entrepreneurship in general, particularly on the return prospects of emigrants and the likelihood that they will start new ventures. Recently, Gruenhaen (2021) found that the perception of a healthy institutional environment promotes returnee entrepreneurship, and that easy access to support is likely to lower estrangement, a factor that impedes the intention to create businesses in the home country. In Malaysia, efforts have been made to form an institutional framework that supports entrepreneurship, as well as the acquisition and transfer of technology (Ahmad et al., 2020; Salleh and Omar, 2013). This has resulted in the significant influence of government institutions on entrepreneurship, particularly in the case of entrepreneurship education (Looi and Maritz, 2021). However, despite existing improvements, shortcomings still prevail; therefore, additional policy interventions and affirmative programs to stimulate entrepreneurship must also be implemented. The study by Abd Rahim et al. (2021) in the academic entrepreneurship field indicated modest rates of start-up creations, patents, and licencing but highlighted the vital role of institutional support in the commercialisation of research outputs from universities. Therefore, it is equally important that we recommend that all institutional initiatives aimed at improving the business environment -especially those designed for returnees—be accompanied by effective campaigns to create awareness among returnees. This is because awareness and knowledge of existing initiatives and support mechanisms can affect attitudes (Jaffar and Musa, 2013). Awareness in the context of the current discourse remains very important, as many Malaysians living overseas continue to share an outdated understanding of the sociopolitical situation (Azman et al., 2016).

Third, given the role of shortage in business resources and their likelihood to cause failure among SMEs (Chak, 1998), the financial aspect is always invoked in entrepreneurship and small business research as critical to business survival or failure. It is clear that the lack of or insufficiency in financial assets prevents many people from aspiring to become entrepreneurs to materialise their business ideas and impede the growth of many businesses. Conversely, it has been found that easy access to financial resources facilitates tangible and intangible assets brought from abroad into sustainable



business pursuits (Issifu, 2018). In Malaysia, the estimated failure rate of SMEs is 60% (Maryam et al., 2018). However, despite the establishment of many financial bodies, such as the SME Bank and SME Corporation, to provide financing assistance and development expertise to small and medium businesses, these institutions are blamed for their focus on existing businesses without offering specific or tailored products to aspiring and returning entrepreneurs. Among prospected returnees, however, the need for financial capital exacerbates among (STEM) students because of the lack or sufficiency of savings and the high costs of investment in technology industries.

Thus, as highlighted earlier, one of the key features of Chinese parks is the application of innovative financing methods. Similar approaches can be considered in Malaysia to improve the overall entrepreneurship ecosystem. In this aspect, we outline the importance of the following two actions: First, there is a need to tap into additional methods and institutions to assure adequate financial support to this segment of the entrepreneur. This includes the use of Islamic financial products such as Murabaha (profit-sharing financing), Musharakah (equity capital financing), Ijarah (Islamic leasing), Istisna (Islamic manufacturing), and Al-qard Alhassan (interest-free credit) (Antara et al., 2017), which represent alternative innovative methods powered with flexibility and end result in the ownership of assets that are just for entrepreneurs (Saad and Razak, 2013). Second, the inclusion of returnees with impactful technology-related business ideas in existing financial schemes or, better, the creation of specific financial institutions solely in charge of technology start-ups.

In essence, we argue that these three elements must be considered in any policy action or strategy aimed at attracting returnees in the local business world in general, and in the technology sector in particular. Malaysia has a wide diaspora settled in the east and west, with great potential to contribute to economic development and the nation-building process.

5 CONCLUSION

In this study, we discuss the issue of technology returnee entrepreneurship in Malaysia, a concept that refers to people who return to their countries of origin and start technology businesses after settling overseas for some time as workers, students, or trainees. To date, this phenomenon has not captured the attention of policymakers or researchers in the country. Therefore, we advocate for more consideration of immigrant



inflow with entrepreneurial capabilities, particularly among returnees who have considerable potential to add knowledge transfer and the development of key technological industries. By discussing the Chinese model of attracting and supporting technology-related returnee entrepreneurship, we recommend that Malaysian policymakers build their strategies to attract returnees on three pillars: infrastructure, training, and support, with primary emphasis on the establishment of advanced science and technology parks, university-industry linkages, university-overseas-student ties, conducive institutional framework, financial support, and understanding return motives and conditions. Among returnees who have successfully owned businesses overseas, the role of policymakers must uncover the conditions supporting them to possibly replicate venture success in the home country. This category of returnees could be of great interest to policymakers not only because of their ability to apprise about the best institutional, legal, and administrative practices prevalent overseas but also to assist the implementation of these practices so as to foster the entrepreneurship ecosystem at large.



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