UPSKILLING AND RESKILLING THE WORKFORCE VIA INDUSTRY DRIVEN TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING: STRATEGIES TO INITIATE INDUSTRY/INSTITUTION PARTNERSHIP IN MALAYSIA

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ABSTRACT

The advent of the Industrial Revolution that swept the region has not spared the Malaysian business landscape. This has compelled industries to produce a highly skilled workforce to promote knowledge-based skills in various sectors in Malaysia. Anticipating this change, the Malaysian Government initiated the Technical Vocational Education and Training (TVET) program to address the issue during the early '90s. However, the current highly pedagogical supply driven TVET system has not addressed the need to effectively upskill and reskill workforce talents to achieve maximum productivity. Hence, this study, which is grounded on empowerment theory, aims to develop mechanisms to skew the path towards industry driven TVET by adopting heutagogical approaches that promote lifelong and independent adult learning.

The study will be executed using sequential exploratory design (mixed method) beginning with qualitative research followed by a quantitative study by collecting samples via stratified random and proportional sampling techniques whereby the research framework will be developed to provide the government policymakers with an impetus to formulate relevant strategies that forge the collaboration between the industry and academia.

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INTRODUCTION

The Malaysian government has been persistently devoted to developing vocational training institutes since post-independence years (Abdul Aziz et al., 2008). Kenayathulla et al. (2019) stressed that while striving to achieve the status of a developed nation, Malaysia is in need to restructure and re-evaluate its human resources to ensure that workers are highly skilled due to the constant changes of the business landscape and requirements of jobs. Having said that, there is a necessity to expand student enrolment in TVET in order to support the government’s demand to produce medium and high-skilled workforce under the Malaysian Economic
Transformation Program (Bank Negara Malaysia, 2013). Currently, only 25% of the workforce has graduated from the said program (11th Malaysian Plan, 2016-2020) and the objective is to achieve 35% enrollment to the program to be at par with academic and professional graduates (MoF, 2015). On a larger scale, TVET is paramount in national skills and capacity building. However, it takes on a myriad of forms and policies from one nation to another because, the role of TVET is molded by historical, fiscal environment, cultural and social factors that influence how TVET systems functions based on the populations that it serves (Stuart, 2012). World Bank (1991) suggests the reasons that TVET serves as a precursor to raising income level through employment for those who are unemployed while reducing or banishing poverty altogether.

This study is affiliated with the 11th Malaysian Plan 2016-2020 and the Malaysian Education Blueprint 2015-2025 which focuses on accelerating human capital development for an advanced nation via mainstreaming and broadening access to quality TVET programs. Besides that, the Malaysian Education Blueprint also highlights the foundations for TVET to achieve the eminence in education pathways that provides employment opportunities, splendid career choices and further education prospects. The government continues its agenda to produce recruits furnished with the right knowledge, capabilities, and way of thinking to endure the globalized economy. Nonetheless, the current economic revolution that is altering the Malaysian business landscape finds that TVET institutes find themselves inadequate to meet the industrial demands. Grounded on the Empowerment theory, this study focuses on the formation of strategies centered on heutagogical approaches intends to examine the scenario in Malaysia which is troubled by the scarcity of skilled workforce.

Referring to the current rates of TVET graduates, institutes are capable to supply only 1.2 million graduates of the initially targeted 1.6 million to the industry, noting that there is a supply and demand gap of 400,000 graduates until the year 2020. The TVET system in Malaysia appears to be supply-driven while employing a pedagogical or more precisely an academic based teaching-learning experience which does not befit the industry prerequisites exactly (Ismail & Abidin, 2014). Via this study, there is a need to identify factors that can stimulate industrial sector in Malaysia to expand their involvement in TVET partnerships and also to formulate strategies to accelerate partnerships to explore short, medium- and long-term benefits while inculcating heutagogical approaches among learners. At the end of this inquiry, we aim to confirm that mentoring collaboration positively contributes to the successful fulfilment of technical and vocational requirements for the industry which is initiated through heutagogical approaches.
LITERATURE REVIEW

EMPOWERMENT THEORY

The study would view the research through the lens of Empowerment Theory by Perkins and Zimmerman (1995) which discusses the partnership between a learner and the teacher where the teacher takes the role of collaborators instead of commanding authority. When this happens, the learners are prompted to take ownership of their learning experience. Empowerment is seen as a process, where power or authority is developed, facilitated or "secured" with the resolution of enabling individuals or groups to (1) accelerate their resources (2) Improving self-esteem; and (3) Building the ability to be self-sufficient in psychological, sociocultural, political and economic situations (Staples, 1993). Empowerment has been a topic of conversation for a long time but gained popularity around the 1980s where it prompted task-based participation and attitudinal engineering (Wilkinson, 1998). Empowerment is understood as an active, involvement driven process whereby participants or groups have a stronger grip on the direction of their lives, acquire a certain amount of rights and tone down the marginalization (Maton, 2008).

Individual empowerment creates a reservoir of community potential. Therefore, Tuuli (2011) observes that empowerment has been long promoted as an important element in closing the emerging power-gaps, limiting powerlessness, and stimulating the performance of individuals and teams. Strengthened partnerships will help alleviate poverty by reducing labor and skill mismatch (Randill et al., 2018). Increased skills formation will allow trainees to engage themselves in income-generating opportunities, which may include both employment by the industry and self-employment. Malaysia too has joined the chorus to embrace empowerment, particularly within the youth sector as youths are in need to inculcate a sense of empowerment to contribute towards civic revolution efforts in order to mature as a democratic community (Krauss et al., 2014).

INDUSTRY-INSTITUTION PARTNERSHIPS

In today’s scenario, decisions pertaining TVET initiatives and implementations are determined by officials within various ministries and education administrators based on continuing approaches limiting the roles assumed by industry players to drive TVET activities (Chin & Menon, 2018). Although this issue has been reported time and again on various platforms, a practical solution has yet to emerge to remedy the situation. Hence, there is an urgent necessity to develop mechanisms to shift from being supply-driven to demand-driven to upskill and reskill workers through life-long learning to complement the need for the highly skilled workforce (Kazmi, 2012). Partnerships among industry and institution to a certain extent will be cost-efficient while the mission to retain skill will be easier (Bridgeford & Aman, 2017). Collaborations could get skills formation flexible in order to survive the rapidly changing global economy and technological innovations (Mandvivalla et al, 2015).
However, partnerships could fail due to differing interests pertaining to the student’s or employee’s career projections. Therefore, partnerships require well-defined roles and mechanisms for coherent cooperation and substantial effort on the part of government, educators, and trainers (Taylor, 2006). This study will establish pertinent possibilities to forge a partnership between educational institutions and the industry.

Once again, guided by the 11th Malaysian Plan, industries and TVET providers should work closely together across the entire value chain beginning from student enrolment, curriculum design and delivery right up to job placement. The German TVET system has been deemed successful, as many countries have now somewhat or rather implemented the system to their education plans whereby, there are opportunities for a student to even achieve his/her PhD later on, even if they hail from TVET background (Surendran, 2018). Having stated the above, the economy will require additional workforce which is equipped with the necessary skills and knowledge to support and accelerate the economy. The twelve National Key Economic Areas (NKEAs) are expected to produce up to 3.3 million new careers. Based on the Education Ministry’s Malaysia Education Blueprint (Higher Education), there will be an increase in demand for an additional 1.3 million TVET workers identified under the government’s Economic Transformation Program (Mustafa, 2018). Nevertheless, historical trends project that there may be hurdles for the current TVET sector to meet the needs of a high-income economy. Public institutions such as polytechnics, colleges, vocational colleges, and other higher learning institutions are only able to accommodate about 230,000 students (Daily Express, 2019).

One of the concerns of the public institution offering TVET courses is cost. Atchoarena and Delluc (2002) regard the need for expensive equipment, facilities, and teaching materials as one reason for the high cost of TVET. TVET fund allocations are insufficient to leverage and the public TVET institutions be are short funded as institutions are expected to do more with less budget allocations spending more on operations and development (The Star, 2019). It continues that fund inadequacy in institutions will result in incomplete training due to absence or without the appropriate equipment that will prevent trainees from obtaining hands-on experiences and will result in impractical and inapplicable skills acquisition. Secondly, lack of continuity in tertiary education is also a matter of concern because contrary to general education producing general human capital, TVET is in nature specific because it sets its primary goal as providing trainees entering the job market right after completing skill-training courses with job skills. The former is transportable across one’s life as well as from job to job and thus more suitable to the flexible labor-force that can change task and even the type of work, while the latter is not portable, but enables workers to acquire specific job-relevant skills which are to a great extent helpful for them to secure a given job as well as to be more productive in their jobs (Tilak, 2001).
Yet, as technology develops rapidly, skills that we thought could stand the test of time may become easily outdated. UNEVOC (2006) referred to TVET as “a range of learning experiences which are relevant to the world of work and which may occur in a variety of learning contexts, including educational institutions and the workplace”. Middleton and Demsky (1988) claimed that criticisms that technical and vocational education has led to limiting the volume of training provided by public institutions and shifting the responsibility of providing initial vocational training to enterprises and private institutions. The case in Malaysia is that TVET has always been labelled as ‘low class’ that only dropouts and the misfits of the society would pursue (The Borneo Post, 2019). This stigma has led to a loss in popularity particularly in public institutions. This situation can be remedied with partnerships with the industry. Taylor (2006) understood that partnership is generally considered dependent on new public management approaches, which emphasizes on alliances, collective responsibility, heightened transparency, and accountability for results.

Tessaring and Wannan (2004) further added that “workplace partnerships are an innovative way to link companies and develop regional innovation centers, including vocational schools and higher education”. Besides, partnership programs aid in making companies remain relevant in a competitive marketplace, by widening the means of employment opportunities for employees, and in relaying communication between employers and TVET providers (Hawley, 2006; Van Horn & Fichtner, 2003). There are also noticeable differences in interests and perspectives on the focus and objectives of TVET between the industry and the government administering TVET. Yamada and Matsuda (2007) pointed out that “within its implementation of education and training, the government have a tendency to act in a top-down fashion driven by suppliers while making little progress in collaboration of division of labor with the private sector”. At times, the rigidity of the government procedures, which runs opposite to rapidly changing technological environment, likely creates a shortage of skills demanded by the labor market. In addition to that, the government-owned institutions are inclined to become obsolete, lack cost-consciousness resulting in inefficiencies, insulated and insensitive to market forces (Johnson & Adams, 2004). A demand-oriented approach is one following economic demand whereby the industry is primarily concerned about upgrading the skills level of their workforce to increase their productivity and capacity for innovation. Taylor (2006) pointed out that “employers have been concerned about poaching externalities and are not willing to get involved in a system that they see as over-regulated and inflexible”.

Industries should be allowed to participate in the process of curriculum design and the evaluation of education and training. It should be ensured that the needs of the industry will be manifested in the training content in order to keep the training content from being obsolete (Raihan, 2014). Likewise, the curriculum design should be flexible and determined on demand basis of labor market-oriented approach which aims at cultivating workforce with learning ability in industrial settings. The industry needs
to be regarded as an active participant or a supervisor in the process of TVET (Affero & Hassan, 2012), not just demanding a skilled workforce, providing financial support, or hiring trainees. The industry must recognize that TVET is an investment with enormous beneficial returns. By investing in vocational training in both initial and continuing stages, generates substantial gains for business organizations in terms of increased productivity, profitability, wider market share and enjoy greater stock market value finally leading towards healthy competitiveness (Tessaring & Wannan, 2004).

**Heutagogy**

The study would adopt the heutagogical approach. The term heutagogy is referred to as “Self” in Greek (Hase & Kenyon, 2007). The core idea of heutagogy is derived from the study of self-determined learning which has turned out to be a widespread favorite technique to be used in various platforms, especially in the higher education sector (Canning, 2010). In heutagogical studies, the concept of learning is more inclined towards the learner’s motivation where the learner is prompted to research their subject of interest completely based on their learning philosophy. Mentorships appear to be one of the key elements to successful learning (Snowden & Halsall, 2016). Kram (1983) defines mentors as individuals who intervene and support individuals who lack experience in any context ranging from their personal issues, social issues or even their professional development issues. Heutagogy, as a framework for self-determined learning, clearly re-configures the contemporary learning landscape, incorporating a distinct shift from lecturer-led to student-led learning, determining how what and when learning takes place (Alred & Garvey, 2000). This study argues that self-determined learning approach is a redevelopment and reconstruction of andragogical principles that shifts towards heutagogical learning, which will in return enhance the learning experience for students and communities in response to rapidly developing higher education and societal landscape. It is recently explored that, in applying heutagogical principles the learner should be able to grow with space and be an “architect” of learning by enabling them dynamic curricula that are community and group-centred.

**Methodology**

To realize the objective, this study will adopt a sequential exploratory design. The data felicitation will be conducted in two phases. In the first phase, a qualitative study will be gathered to identify the variables involved in TVET education. Once the variables have been determined, the second phase will be followed by a quantitative method to develop a model for testing.

During the first phase, data collection will involve key stakeholders within the TVET industry such as policymakers, industry players, vocational students, and their institutions. To gather their inputs, in-depth interviews will be conducted with the aforementioned groups to identify emerging the pattern or themes from a real-life
scenario, other than what has been reviewed from the literature. The interview will run simultaneously with thematic analysis until maximum capacity is reached. Once the desired saturation is achieved, these themes will be a vital aspect of the model and the survey questionnaire that will be developed for the second phase of the data collection process.

Once the first phase has been satisfactorily reviewed and completed, the second phase involves the inclusion of quantitative study to facilitate the data collection process. In this phase, stakeholders closely related to TVET will be identified and have questionnaires administered to them. As the questions raised mostly involves industry participation in TVET activities and policymaking, they are identified as the unit of analysis. Stratified random and proportionate sampling methods will be used to determine the research sample of this study. Previous literature and data gathered from phase 1 will be used to develop the questionnaire which will then be pilot tested to confirm the validity.

As for the data analysis, the PLS-SEM 3.0 software will be used to examine the model to assess the convergent and discriminant validity which will then be followed by the structural model to investigate the strength and relationship between the theoretical constructs. To ensure that the hypothesis testing is reliable and valid, the statistics for each hypothesis should fulfil the criteria as recommended by Fornell and Larcker (1981) that all indicator factors loading should be significant and exceed 0.5 - Construct reliability (Cronbach Alpha) is expected to exceed 0.7 - Average Variance Extracted (AVE) by each construct should exceed the variance due to measurement error for the construct.

CONCLUSION

The output of the study will be an instrument to implement long-term sustainable education policies towards lifelong learning to achieve the aspiration of the Malaysian Education Blueprints 2013-2025. This blueprint aims to enhance the access and the quality of existing education pathways, beginning with vocational track, design and delivery of curriculum championed by industry and via a partnership with TVET institutions and the government besides strengthening public-private partnerships to promote the relevance and quality of TVET while placing renewed prospects for women, youths and marginalized groups, enshrined in the Malaysian 11th Plan. As for academics and researchers alike, this study will prompt new ideas and knowledge into this new growing phenomenon and its effect on technical and vocational education and boost entrepreneurial activities in the country.

Most importantly, this study benefits tremendously to the industry as will urge employee to develop and groom themselves to contribute to the overall organizational effectiveness. In other words, its benefits employees by developing the acquiring skills set that are needed crucially to drive productivity not only in organizations but in the nation as a whole. On the organization level, it will create a positive environment
resulting in increased job satisfaction and represent a relevant input for the hiring and retention policies of an organization’s human resources.

As for the government, this study aims to address the aspiration in the 11th Malaysian plan and the Education Blueprint towards increasing entrepreneurial activity and hence the productivity of the industries in Malaysia to register a significant contribution towards the country’s development, addressing the nation’s employment and economic issues. Besides that, the results from this study are also expected to influence and chart the course of drafting the 12th Malaysian plan to uplift the status of the society and nation towards a middle-class society. The industry championed syllabus will also allow the students to have access to a variety of innovative, industry-led programs that better prepares them for the workplace. This will help to improve the resilience level of the employees to face challenges posed by the micro and macro environment, thus improving the total performance level of the organization and ultimately the nation. The study could also be used as a benchmark for further study and development of programs to support the well-being of the society at large.

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