

# INCREASING TECHNOPRENEURS FOR A DEVELOPING A NATION: THE MAJLIS AMANAH RAKYAT (MARA) EXPERIENCE

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## **ABSTRACT**

*Prevalence of advanced technology necessitates a change in the way people do businesses where technology. Techno-entrepreneurs are those who have technopreneurship skills where they operate businesses by optimising the use of technology to innovate new products and services. Technopreneurship is a process of merging technology prowess with entrepreneurial talent and skills. Thus, developing technopreneurship skills (to increase technopreneurs) is becoming an important goal of TVET in Malaysia. Majlis Amanah Rakyat (MARA), being a statutory agency and the largest in the Ministry of Rural and Regional Development, plays a dual role in education and entrepreneurship development. In line with its tagline "Entrepreneurship and Global Education", MARA has been successfully implementing its education transformation in TVET in line with the country's economic direction. MARA synergizes entrepreneurship and vocational training with the aim to create 'glocal' technopreneurs. The aim of this study was to identify the factors that contribute to the success of MARA in transforming into an effective agency in providing Technopreneurship Development initiatives and programs. Literature study was the main method used to gather information. The findings indicate that the success of the agency in increasing the number of technopreneurs was made possible through a well formulated and implemented strategic plan. Among the strategies adapted is the establishment of an Incubator, MARA Technopreneur Program, Tech-Entrepreneur Program (PU TEK), Innovation and Research Unit (UNI), International Relation Unit, and MARA Cooperation Alumni graduate TVE institutions (KALAM). Through their implementations, MARA has supported Malaysian demand for technopreneurs.*

**Keywords:** *Technopreneur, MARA, strategic plan, Technical Vocational Education & Training (TVET)*

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## 1. INTRODUCTION

Technopreneur is an entrepreneur who is technology savvy, creative, innovative, dynamic, dares to be different, takes the unexplored path and is very passionate about his/her work (Nasution et al. 2007). Individuals who possess technopreneurial traits take challenges and strive to lead their life with greater success. The personality traits of technopreneurs include not having fear to fail, taking failure as a learning experience, and adept at looking at things differently, and always looking for the next challenges (Cereijo 2002; Depositario et al. 2011). Technopreneurs operate business differently from those in the existing economic order by optimising the use of technology to innovate new products and services. The implication of this is a creation of new forms of organizations and the exploitation of new raw materials. Technology is not only about *hi-tech* or of technical matters, but it can also refer to human applications of useful knowledge that can benefit the community (Drucker 1985; Ibrahim et al. 2015). The combination of technology and entrepreneurial skills will produce a technopreneur. Technopreneurs simply means that a person who uses technology as part of their business model. Technopreneurs involve people who make or found their own technology-based business by recognizing the opportunities and organizing the resources (Ibrahim et al. 2015; Yudha 2010). Meanwhile, technopreneurship is a result of the synthesis and re-engineering process in the future by combining the know-how in technology and entrepreneurial skills to create a new and versatile business model. According to Cereijo (2002), technopreneurship which merges technology prowess and entrepreneurial skills becomes the real source of power in knowledge-based economy. Thus, Nasution et al. (2007) argued that developing technopreneurs is highly demanded in the present economic order.

## 2. PROBLEM STATEMENT

Technopreneur is identified as skilled human capital development mechanism that can spur the economy of a country (Bieh 2012; Bon 2010; Jusoh 2006). However, the development of technopreneurs requires a longer process involving the commitment of many parties. Government intervention involved in the development of policies is vital to boost the kind of technopreneurship that is capable of producing technopreneurs that can meet global requirements (Abdul Hamid et al. 2003; Yusoff 2010; Yen & Chong 2007). Educational policies in Malaysia are designed and coordinated by the human capital needs of this country (Idris et al. 2014; Ahmad 2012). The economic development policy is formulated to enhance the potential to generate higher income economy, to create more productive job opportunities with greater added value and to increase the number of new companies that are supported by advanced technologies (Ibrahim et al. 2015). In line with such aspirations, TVET sector has been identified as a career path that is right for nurturing technopreneurs (Majumdar 2013; Adegbe & Aji 2012). TVET graduates are expected have the capability to generate their income through job creation rather than employment seeking. Thus, technopreneurs - the expected output of TVET – are the ones who will support the economy through their contributions to the small and medium industry growth (Depositario et al. 2011; Rosly et al. 2015; Jusoh 2006). However, the development of technopreneurs incurs high financial costs for a government sector to undertake by itself, and

collaborations with private sectors is proposed to reduce the financial burden (Musa et al 2009; Tambunan 2009; Mujani et al. 2012). Thus, the task of developing technopreneurs is in need of a transformational leadership who can draw talents and establish working relationships between scientists, academics, engineers, entrepreneurs and others in the business sectors (Okorie et al. 2014; Paulsen et al. 2012).

## **2.1 Purpose of the study**

This research examines the role of MARA as the largest agency in the Ministry of Rural and Regional Development (MRRD) that is involved in the development of technopreneurships in Malaysia. The aim of techno development through TVET sector is for the target group to fulfil the current demand for human capital contribution towards the nation's economy. Specifically, the objectives of this research are to: i) identify the policies involved in the development of technopreneurs in MARA, ii) explore career paths in producing technopreneurs and iii) identify the strategies implemented by MARA to establish cooperation with various ministries, agencies, institutions of higher learning and the private sector.

## **3. METHODOLOGY**

This study is a library research type based on literature reviews, obtaining and synthesising data, and information from research findings of past research. Analysed documents include local and foreign journals, reference books, reports, proceedings, dissertations, theses and project papers. The researcher analysed, synthesised these secondary findings and made them more meaningful for the purpose of the research topic.

## **4. FINDINGS**

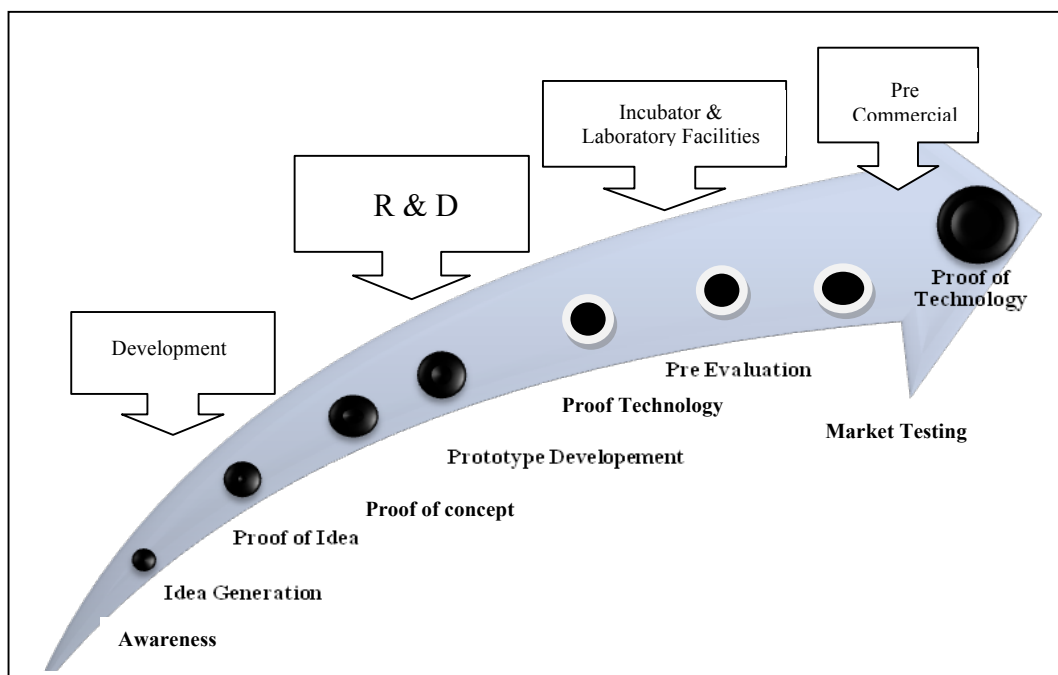
### **4.1 Technopreneurial development in MARA**

MARA is a large agency and possesses a variety of functions to meet the social, economic and political needs in Malaysia. The researchers likened MARA as '*a large shopping emporium,*' and the customers will not be asked "*what do you want?*", *instead they would be getting a question from the emporium owner, "what is something worthwhile that we can offer you?."* MARA that has once been in the existence of the Ministry of Entrepreneur and Cooperative Development (2004-2009) actually begins with the political objective of defending the nation for the indigenous *Bumiputera* Malaysia. (Dora 2010: Nik Taib et al., 2004; Abdul Kader et al., 2009; Deraman et al. 2007: Begam 2013). It is well known that MARA has the executive powers, funding, assets and a great influence on the people of Malaysia since independence until now. Among the main objectives of MARA, then, were to develop successful and innovative entrepreneurs who are empowered with global human capital and integrity, which in return, contribute to greater equity ownership and facilitate the delivery system.

Technopreneur development forms part of MARA's responsibility which begins in the 9th Malaysia Plan (2006-2010). MARA's collaboration with the Ministry of Science, Technology and Innovation has provided the opportunities for policy-making and planning for the development of technopreneurs in Malaysia (Deraman et al. 2007; Bon 2010). MARA defines entrepreneurship as the application and use of technology expertise in the production of products, services, business management and business-related decision-making. MARA Strategic Plan (2011-2015) has set a target to groom 40,000 new entrepreneurs in the next five years. MARA Annual Report (2013), highlighting the development of entrepreneurs by 25,831 people, that is achieving 64.6% in the last 3 years. In the same period, MARA has also been able to extend financing to 8,005 businesses and entrepreneurs to establish a total of 128 in the Big Groom Entrepreneur Program which include the Corporate Entrepreneurs, Techno's, Retailers, Entrepreneurs, Manufacturing and Construction Authorities.

Government policies that form the basis of the implementation of the MARA Technopreneurship Program are i) National Industrial Master Plan ii) National Science and Technology Policy, iii) *Bumiputera* Commercial and Industrial Community Basics, iv) National Key Economic Areas and v) Economic Transformation Plan (Portal MARA, 2015). MARA focuses on biotechnology, agro-technology, high-tech production, communications, content and infrastructure, green technology, nano technology and light emission and other strategic new and emerging areas. Figure 1 shows the Technopreneur development pathway by MARA, involving nine stages namely, idea generation, idea screening, concept testing, business analysis, prototyping, test marketing, commercialization, monitoring and evaluation. Referring to the Roadmap, MARA has provided opportunities, training, infrastructure facilities, R&D, consulting, valuation and commercialization product for each stage of preparation in becoming a successful technopreneur.

The pathway is in line with Drucker's view of (1985) technopreneurs' role as agents of economic growth. However, the development needs of technopreneurs by MARA are beyond that as MARA has been entrusted to meet the requirements to elevate *Bumiputera* economic status to be at par with other races that are dominating the existing economy in Malaysia in addition to the need in fulfilling the national human capital needs. Due to the importance of technopreneurship skills, the teaching of it have been entrusted to higher education institutions such as universities (Bon, 2010) to support economic development, the development of individual skills, enhance understanding of the business world, increase competition among institutions and to enhance competitiveness among TVET institutions under MARA.



Source : Portal MARA 2015

**Figure 1: MARA Technopreneur Development Pathway**

Table 1 shows the number of TVE institutions throughout the country under the governance of MARA which indicate a significant contribution by MARA in terms of skilled human capital. MARA is also supported by 23 companies and 27 commercial training services companies. Among the active commercial companies where MARA is directly involved in the development of technopreneurs is the Glocal Link (M) Sdn. Bhd. (GLSB), Design Development Centre Sdn Bhd (DDEC) and Furniture Industry Technology Centre Sdn. Bhd. (FITEC). Glocal Link (M) acts as a marketing agent for *Bumiputera* entrepreneurs to promote their products to local and global markets. DDEC is responsible for supporting product designs such that they will have value for local and international markets. Initiatives undertaken by the DDEC are Brand Development Program, Corporate Identity Development and Marketing Development Kit which enables local SMEs products to obtain certification standards and the design of commercial and branding. MARA 2013 Report, shows that DDEC has assisted 3,223 entrepreneurs via 92 programs. Special program known as *Make Your Mark* has assisted 50 SMEs in the business logo design, packaging design, company brand logo and trademark registration and lab test registration.

**Table 1 : Statistics of MARA TVE Institutions Services and Training**

| Institutions Technical & Vocational MARA (IPMa) |     |                                       |    |   |    | Services and Training   |
|---|-----|---------------------------------------|----|---|----|---|
| Certificate Level                               | No  | Diploma Level                         | No | Degree Level  | No |   |
| <b>Giat MARA</b>                                | 245 | Kolej Kemahiran Tinggi MARA (KKTm)    | 11 | Universiti Teknikal MARA Sdn. Bhd. (UniKL)                | 13 | <ul style="list-style-type: none"> <li>• Design &amp; Development Centre Sdn. Bhd. (DDEC)</li> <li>• F.I.T. Center Sdn. Bhd. (FITEC)</li> <li>• MARA Excellent Ventures Sdn. Bhd. (MEX)</li> <li>• Institute Infotech MARA Sdn. Bhd. (IIM)</li> </ul> |
| <b>Institut Kemahiran MARA (IKM)</b>            | 13  | Kolej Poly-Tech MARA Sdn. Bhd. (KPTM) | 9  | German-Malaysian Institute (GMI) & Yasayan Pelajaran MARA | 3  |   |

Based on document analyses, the researcher identified seven MARA strategies to strengthen its role in developing the field of technopreneurship in Malaysia that have been implemented through a variety of approaches. The Incubator programs are implemented through an approach embedded in TVET curriculum and program, and the MARA Technical and Entrepreneurial Development Program (PU TEK) is implemented through life-long learning education programs. Additionally, MARA strengthen its existing resources by setting up a Research and Innovation Unit (UNI), International Relations Unit and MARA Alumni graduates (from TVET institutions) Cooperation (KALAM).

#### 4.2 Transformation of TVET in MARA

TVET transformation that was implemented by MARA according to their Strategic Plan (2011-2015) was the starting point to the development of their TVET in a comprehensive manner. Previously, MARA educational policy was focussing on producing academics to meet the professional needs in medicine, pharmacy, sciences, ICTs, economics and engineering. Recognizing the importance of skilled human capital in addition to engineering technologists, MARA has refocused on their planning, allocation, sponsorships and TVET development. Technopreneur development through formal and informal education via life-long learning becomes a major focus in the transformation of their educational provisions. The main goal of educational transformation in MARA is to achieve high-income human capital (Mustafa et al., 2013). The main focus of transformation initiatives that are carried out in TVET under MARA Education Transformation Plan is to achieve global human capital with integrity and innovative capability, creating business leaders, entrepreneurs and professionals across programs from the basic to the advanced diploma certificate (Rasul et al., 2015). The three strategies used to strengthen the MARA's TVET sector are to increase use of technology in TVET, improve education, and increase the quality of scholarships and education. TVET curriculum adopts facilitative approaches such as the Product Base Learning (PBL) that make increased use of advanced technology and entrepreneurial skills to support the development of technopreneurs.

Technopreneurs are developed as a result of the application of creative and innovative thinking. According to Rosly et al. (2015), the tendency of a person to be involved in technopreneurial pursuits is influenced by their creativity. Thus, the transformation plan for MARA's TVET includes fairs that celebrate creative students which are embedded within a creative and innovative curriculum. There are other ideas on the transformation of an innovative new product that is the result of a leadership style to lead an organization. More transformational style of leadership might promote the level of innovation (Paulsen et al. 2013). Transformational leadership style can influence outcomes and processes not only to produce innovative products but also team members will enjoy being part of the implementing transformation. The researchers postulate that to have produced the global technopreneurs such as characterized by MARA, they must have had transformational leadership at the helm in addition to using creative and innovative strategies.

#### **4.2 MARA Technopreneurship Program**

MARA Technopreneurship Program is a mechanism used to increase the capacity and capability of small and medium enterprises (SME), and large enterprises through the cooperation between the MARA Intelligent Technology Friends with Public and Private Higher Education Institutions, Government Agencies and Corporate Technology Providers or private sector with expertise in research and strategic technology. The selection of Technology Friends is based on the expertise and experience of the target organizations / agency in producing diverse applied technology based products and services. This includes expertise in Research and Development (R & D), the ability to produce commercial prototypes, producing products of high market value, competent staffing, and the potential for long-term business and new areas. Existing MARA Intelligent Technology Friends consists of four public universities and two private universities in Malaysia, five research agencies and two state-owned foreign institutions namely, the Academic Leather Technology Yogyakarta, Indonesia and the *Institut Teknologi Bandung* (ITB), Indonesia (MARA Portal, 2015)

MARA Technopreneurs Development is conducted through two main programs Undergraduate Techno Entrepreneurship and Strategic Technology Program Improvement. The Techno Master Entrepreneur Program is a partnership with the Universiti Utara Malaysia, Universiti Teknologi Malaysia and the Management Science University. Participants are provided with academic knowledge, learning supports, practical exposure through the concept of teaching factory and the involvement of industry, through the concept of "mentoring". The duration of study for students in universities is for 2 years or 4 semesters. Participants who pass and meet the stated requirements will be awarded a Master of Technopreneur.

Strategic Technology Enhancement Program is executed through a joint venture with a private agency namely SIRIM Berhad, Agricultural Research and Development Institute of Malaysia, Universiti Putra Malaysia, Multimedia Development Corridor, Healing Chamber of Asia Sdn. Bhd. and Melaka Biotechnology Corporation. Technopreneur development is through technological guidance in the form of practical and theoretical knowledge, technical consulting, product design and development, facilities and support for research, space technology incubators, attachments, business consulting, promotion and marketing and entrepreneurship training. The

program is implemented via module for duration of one year and participants who pass are awarded the Certificate of Proficiency. In 2013, MARA has achieved 141.7% of the targeted technopreneurs as compared to the target of 355 persons for the year (MARA Report, 2013).

### **4.3 Incubator**

The incubator is an approach through TVET curriculum based on two core businesses of exhibiting and entrepreneurship education. The program applies the values of entrepreneurship from the SME and the trainers who are involved are skilful. The goal of the program is to expose the real business world to trainees. Incubator Program is an alternative for coaching Semester 3 students, either by attending practical in the related industry or business. The program comprises a maximum of three trainees for a technical business projects and in cooperation with BKT, MARA Entrepreneur Development Division, MARA commercial company and the Standards and Industrial Research Institute of Malaysia. Incubator programs are being implemented within 1 to 3 years. The business premises are provided by MARA. Instructors or Coaches were awarded capital, entrepreneurial training, advice and technical guidance by supervisors consisting of technical instructors and development officers who serve as mentors.

### **4.4 Technical Entrepreneurial Development (PUTEK)**

PUTEK conversion strategy is to make those who have the technical skills to become entrepreneurs. PUTEK was first implemented in 1996, the first year of the 7<sup>th</sup> Malaysia Plan (RMK 7) to increase the number of technopreneurs in Malaysia (MARA Portal 2015). MARA's current goal is to actually expand its role in the development of technopreneurs among graduates of TVET institutions in Malaysia i.e., to include the National Youth Skills Institute, Industrial Training Institutes and Polytechnics and universities. Technical priority areas identified are electrical / electronics, automotive, tailoring, Welding and Metal Fabrication, Motorcycles, Mechanical, Aluminium Technology, Baking and Computer and Communication Technology. PUTEK scheme offer training facilities, equipment and machinery rental facilities, financing, facilities, consulting and coaching, monitoring and follow-ups to assess progress. The MARA (2013) Report indicates that MARA has developed 160% more technopreneurs than the target set of 100 people for one year through the PUTEK programs.

The prerequisite for these PUTEK program are very basic making it achievable by many youths. Besides being in the 18-50 years old range with Basic Skills Certificate, those having a working experience in the field and high entrepreneurship characteristics are invited to apply. For those in the electrical field, the applicant must have a Certificate of Competency issued by the Energy Commission. Participants in the program must attend four phases:

- **Phase 1** - Formation Course for Entrepreneurs, organized by around specific training modules for a period of 15-20 days.
- **Phase 2** - The participants of the program will start preparing / planning to start a business such as having a place of business, capital, licensing, equipment and machinery. Preparatory period not exceeding one year after the training.



- **Phase 3** - MARA will make an assessment of the progress, problems and achievements of the participants through a program of monitoring and follow-up which will be carried out within 3 years after participants start a business.
- **Phase 4** - entrepreneurs need to be independent and manage their own businesses and MARA will continue to engage with participants to encourage the "alumni" of fellow participants.

#### **4.5 Establishment of a Research and Innovation (UNI) Division**

The Research and Innovation (UNI) division was established in 2011 to focus on research and innovation for MARA. The objective is to realize the Strategic Transformation Framework through four main activities to increase research capacity and to be innovation-driven, to promote innovation projects, to manage intellectual property and commercialization as well as to communicate information. These activities attempt to create innovative new ideas primarily in four main areas, entrepreneurship, human capital, investment and organization. According to Maroto and Rubalcaba (2012), R & D program is essential for public sector oriented business. This is because the key dimension of the public sector performance should be the capacity to transmit public R & D efforts into private investments and the capacity of public funding in to enhance innovation and the economic system.

Research and publications carried out is based on innovation. The selected internal and external panel of researchers who meets the criteria set are offered the MARA Research Grant Scheme. In 2013, only a total of 52 grants were issued with an allocation of RM 2,302 million to meet the needs for development studies or research on MARA prototype development (MARA Report, 2013). Two journals were published; the MARA International Journal of Education and Training which is expected to spread and share research and development information nationally and globally.

Recognizing the importance of creative thinking in shaping the entrepreneurial mindset, UNI initiates programs to help people to be more creative. A creative person is someone attempting to influence a person's susceptibility involved in the field of technopreneurship and able to trigger innovation (Depositario et al. 2011; Maroto & Rubalcaba 2012; Paulsen 2013). Thus, with the goal of creative thinking and innovative culture, UNI sub Committee set up the MARA Innovation Drives (KPIM) for coordinating and monitoring innovation projects that are initiated and run by the sub-divisions within MARA. The KPIM's formation is expected to promote and implement a culture of innovation as the norm among citizens working in MARA. Activities such as "*Creative Talk*" and "*Best Idea of the Month*" was organised to cultivate creative and innovative thinking culture. UNI also coordinates and organizes competitions in innovations and document all activities related to innovation and commercialization. The 3i Networks strategic alliances (industrial, institutional and international) are constructed with the relevant bodies for the success of the commercialization of an idea, product or new innovative strategic management.

UNI is developing MARA's policies, intellectual property policies, and commercialization process to protect and nurture the creativity and innovativeness of its people. As of 2013, a total of 118 Learning Objects has been registered under the Copyright Act, 20 participations in the MARA Design and Drafting Patent workshop and 5 new logo of premises registered under the Trade Marks Act (MARA Report 2013). It was stated in the 2015 Technical Division Report, that as many as 13 categories of products have been patented in the Malaysia Technology Expo (MTE) and 10 proprietary products in the category during the Industrial Design and Technology Exhibition (ITEX).

#### **4.6 Establishment of International Relations Unit**

The International Relations Unit was established in every part of the educational training in order to realize the goal of 'glocal' techno. This branch is also acting as agents of corporate communications for the part of technical education with outsiders, whether government, private, corporate and international firms. In addition, and International Relations Unit is also responsible for institutional involvement in MARA TVET skills competitions at the institutional, national and globally. This unit is responsible for identifying the competition, supporting the involvement of students or workers, managing provisions, supplies and investments. The unit are in close contact with the MARA UNI for the purposes of patent and commercialize the product.

The competitions that they participated at the national level, include the National Innovation and Competition Through Invention Exhibition (Compex'), Student Innovation & Design Competition, Prime Minister Gold Hand Award, and the Malaysia International Robotic Competition (MIRoC). While their participations in the world level competitions include the Asean Skills Competition (ASC), the 25th International Invention, the Innovation & Technology Exhibition (ITEX) and the World Skills Competition. Among the achievements of BKT MARA TVE institutions only, consisting of participant from the certificate and diploma level students in the skills and innovation competition for 2014 is 16 gold, 13 silver, 8 bronze medals and 4 excellence awards. Achievements for 2015 include 16 gold, 18 silver and 17 bronze medals.

Among other initiatives involving external network that can serve as an example of how the BKT runs the Centre of Vocational Excellence called COVE as a booster to realize goal concerned. COVE BKT MARA is collaborating with the private sector to achieve specialised training, production, projects and services, research & development, entrepreneur development, collaboration and income generation. Table 2 shows the establishment of the centre in MARA technical education institutions by field of expertise.

Other functions of the International Relations External Unit include acting as the coordinator of Overseas MARA TVE Award Program Graduates Scheme (SPC). SPC scheme provides an excellent opportunity for MARA TVET graduates to continue their studies in technical fields abroad. In the year 2013 alone, a total of 38 TVET post-graduate Diploma holders pursuing a Bachelor degree in the United Kingdom and Australia. Meanwhile, 28 people attended a post-graduate certificate program at the IKM Industry Meister Craftsman in

Germany. Recent reports from BKT, MARA has exceeded the target for 2015 of 105% student participation than-expected 60 people for the SPC programs.

**Table 2 : COVE in Technical Institutions MARA by field**

| No | COVE Center   | Institution       | Field            |
|----|---|-------------------|------------------|
| 1  | Additive Manufacturing Research & Innovation Center (AMRIC) | KKTM Kuantan      | Laser Technical  |
| 2  | Calibration Meet MARA (CALMETRA)                            | KKTM Ledang       | Biotechnology    |
| 3  | Plan, Design & Modeling Excellent Center (PDMEC)            | KKTM Kemaman      | Technical Design |
| 4  | International Welding Inspection Center (IWICC)             | IKM Jasin         | Welding          |
| 5  | Advanced Material Processing Center (AMPTec)                | KKTM Masjid Tanah | Plastic          |
| 6  | Mobile Technical Service (MTS)                              | IKM Kuala Lumpur  | Automobil        |

#### 4.7 The establishment of the TVET alumni cooperative

The TVET Alumni Cooperative or KALAM established by MARA was the results of one of the resolutions of the Industry Forum, held in December 2006 in Sungai Petani, Kedah, organized by MARA BKT. The Cooperation was establishment of on March 20, 2008 and the first General Meeting held on 17 April 2008. Registration Certificate Cooperative also entered into by the Malaysian Cooperative Commission on 8 July 2008. The two overarching objectives for the establishment of the pen namely to i) enhance the economic interests of its members in accordance with cooperative principles and ii) collecting former students, former employees of institutions of TVET (IKM / KTM / BKT) to help each other and build business networks throughout the country.

Until now estimated KALAM membership reached 700 members nationwide. Membership is open to all graduates of MARA TVE, lecturers, and staff that have served for a period of five years at least. Basically KALAM membership is made up of MARA TVET technopreneurship graduates. KALAM carry out the functions of investment services made in the sector of supply, maintenance, manufacturing, construction and event management. KALAM is the advantage of networking among techno particularly successful in the business world, jobs for graduates of TVET in the company of KALAM MARA, business opportunities, access to mentors in the business and investment returns *mudarabah* 10-20% per annum depending on the profitability of the cooperative. Annual Alumni Convention activities are conducted that involve all members. The establishment is in line with the recommendations of Abdul Talib (2010), the Creation of Techno Centre (TEC) to carry out activities such as seminars / workshops, building techno system data, consultation and supervision. Study by Wei and Lyndon (2013), found that social networks is capable of maximizing the profitability of the business to help the continuity of the business in the long term. Their finding has indeed been translated into this cooperative establishment.

## 5. CONCLUSION

MARA has the most advantages, as a stable organization with vast and varieties resources to be enriched and strategically manipulated, will strongly and mutually support and later benefit the organization, as well as the country. MARA Strategic Plan is the start of the development of an integrated national technopreneurship plan. The whole organization is geared towards achieving the ultimate goal of generating human capital that is knowledgeable and has the characteristics of global entrepreneurship. Technopreneur development strategies have been successful implemented through the strengthening of formal and non-formal education, research and innovation, cooperation between MARA and external parties, TVET graduates and alumni involvements. Incubator Program and Technopreneur Program is the development strategy of technical entrepreneurs through formal education, while PUTEK program implemented among TVET graduates in Malaysia through education, life-long learning approach, creative thinking and innovative culture. Incorporated into the life and thoughts of citizens through organizational programs that are systematically planned ensure that the mission and vision MARA are internalized and realized. Lessons learnt from the MARA experience can indeed be adopted by TVET providers and agencies globally to initiate their own transformation.

## Reference

- Abd. Hamid, M.A., Othman, M.F., Hassan, Z., & Kassim, O.A. (2003) *Pendidikan Bukan Formal (Pbf) Di Malaysia: Cabaran Dan Hala Tuju Wawasan 2020*. Fakulti Pengurusan dan Pembangunan Sumber Manusia Universiti Teknologi Malaysia. 101-127
- Abdul Kader, R, Mohamad, M.R., & Che Ibrahim, A.A. (2009). Success factors for small rural entrepreneurs under one-district-one-industry programme in Malaysia. *Contemporary Management Research* 5 (2): 147-162.
- Abdul Kadir, Z.B. (2013). The Role of MARA (The Council of Trust for Indigenous People): in Enforcing Affirmative Action in Malaysia. *Academic Journal of Interdisciplinary Studies*. 2(11): 193-202
- Abu Hassan, M., Hassan M.S., & Hayrol, L. D. S. (2009). Problems and Obstacles in using Information and Communication Technology (ICT) among Malaysian Agro-Based Entrepreneurs. *European Journal of Scientific Research* 36 (1): 93-101.
- Adegbe, N. & Aji, M.O. 2012. Technical and Vocational Education and Training (TVET): A tool for poverty reduction and national development. *International Journal of Vocational Studies* 6 (5): 1-11
- Ahmad, H., (2012). *Mission of Public Education in Malaysia : The Challenge of Transformation*. Penerbit Universiti Malaya Kuala Lumpur.
- Ali, A., (2002). Making Education Work : Latin American Ideas and Asian Result edited Castro C. M. & Verdisco E. Inter American Development Bank Washington US
- Bieh, W.H. (2012) Technopreneurship in the globalised world challenges and the way forward. 11<sup>th</sup> International Entrepreneurship forum Kuala Lumpur. 3-6 Sept. 2012
- Bon, A.T., (2010). New Model and Concept for Technopreneurship studies in University Through Excellence Centre. *Persidangan Kebangsaan Pendidikan Kejuruteraan dan Keusahawanan* 25-26 Sept 2010 64-67
- Cereijo, M. (2002). Technopreneurship. [www.amogospaisguaracabaya.org](http://www.amogospaisguaracabaya.org).
- Depositario, D.P.T., Aquino, N.A., & Feliciano, K.C. (2011). "Entrepreneurial Skill Development Needs of Potential Agri-based Technopreneurs", *Journal of ISSAAS International Society for Southeast Asian Agricultural Sciences*, 17(1): 94-109
- Deraman, N., Mohamad, A., Ahmad, S., Bakar, H., Mohd Jani, M.Y., & Hashim, M.K.. (2007). *Keusahawanan*. Selangor: Mc Graw Hill (Malaysia) Sdn Bhd.
- Dora, M.T. (2011). Eradicate urban poverty in Malaysia through entrepreneurship strategies. *International Journal of Humanities and Social Sciences* (2) : 289-296.

- Drucker P.F. 1985. *Innovation and Entrepreneurship*. Amazon. Co U.K
- Hisrich, R.D., Peters, M.P, Shepherd, D.A., (2005). *Entrepreneurship* 6<sup>th</sup> Edition. Singapore: Mc Graw Hill
- Ibrahim, M.A., Abdul Malek, J., & Salman, A. (2015). Evaluating the development of technopreneurs : A case study of PPR Telecenter Jalan Jelatik. *Journal of Social Sciences and Humanities. Special Issue 2*: 157-161.
- Idris, A.R, Ahmad, H., Hussin, S., Ghavifekr, S., & Ibrahim, M.S. (2014). *Analisis Strategik Dasar Pendidikan*. Penerbit Universiti Malaya Kuala Lumpur.
- Jabatan Perangkaan Malaysia. 2009. Perangkaan Sosial Terpilih Trend Sosial di Malaysia Siri 11/2009..
- Jusoh, M.A., (2006). "Role of Technopreneurs in Malaysian Economic", *The Journal of Global Business Management* , Aug 2006, J.G.B.M
- KKLW 2011, Kementerian Kemajuan Luar Bandar dan Wilayah. *Model Baru Ekonomi Luar Bandar*. Putrajaya: Penerbit Kementerian Kemajuan Luar Bandar dan Wilayah.
- Majumdar, S. 2013. Technical and Vocational Education and Training and Skills Development for Rural Transformation dalam Cavanagh, D. Shaw, G. & Wang, L. 2013. Revising global trends TVET reflections' on theory and practice. UNESCO , Unevoc International Center Germany
- Malaysia 2011. Rancangan Malaysia Ke 10 (2011-2015). [www.epu.gov.my/epu-theme/ RMK10/img/pdf/bm/bab4.pdf](http://www.epu.gov.my/epu-theme/RMK10/img/pdf/bm/bab4.pdf) 15/03/2015)
- Malaysia. 2010. Matlamat Pembangunan Milenium Pada Tahun 2010. Unit Perancang Ekonomi Jabatan Perdana Menteri. Kuala Lumpur: Pasukan Pertubuhan Bangsa-Bangsa Bersatu Malaysia.
- MARA (2013). Laporan Tahunan 2013 : Pembangunan Modal Insan. [dokumen.mara.gov.my/.](http://dokumen.mara.gov.my/) (15/03/2015)
- MARA (2013). Laporan Tahunan Annual Report 2013 Pembangunan Modal Insan Human Capital Development Pembangunan Modal Insan Human Capital Development [Http://Dokumen.Mara.Gov.My/](http://Dokumen.Mara.Gov.My/) Laporan %20tahunan%20mara
- Maroto A., & Rubalcaba. L., (2012). *The Role of R&D in Shaping Public Sector Typologies: An European Perspective Modern Economy*. 3: 873-883
- Ming Yen, T.W., & Choy, C.S. (2007). Theorising a framework of factors entrepreneurship and sustainability. *Journal of Asia Entrepreneurship and Sustainability* 3 (2):
- Mujani W.K., Kasri, A., Aziz, A., Ismail, A.M., Muhd Abd Nasir, M.I., Abdul Razak, A.Q. & Yaakub, N.I. (2012). The Role of Government Agencies in Creating a Malay Middle Class in Malaysia. *Advances in Natural and Applied Sciences* 6(8) 1379-1384
- Mustaffa, H., Suradi, S., & Rasul, M.S. (2012). Transformation of public education in TVET : The experience of MARA. *Malaysian International Technical HRD & 9th AASVET Conference* 23-24 October 2013 Riverside Majestic Hotel Kuching Sarawak.
- Nasution A.H., Arifin Noer, B., & Suef, M. (2007). *Entrepreneurship Membangun Spirit Techopreneurship*. Andi Yogyakarta. 269-274. [oneseach.id/Record/IOS1-INLIS00000000118154](http://oneseach.id/Record/IOS1-INLIS00000000118154) –
- Nik Taib, N.M.Z., Ishak, I., & Abd Hamid, T. (2004). The failure of MARA borrower in business and repayment of their loans. Tesis Sarjana. Fakulti Pengurusan dan Perniagaan, Universiti Teknologi Malaysia.
- Okorie, N.N., Kwa, D.Y., Olusunle, S.O.O., Akinyanmi, A.D., & Momoh, I.M. (2014). Technopreneurship ; An urgent need in the material world for sustainability in Nigeria. *European Scientific Journal*. 10(30): 59-73.
- Paulsen N., Callan V.J., Ayoko O. & Saunders D., (2013) Transformational leadership and innovation in an R&D organization experiencing major change. *Journal of Organizing Change Management*. 26(3): 595-610.
- Paulsen, n., Callan, V.J., Ayoko, O., & Saunders, D. (2013). Transformational leadership and innovation in R&D organizational experiencing major change. *Journal of Organization Change Management*. 26(30) : 595-610
- Portal MARA. (2015). Majlis Amanah Rakyat. [www.mara.gov.my](http://www.mara.gov.my) [ 10 Jan 2015)
- Rasul, M.S., Ashari, Z.M., Azman, N., & Abdul Rauf, R.A. (2015). Transforming TVET in Malaysia: Harmonizing the governance structure in a multiple stakeholder setting. In: *TVET@Asia*, issue 4, 1-12. Online: [http://www.tvet-online.asia/issue4/rasul\\_et\\_al\\_tv4.pdf](http://www.tvet-online.asia/issue4/rasul_et_al_tv4.pdf) (retrieved 26.1.2015).
- Rosly, H.E., Junid, J., Mohd Lajin, N.F., Rahim, H.L (2015). The Relationship of Creativity and Technopreneurship Intention. *International Academic Research Journal of Social Science* 1(1): 8-15 [www.iarjournal.com](http://www.iarjournal.com)
- Tambunan, T. (2009). Women entrepreneurship in Asian developing countries: Their development and main constraints. *Journal of Development and Agricultural Economic* 1(2): 27-40.
- Tripney J. S., & Hombrodos J. G. (2013). Technicle and vocational education and training (TVET) for young people in low and middle income countries : a systemativ review and meta-analysis. *Empirical Research in Vocational Education and Training*. [www.envet-journal/content/5/1/3](http://www.envet-journal/content/5/1/3)

- Unit Perancang Ekonomi (2010). Rancangan Malaysia Ke Sepuluh 2011-2015. [www.pmo.gov.my/dokumenattached/TRMK/RMK10-Mds.pdf](http://www.pmo.gov.my/dokumenattached/TRMK/RMK10-Mds.pdf)
- Wei L. J., & Lyndon N., (2013). Jaringan sosial pemasaran pertanian dalam kalangan komuniti Cina di Kampung Baru Tras, Raub, Pahang *GEOGRAFIA Online TM Malaysian Journal of Society and Space*. 9(4): 24 - 34
- Yudha, P. (2010). Utilization of Human Virtual Intelligence Framework in Managing Technopreneur Knowledge. *Jurnal Generic* 2010 : University of Sriwijaya
- Yusoff, M.N.H. (2010). The Government Business Support Services in Malaysia : The Evolution and Challenges in the New Economic Model. *International Journal of Business and Management* . 5(9): 60-71