Key Influencing Factors for Technopreneur Development and Incubation Program

Sahadah Haji Abdullah (PhD), Mohd. Syahrir Rahim,
Universiti Utara Malaysia
First. sahadah@uum.edu.my; Second. syahrir@uum.edu.my

Mohd. Hassan Mohd. Osman (PhD),
Universiti Teknologi Malaysia
Third. m-hassan@utm.my

ABSTRACT

Technopreneurial potential of graduates has become one of the national agenda and has been attracting the interest of policy makers, educationists and development agencies. In Malaysia, the numbers of graduate students participate in technopreneur development and incubation programs (TEDIP) are still far below the expectation and financial allocation by the government. This study aims to identify the key influencing factors among participants to participate and to remain in the TEDIP, also to construct new theories that contribute to the knowledge on technopreneur development (TED). Mix method research was applied in the study. The samples were chosen based sampling frame which comprise Master of Science Technopreneurship participants in Malaysian IHLs for quantitative study; and judgment sampling i.e. government and Malaysian IHLs key informants for the qualitative study. The result highlighted Seven (7) primary factors and Ten (10) secondary factors that have influenced the TEDIP participants to participate, as well as Eighteen (18) primary factors to remain in the program. On the basis of finding, the model developed will hopefully help the TED organization to increase the number of participants in TEDIP. The policy makers and the TED agencies may utilize this result to develop further TED program in the country.

Key words: Entrepreneurship, Technopreneurship, Technopreneur Development and Incubation Program

1.0 BACKGROUND OF THE RESEARCH CONTEXT

Technopreneurship has been identified as vital part of competitive advantages in today's knowledge based economy (Shankar, 2002; NTU, 2007). Since a decade, it has become increasingly apparent that graduates are seriously interested in establishing their own business recently (McLarty, 2005). Academic communities are required to support the development of new products and enterprises through scientific research (Chiriacescu, 2007). In this respect, a major expectation has been placed upon higher education to play a leading role in generating enterprising graduates in general and into self-employment in business in particular. Thus, entrepreneurship education for young people is perhaps the most powerful hint in youth development today. Entrepreneurial potential of graduates also has become the national agenda and has been attracting the interest of policy makers, educationists and development agencies (McLarty, 2005; Malaysia, 2009). Therefore, Malaysian government bodies and local universities have been keen to promote TEDIP and spending enormous sums of time and money trying to develop graduate entrepreneurs. The first Master of Science Technopreneurship program was introduced in 1999. This program is a joint venture program at graduate level education and incubation on ICT Technopreneur between MARA and Universiti Teknologi Malaysia (UTM). The program is known as *SKIT*. With the aims to produce world class ICT entrepreneur, this program focuses on generating ICT entrepreneurs in Software Engineering. In year 2003, second TEDIP known as *Master of Science in Technopreneurship (MOST)* has been introduced by MARA and Universiti Utara Malaysia (UUM). To this date there are Seven (7) cohorts graduated from SKIT and Five (5) cohorts graduated from MOST. The amount of budget allocated by MARA for both programs is shown in Table 1.

Table 1: Investment fund for SKIT and MOST programs

	Complex's physical Infrastructure (RM)	Related ICT Infrastructure and Facilities (RM)	Study Loan Per Participant (RM)	Allowance/ Participant (RM)	Computer Loan/ Participant (RM)
SKIT	3,400,000	1,000,000	29,000	12,0000	5,000
MOST	200,000 (ready building) + 85,000 (renovation)	350,000	26, 920	12,000	5,000

2.0 PROBLEM STATEMENT AND RESEARCH QUESTION

Preliminary study on the government initiative and support shows that the Malaysian government bodies are very keen to promote TEDP by providing multi incentive and spending extensive sums of time and money in developing Technopreneurs among post graduate participants. However, previous observation shows that government support in term of study scholarship allocations was reduced from 30 participants for each batch in each program in 1999 to 20 participants in 2007, and 10 participants in 2010 to present. Initial formal interview with key informant i.e. the government and related IHLs reveals that the reducing number of scholarship allocation and budget for each batch and each program by the government was caused by the decreasing number of candidates applied for the TEDIP. Therefore, to identify issues within the problem, the researchers have proposed a research questions i.e.

1. What are the factors that have influence the current participants to participate in TEDIP in Malaysia?; and
2. What are the factors that motivate the TEDIP participants to remain in the program?

3.0 LITERATURE REVIEW AND RESEARCH FRAMEWORK

Kuratko (2004) believed that an entrepreneurial perspective can be developed in individuals. This perspective can be exhibited inside or outside an organization, in profit or not-for-profit enterprises, and in business or non-business activities for the purpose of bringing forth creative ideas. With the same belief, the Malaysian government has chosen to be open and pragmatic in dealing with changes, and was committed to develop creativity, innovation and entrepreneurship. To encourage the development of technopreneur, the Malaysian's government offers it's full support through various incentives and programs including TED at graduate training and incubation program in Malaysian IHL since 1999. Under a collaborative effort with UTM, the government has developed UTM-MARA Technopreneurs Complex for SKIT program in UTM. To develop more ICT entrepreneurs, the government engaged in a new collaboration with UUM to start MOST program in year 2004. From the review, the researchers found that most of the key components of both SKIT and MOST i.e. teaching factory, industrial internship, incubation process, mentoring, industrial visit, and experiential learning, are recognized by most previous researchers (D'Cruz, Shaikh, and Shaw, 2006; O'Shea et al., 2007; Klandt, 2005) as keys element for entrepreneur development. Some of these key attributes are also familiarly used by other institutions on their TEDIP i.e. Florida Institute of technology (D'Cruz, Shaikh, and Shaw, 2006); San Jose State University (Basu, 2006); Hunter Center for Entrepreneurship (US, 2007); Stanford Technology Venture Program (SU, 2006); Entrepreneurship and Innovation Program, MIT Center for Entrepreneurship (MIT-Sloan, 2007); and National Technopreneurship Center (Tan, Lim, and Toh, 2004) ; and CMI (Acworth B. and Ghose, 2006). However, reducing number of TEDIP participants in both SKIT and MOST from batch to batch has promoted the researchers to study in more detail on the key factors that have influenced the current participants to participate in the TEDIP and motivated them to remain in the program. With prior theorical

knowledge, the researcher has identified Four (4) groups of factors which is match to the empirical observation that might influence the respondents to participate and to remain in the TEDIP i.e the person, internal environment; external environment and implemantation as shown in Table 2.

The 'person' attributes are put into four categories,i.e. experiences (Sternberg, 2004; and Hynes, 1996); self-efficacy (Bandura, 1997; Heinonen and Poikkijoki, 2006); entrepreneurial spirit (Osborne and Gaebler, 1993; Ward and Ward, element2011; Kawasaki, 2011) and skill (Battle, 1990; Patton and Griffin, 1981; Hisrich, Peter, and Shpeherd, 2005). The internal environment element are classified into two categories including: institution environment (Matheson, 2006; and Antonic and Hisrich, 2003); and training environment (Hynes, 1996; and Solomon, 2007; Cruz et al., 2002; Klandt and Muller-Bolling, 1993; Klandt, 2005; Fiet, 2000). Another three (3) key atributes that have been identified from the pretest as essential for the intertenal environment element that might influence the participant to participate in the TEDIP are program information; program contents/modules; and level/type of degree offered. The external environment element are classified into two categories i.e. government support (Malaysia, 2009); and industrial-linkage (Prathaban and Shankar, 2003). Another two (2) external environment elements identified throught the pre-test are family background and socio economy. On implementation element, the research refers to Klein and Sorra (1996) and Klein and Knight (2005) overview since not many prior researches have been discusses on the issue. However, after the pretest and interview with the key informers, only six implementation atributes from Klein and Sorra (1996) and Klein and Knight (2005) will be analyze in this topic since the 'learning orientation' has focused on training environment. In addition, through the pretest and interview with the key informers, the researchers have identified another key element that should be taken into consideration during the implementation process i.e. high turnover of management and culture change. The high turnover of management key element focuses on high replacement of the program management in very short term before the TEDIP participants completed their courses. While, cultural change key element focuses on the issues that argue on the readiness of the program participants to be developed as Technopreneur, and TEDIP management to change from traditional entrepreneurship program management to Technopreneur management.

Table 2: Four groups of key factors which is match to the empirical observation that might influence the respondents to participate and to remain in the TEDIP.

Entrepreneur/ Participant	**Internal Environment**	**External Environment**	**Implementation**
a) Entrepreneiral Spirit b) Experiences • Education experience • Industry experience c) Skills • Interpersonal Skill • Entrepreneurial Skill • Technological Skill • Management Skill d) Self- Efficacy • Leadership • Opportunity obsession • Motivation to excel • Commitment and Determination; • Creativity • Self-reliance • Ability to adapt	a) Institutional environment • Organizational culture • Resource availability • Organizational structure • Intrapreneurship b) Training Environment/ • Teaching Factory/Incubation Process • Faculty/trainer quality • Mentoring/ Coaching • Course structure • Course length *c) Program information* *d) Program Content/Modules* *e) Master Degree Offered*	a) Government support b) Industrial - Linkages • Technological Opportunity • Market opportunity • Business Network Opportunity • Venture capital (Financial assistance during start-up) *c) Family background* d) *Economic condition*	e) Policies and practice f) Organizational climate g) Managerial role h) Financial resources i) Managerial commitment j) Managerial skill *k) High Turnover* ***l)*** *Cultural change*

4.0 RESEARCH METHODOLOGY

Samples of the research were chosen based on judgment sampling for qualitative study i.e. the Malaysian government and IHL key informants for the primarily study to define the research problem; and sampling frame which comprise of Master of Science Technopreneurship participants in Malaysian IHL for both quantitative and qualitative study to identify key influencing factors that encourage the respondents to participate in the TEDIP and motivate them to remain in the program. The quantitative data was collected through electronic questionnaire survey using ShareSurvey software. To ensure the internal consistency reliability of the data, all data gathered from surveys were tested with Cronbach's alpha.

Zorn (2006) stresses out that semi-structured interview is the most useful interview format for conducting qualitative research for in-depth interviews. Therefore, feedback from quantitative study was used to design semi-structured interview form to interview the TEDIP participants for the qualitative study, which can sharpen the clarity of results, strengthen the validity of findings, and enhance the credibility of conclusions. Overall, there are 28 face-to-face in-depth interview; 24 phone interview; and 14 through online SKYPE interview; while other TEDIP participants do not respond to the interview requested by researchers. Results of the study are explained in detail in the next section.

5.0 ANALYSIS AND FINDING

The outcome of the alpha value is at λ=.939. There were two scale types of quantitative data gathered for this research i.e. nominal data and ordinal data. Thus descriptive analyses were used to analyze and summarize data including of frequency distribution and central tendency. Summarization of respondents profile is shown in Table 1.3.

Table 3: Respondents Profile

Characteristics	No. of Respondents	Percent	Characteristics	No. of Respondents	Percent
Gender			**Personal Life Before Joining the TEDP**		
Male	45	46.9	Just graduated & haven't been involved in any business	28	29.2
Female	51	53.1	Fresh graduate & involved in ICT business	16	16.7
Total Number of Respondents	*96*	*100.0*	Entrepreneur with a good none ICT business.	12	12.5
Age Group			TE with a good ICT business.	11	11.5
22-25	19	19.8	Termination of employment.	9	9.4
26-30	37	38.5	Fresh graduate & involved in non ICT business	8	8.3
31-35	25	26.0	I have quit from my business enterprise.	2	2.1
36-40	13	13.5	TE with a good none ICT business.	2	2.1
More than 40	2	2.1	Other	6	6.3
Total Number of Respondents	96	100.0	*Total Number of Respondents*	*94*	*97.9*
			Missing System/ No respond	*2*	*2.1*

Key Influencing Factors to Participate in the Program

The central tendency analysis on key factors which influence participants to participate in the TEDIP is shown in Figure 1. With overall maximum answer at 5.0, the results show that business network opportunity expected through the program is the most influential of all factors with the higher Mean (X= 4.00). In descending order the next influencing factor is entrepreneurial spirit (X=3.77); good market access opportunity expected through the program (X=3.73); self-efficacy (X=3.70); strong

financing support opportunity expected through the program (X=3.69); the master degree offered by the program (X=3.56); contact network/people respondent knows/family (X=3.52); interpersonal skills (X=3.48); program brochure/information (X=3.44); program contents (X=3.41); previous education experiences (X=3.40); management skills (X=3.39); previous industry experiences (X=3.28); entrepreneurial skills (X=3.07); technological skills/special know how (X=3.02); respondent has just graduated and have no plan during that time (X=2.58); and unemployment/ termination of employment (X=2.46). Other factors from Table 2 have been rated at 2.0 and below.

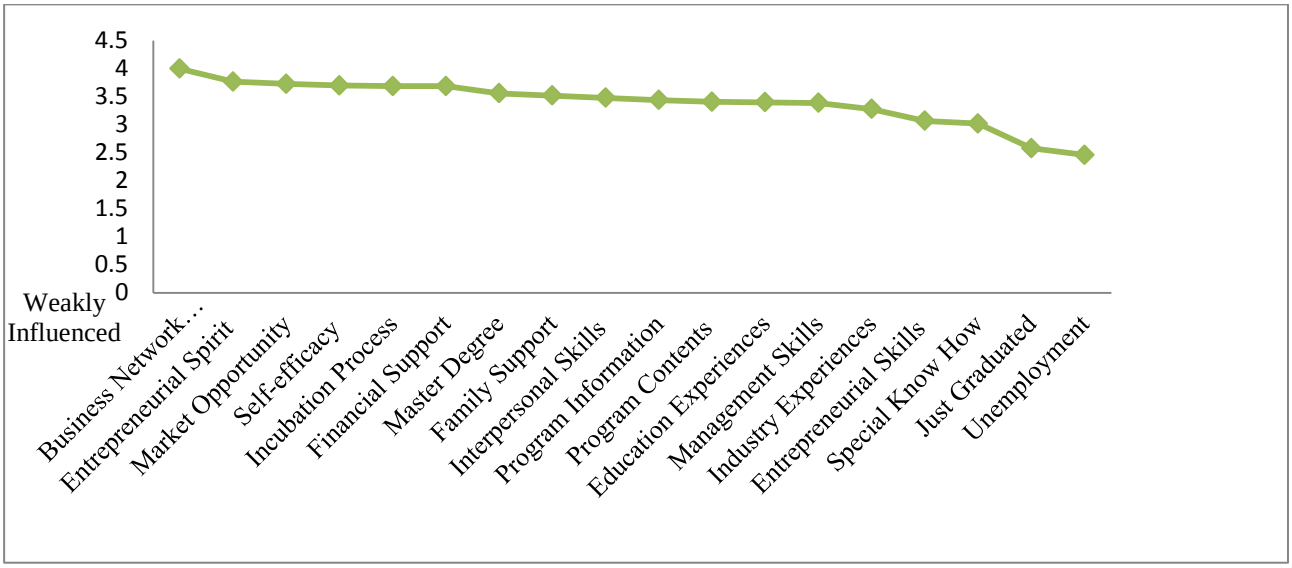

Figure 1: Influencing factors to participate in PTEDP

From both quantitative and qualitative study, the results show that business network opportunity expected through the program is the most influential of all factors which include entrepreneurial spirit, good market access opportunity, self-efficacy, strong financial support opportunity, incubation process, the master degree being offered by the program, and contact network or people know by the respondents. As stated in the literature review, the business network and social or financial resources are important factors in entrepreneurial high tech development (West & Bamford, 2005). Availability of resources, such as time, financial, human and social capital as well as technology are vital for the emergence and development of opportunities (Sanz-Velasco, 2006) which will also support the entrepreneurial behavior (Hornsby et al, 2002). Moreover, self-efficacy has been specifically noted as key predictor of a person's engagement to entrepreneurial activities. This is because people who have higher self-efficacy tend to be more willing to take up challenges and show persistency in dealing with obstacles (Bandura, 1997). They have more competitive advantage and skills that enable them to be more self-reliant, creative, motivated and committed in the endeavor or task they partake (Timmons and Spinelli 2007). Figure 2 shows the primary and secondary influencing factors of TEDIP participation based on respondents' feedback.

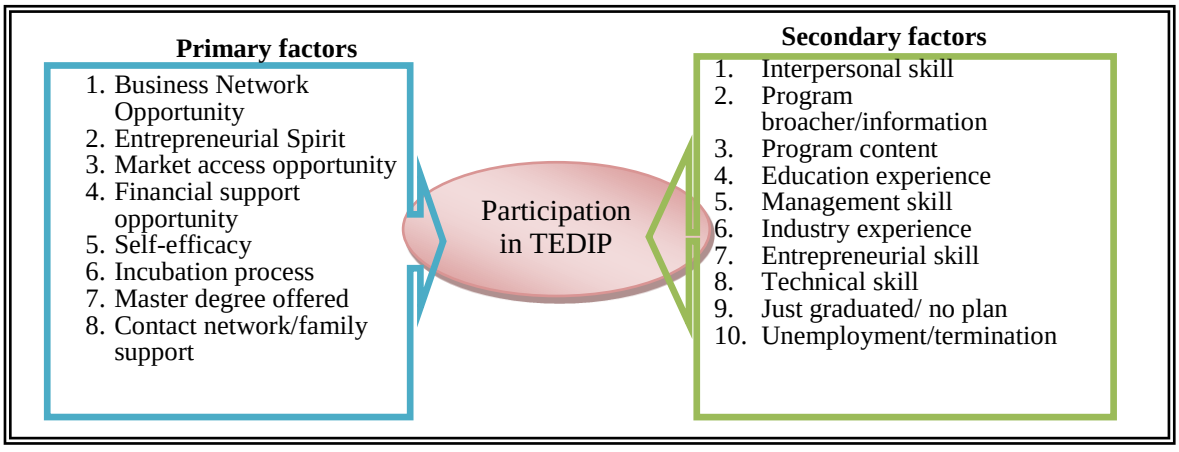

Figure 2: Influencing factors to participate in TEDIP in Malaysian IHL

Key Motivating Factors to Remain in TEDIP

With maximum answer at 5.0 from strongly disagree to strongly agree, researchers found 15 main factors that motivate the participants to remain in the current TEDIP. In descending order the factors are master degree offered with the higher Mean at (X=4.46); motivation to excel (X=4.38); entrepreneurial spirit (X=4.32); opportunity obsession (X=4.18); commitment and determination (X=4.09); business network opportunity (X=3.92); mentoring/coaching (X=3.88); managerial commitment (X=3.72); venture capital/final support/grant opportunity (X=3.66); government support (X=3.62); organizational culture (X=3.58); economic condition (X=3.56); Participant Cultural Change (X=3.52); and Self-reliance (X=3.50); Detail result is shown in Table 4.

Table 4: Motivating Factors to Remain in TEDIP

No	Key Factors	N	Max	Mean	No	Key Factors	N	Max	Mean
1.	Master Degree	96	5	4.46	19	*Program Content/Structure*	96	5	3.28
2.	Entrepreneurial Spirit	96	5	4.38	20	Leadership	96	5	3.26
3.	Motivation to Excel	96	5	4.32	21	Organizational climate	94	5	3.19
4.	Opportunity Obsession	96	5	4.18	22	Ability to adapt	96	5	2.98
5.	Commitment & Determination	96	5	4.09	23	Trainer quality	96	5	2.92
6.	Business Network	96	5	3.92	24	Incubation Process	96	5	2.86
7.	Mentoring/coaching	96	5	3.88	25	Resource availability	96	5	2.83
8.	Managerial Commitment	96	5	3.72	26	Creativity	96	5	2.75
9.	Managerial skill	96	5	3.66	27	Intrapreneurship	96	5	2.74
10.	Grant opportunity	96	5	3.66	28	Top Managerial role	94	5	2.68
11.	Government Support	96	5	3.62	*29*	Policies and practice	96	5	2.61
12.	Organizational Culture	95	5	3.58	30	*Program information*	96	5	2.56
13.	Economic Condition	96	5	3.56	31	Course length (2 years)	95	5	2.52
14.	*Participant Cultural change*	96	5	3.52	*32*	Technological Opportunity	96	5	2.44
15.	Self-reliance	96	5	3.50	33	Mngt Organizational structure	96	5	2.35
16.	*Family background*	96	5	3.42	34	Mgmt Financial resources	94	5	2.25
17.	Participants Experiences	96	5	3.36	35	*Mngt Cultural change*	95	5	2.20
18.	Participants Skills	96	5	3.31	*36*	*Mngt High Turnover*	94	5	1.53

The above finding is transformed into semi-structured interview form for in-depth interview to strengthen the validity of findings, and enhance the credibility of conclusions. From in-depth interview, the result explain several important points that cannot be answered through the qualitative study i.e why the *master degree offered* become the main important factor that motivate the participant to remain in the TEDIP; why *incubation process* and *intrapreneurshi*p which have been identified as key important factors for TED as discussed by D'Cruz, Shaikh, and Shaw, (2006); organization (Antoncic and Hisrich, 2003) and O'Shea et al., (2007) appear as not that important in this study; and why *high turnover* of *management* have been rated below than 2.00. Through pattern matching analysis, the researchers found that majority of the program participants (65%) feel that implementation of the current TEDIP is more concerning on academic rather than practice. Therefore, since they are in the program, the main motivation for them to remain in the TEDIP is to complete the study and get the *master degree*. However, the result also shows that majority of the program participants still have very strong anticipation to build their business network (88%), and to get the government support in term of policy and grant opportunity by remaining in the program (85%). Feedback from the study also shows that entrepreneurial spirit and self-efficacy are listed among the major motivating factors for the participants to remain in the TEDIP. Besides, managerial commitment and managerial skill of those who directly in charge the TEDIP also have been found among the main factors that motivate the participants to remain in the program. However, the feedback from the program participants indicate that the managerial commitment is more likely get

lack of support from the main organization/institution as a whole. On the *incubation process and intrapreneurship*, the result from quantitative study seems to mention that these factors are not important for TED and were rated at only X=2.86 and X=2.74. However, result from in-depth interview highlighted that majority of respondents agree (88%) that both factors are important for TED, yet the implementation of both factors in the current TEDIP is not up to participants expectation. Final finding on *high turnover of management* in TEDIP in IHL and government organization, that has been rated below than 2.0 is also explained. The feedback from in-depth interview highlighted this element has cause uncertain of program implementation; and lack of knowledge continuity in terms program management, role and policy. The finding on key motivating factors that motivates the participants to remain in the TEDIP is shown in Figure 4.

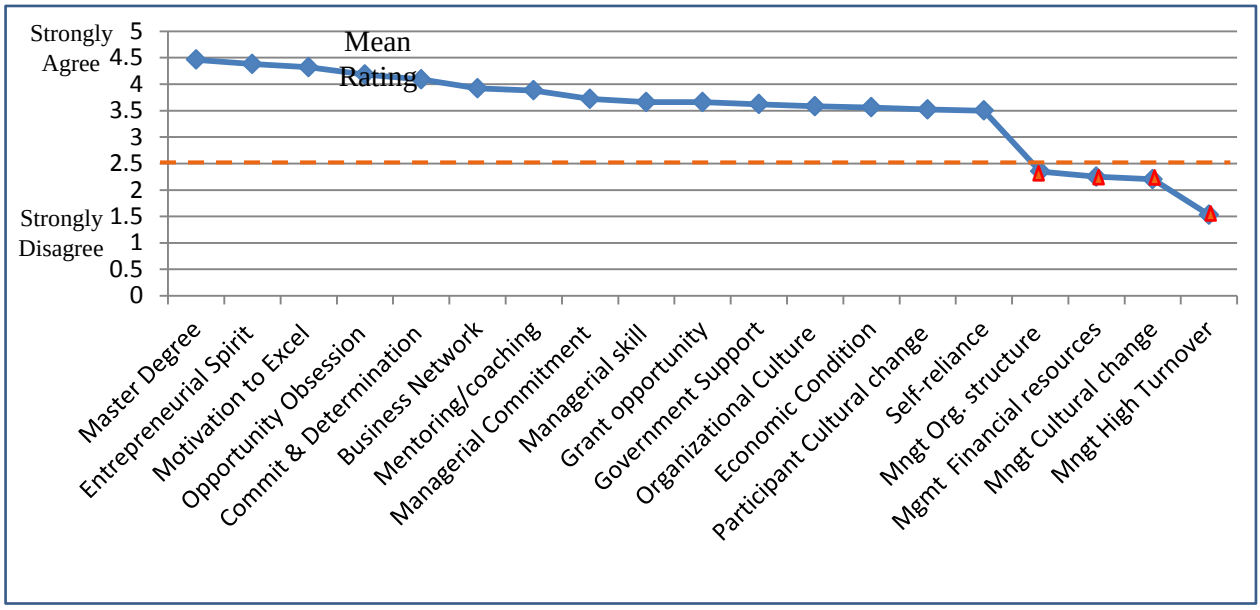

Figure 4: Key factors to motivate the participants to remain in TEDIP

6.0 DISCUSSION AND CONCLUSION

The paper aimed to identify key factors that influence and motivate the current participants of TEDIP, i.e. young graduates and industrial players to participate and to remain in the program. To get to the research finding the researcher has applied mix method research study that combines both quantitative and qualitative research method. From prior theoretical review and empirical observation, there are 41 elements from four (4) group of key factors that might influence and motivate the respondents to participate and to remain in the TEDIP were found. The groups of key factors are *the person, internal environment, external environment, and program implementation*.

Finding on key influencing factors for the participant to participate in the TEDIP revealed only 18 elements were found as main key influencing factors which was classified into two (2) categories i.e. primary category (8 elements) and secondary category (10 elements). The result shows that looking for business opportunity, strong entrepreneurial spirit, looking for market opportunity, strong self-efficacy, incubation process concept, looking for financial support, and master degree offered in technopreneur are the primary factors that have attracted the participants to participate in TEDIP. On, the other hand, there is no key element from *program implementation* found as one of the key influencing factors in this study. From this finding, the researchers could conclude with two (2) theories:

1) TEDIP participants do not caution on how the institution implement the program at the first place i.e. *policies and practice, organizational climate, managerial role, financial resources, managerial commitment, managerial skill, high turnover management staff, and cultural change* which is on the readiness of TEDIP management to change from traditional entrepreneurship program management to technopreneur management; and
2) The major key influencing factors for the participants to participate in TEDIP based on their *(i)* ***desire*** *i.e. business network opportunity, market access opportunity, financial support opportunity; (ii)* ***entrepreneurial spirit****; (iii)* ***self-efficacy*** *i.e. commitment and determination; leadership; opportunity obsession; tolerance of risk, ambiguity and uncertainty; creativity; self-reliance; ability to adapt; and motivation to excel;(iv)* ***training environment*** *i.e. incubation process; (v)* ***type of degree offered*** *i.e. Technopreneur Master Degree; and (vi)* ***support*** *i.e. family, contact and/or network support.*

Result on key motivating factors for the participants to remain and to complete their study in the TEDIP shows a bit difference rank of key elements as mentioned in key influencing factors that encourage them to participate in the program. The finding shows that ***drive to complete the master degree*** becomes the main motivating factor to remain in the TEDIP, and ***looking for business opportunity*** becomes the 6th place of key motivating factor to remain in the program. ***Entrepreneurial spirit*** remains in the second ranking for both key influencing factors to participate and key motivating factors to remain in the TEDIP, whilst ***self-efficacy elements*** are listed as among important key motivating factors. In contrast with the finding in key influencing factors to participate in the TEDIP, the outcome also revealed ***managerial commitment*** and ***managerial skills*** are among key important factors to motivate them to remain in the TEDIP. These results direct the researchers to conclude the finding with six (6) theories:

1) There were 15 elements found as key motivating factors to motivate the TEDIP participant to remain in the program i.e. *master degree, entrepreneurial spirit, motivation to excel, opportunity obsession, commitment & determination, business network opportunity, mentoring/coaching activity; managerial commitment; managerial skill; grant opportunity, government support, organizational culture, economic condition, participant cultural change, and self-reliance;*
2) Certain key elements were positioned at different level of key influencing factors that encourage the participations to participate in TEDIP and key motivating factors to motivate the participants to remain in the TEDIP;
3) ***Entrepreneurial spirit*** and ***self-efficacy*** are among two (2) main key elements that always come together in TED;
4) The organization / institution need to stretch more attention on ***Implementation process*** i.e. *managerial commitment, managerial skills*; and ***institutional environment*** i.e. *organizational culture* as these elements are found among the key factors that could motivate the TEDIP participants to remain in the program;
5) *Incubation process and intrapreneurship* were found as important for TED through TEDIP, yet the implementation of both factors in the current TEDIP is not up to participants' expectation; and
6) *High turnover of management* has demotivated the participants to remain in the program and gave negative implication to TEDIP i.e. uncertain of program implementation; and lack of knowledge continuity in terms program management, role and policy.

Through the above findings it has been proven that both research objectives are achieved. On the basis of finding, the model developed will hopefully help the TED organization to increase the number of participants in TEDIP. The policy makers and the TED agencies may utilize this result to develop further TED program in the country.

References

Acworth, E. B., & Ghose, S. (2006). *Knowledge Integration Communities (KICs): A* Acworth Acworth *Case Study of an Innovative University-Industry*. Cambridge: Cambridge-MIT Institute.

Basu, A. (2006). *The Silicon Valley Neat Ideas Fair: An Initiative to Encourage Entrepreneurship Among University Students.* Massachusette: The NCIIA.

Bandura, A. (1997). Self-efficacy: Toward a Unifying Theory of Behavioral Change. *Psycho Review*, 18, 191-195.

Chiriacescu, S. T. (2007). The Relationship Between the University and the Business Community in an Ever-Changing Society. In D. Talaba, & H. T. Thij, *Teaching and Research Synergy in the Context of University-Industry Cooperation* (pp. 84-91). Eindhoven: ZkP – Chevalier de Seyn Publishers.

Cruz, J., Torres, M., Pabon, J., & Arocho, J. V. (2002). Technology Based Entrepreneurship: An Effective Tool for Promoting Teamwork, Creativity and Innovation in Students. *Special Challenges in Engineering Education* (pp. 1-9). Mayagüez, Spain: American Society for Engineering Education.

D'Cruz, C., Shaikh, M., & Shaw, W. (2006). *Taking Engineering Entrepreneurship Education to the Next Level.* MA: The NCIIA.

Heinonen, J., & Poikkijoki, S. A. (2006). An entrepreneurial-Directed Approach to Entrepreneurship Education: Mission Impossible? *Journal of Management Development, 25*(1), 80-94.

Hisrich, R.D., Peters, M.P., & Shepherd, D.A., (2005), *Entrepreneurship* (6th ed.). Boston, MA: Irwin McGraw-Hill,

Hynes, B. (1996). Entrepreneurship Education and Training: Introducing Entrepreneurship Into Non-Business Disciplines. *Journal of European Industrial Training, 20*(8) , 10-17.

Kawasaki, G. (2011). *Enchantment: The Art of Changing Hearts, Minds, and Actions.* New York: Penguin Group.

Klandt, H. (2005). *The Entrepreneurship Program at the European Business School.* Brussels: EBS.

Klandt, H., & Muller-Boling, D. (1993). Methods of teaching: What is Useful for Entrepreneurship Education? *Proceedings of the Conference Internationalising Entrepreneurship Education and Training.* Vienna (Austria): IntEnt93. Retrieved June 16, 2007, from http:// www.blackwell-synergy.com/doi/pdf/10.1111/1468-2380.00086

Malaysia (2009). *Application Flagship and Malaysia Initiative*. Kuala Lumpur: MSC. Retrieved November 2, 2009, from MSC Malaysia: http://www.msc.com.my/

Matheson, B. (2006). A Culture of Creativity: Design Education and the Creative Industries. *Journal of Management Development*, *25*(1), 55-64.

McLarty, R. (2005). The Essentials of Value Chain Implementation in Small and Medium Sized Enterprises. *Strategic Change, 14*(8), 45-58

MIT-Sloan. (2007). *The Entrepreneurship and Innovation Program (E&I)*. Retrieved August 5, 2007, from MIT-Sloan: MIT Entrepreneurship Center: http://entrepreneurship.mit.edu/

NTU (2006). *MSc. in Technopreneurship and Innovation*. Retrieved May 7, 2007, from Nanyang technological University: http://www.ntu.edu.sg/ntc/etip.asp

O'Shea, R. P., Allen, T. J., Morse, K. P., O'Gorman, C., & Roche, F. (2007). Delineating the Anatomy of an Entrepreneurial University: The Massachusetts Institute of Technology Experience. *Journal of R&D Management 37 (1)* , 1-16.

Osborne, D., & Gebler, T. (1993). *Reinventing Government: How the Entrepreneurial Spirit is Transforming the Public Sector*. New York: Penguin Group.

Patton, B., & Griffin, K. (1981). *Interpersonal Communication in Action (3rd ed.).* New York: Harper & Row Publishers.

Prathaban, V., & Shankar, S. J. (2003, September 16). Malaysian Business. *MSC* , p. 1.

Sahadah, A., (2010). *Technopreneur Development at Graduate Training in Malaysian Institute of Higher Learning.* Unpublished doctoral dissertation, Universiti Teknologi Malaysia, Johor.

Shankar, S. J. (2002, October 16). Malaysian Business. *ICT as Engine of Growth*, p. 6.

Sternberg, R. J. (2004). Successful Intelligence as a Basis for Entrepreneurship. *Journal of Business Venturing, 19*(2), 189-202.

SU. (2006). *Stanford Technology Venture Program*. Retrieved february 2, 2007, from Stanford University: http://www.stanford.edu/

Tan, M. J., Lim, M. K., & C., T. K. (2004). *Technopreneur-21: A program that Combines Engineering Innovation with Business Acumen to Foster Entrepreneurs* . singapore: NTU.

US. (2007). *Hunter Centre for Entrepreneurship*. Retrieved March 10, 2007, from University of Stratclyde: Business School: http://www.strath.ac.uk/huntercentre/

Ward, S. & Ward, J. (2011). Energize Your Entrepreneurial Spirit. Victoria: Animikii Inc.

Zorn, C. (2006, September). Comparing GEE and "Robust" Standard Errors For Conditionally Dependent Data. *Political Research Quarterly, 59,* 329-41