

Determinants of Entrepreneurial Competencies Development in Small and Medium Enterprises

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Abstract

This paper is to investigate the impact of key factors that influence the development of entrepreneurial competencies in Malaysian SMEs, both in the manufacturing sector and services sector. This is vital because the economy of Malaysia is partially depending on the contribution of SMEs and the roles played by SMEs. The statical sample population of this research includes 407 owners and manager involved in SMEs. For data collection, a standard questionnaire using seven-point Likert scale and 72 items were used to evaluate 12 entrepreneurial competencies and four items that influence the development of entrepreneurial competencies. Data were analyzed using SPSS version 21 and SEM-Amos version 21. The results confirmed, education was significantly affecting the development of entrepreneurial competencies among entrepreneurs, while the training before business set-up, training after business set-up and work experience have no effect on the development of entrepreneurial competencies. The results contributed to the development of theoretical contribution and knowledge base, as well as offering results that will be of interest to research and policy communities. The results are limited to quantitative, using cross-sectional data. The direction for future research are also suggested.

Keywords: Entrepreneurial competencies, Education, Training, Working experience, SMEs

1. Introduction

Small and Medium Enterprises (SMEs) are considered as the engine of the modern economy, whether we are referring to developed countries or emerging new power economy block. These companies are a fundamental for economy growth, flexibility in the market and dynamic operating firm. According to OECD (2017), SMEs represents more than 95% of enterprises and providing up 70% of jobs. The uniqueness characteristics of SMEs are vital in promoting competitiveness and product innovation in the market. The performance of SMEs is depended a lot on a good environment that they are operating and the person that managing the business.

According to a study published by World Bank Group (2013), reported that there are 125 million formal micros, small and medium enterprise (MSMEs) in 132 of covered economies in the year 2010. These MSMEs employed more than one-third of the total labor force in the world. The operating of SMEs has a direct impact on the GDP. Understanding the importance of SMEs from domestic to international economy, APEC in 1995, has set up SMEs Working Group as an ad hoc policy group and was an upgrade to permanent status in the year 2000 (APEC, 2015) due to SMEs' contribution to the economy and social development. In regional perspective, Association of Southeast Asian Nations (ASEAN) during 46th ASEAN Working Group on Intellectual Property Cooperation (AWGIPC) agreed to establish 108 initiatives to under ASEAN Intellectual Property Rights (IPR) to strengthen the capitalisation and commercialization of Intellectual Property to help business including SMEs gain a competitive edge (Annual Report SME, 2015).

The success of SMEs depends heavily on the owner/manager. An empirical study done by many researchers found that higher entrepreneurial competencies possessed by the owner/manager lead to better business success in SMEs (Man & Lau, 2005; Ahmad, Ramayah, et al., 2010; Nasuredin, Halipah, & Shamsudin, 2016). For a company in the services sector, entrepreneurial competencies; interpersonal, learning, strategic, and opportunity were identified have a relationship with firms' success (Tatar, 2013). Sa'ari, Adenan, Hashim, and Jamaludin

(2013) confirmed that entrepreneurial competencies have led to high performance in the organisation and gained competitive advantages over the competitors. This is seconded by recent study done by Umar et al. (2018) urged that entrepreneurial competencies significantly affect the performance in Malaysian SMEs as well the innovation practice in the firm. Another research conducted by Mitchelmore and Rowley (2010), claimed that entrepreneurial competencies can range from personality traits and individual motivations to specific knowledge and the skills. The above arguments about the centrality of the entrepreneur to SME success are consistent with the recent program implemented by APEC was known as Human Capital Development which is designed to nurture entrepreneurial competencies (APEC, 2015). Empirical study done by Man (2001) confirmed that education and training has a positive significant effect on the development of entrepreneurial competencies. Other scholar, Markowska (2011) in Nordic Countries urged that education, training and experience assisted the entrepreneurs developed the entrepreneurial competencies among entrepreneurs.

In Malaysia, SMEs has contributed and played an important role in stimulating an economy (Muhammad, Char, Yaso, & Hassan, 2010; Aman, Tahir, Majid, Aziz, & Rahmiati, 2011; Adnan & Ahmad, 2016; SME Annual Report, 2016). The role of SMEs in Malaysia is considered as the backbone of the economy (Radam & Abdullah, 2008). SMEs play a vital role in Malaysia economy and are considered to be the backbone of industrial development in the country (Saleh & Ndubisi, 2006). Table 1 displayed the status of Malaysian SMEs. Contrary, in developed countries, SMEs contributed 51% in the United Kingdom, 53% in Germany and 53% in Japan (Murjan, 2012). Although the numbers of contribution are lower in Malaysia, SMEs have the potential to contribute substantially to the economy and can provide a strong foundation for the growth of new industries as well as strengthen existing ones, for Malaysia's future development. Table 2 shows the contribution of SMEs to GDP in various countries including Malaysia.

Table 1. Status of SMEs in Malaysia by sector

Sector	Total Establishment (a)	Total SMEs (b)	Percentages (%) of SMEs over Total establishments (b)/(a)*100	No of Large Firms
Services	818,311	809,126	89.2	9,185
Manufacturing	49,101	47,698	5.3	1,403
Construction	40,558	39,158	4.3	1,400
Agriculture	11,628	10,218	1.1	1,410
Mining & Quarrying	1,026	865	0.1	161
Total	920,624	907,065	98.59	13,559

Source: Economic Census (2016).

Table 2. Contribution SME to GDP by countries

Country	GDP (%)
Germany	53
Japan	53
United Kingdom	51
Singapore	49
Thailand	37
Malaysia	32

Source: Asian Development Bank Institute (2015).

2. Literature Review

2.1 The Framework of Malaysian SMEs

SMEs has been defined in various ways, but generally, it is classified according to the socio-economy development of each country (Tahir, Mohamad, & Hassan, 2011; Chelliah, Sulaiman, & Yusoff, 2010). Entrepreneurship is strongly related to SMEs which is considered to be the main developing force of the developing economies like Malaysia (Chong & Mahmoud, 2013). In view of the absence of the research and related literature of a universally accepted definition of what constitutes of SME, a range of sources will now be explored and integrated. These allow for better understanding regarding the situation from both academic and official sources. Table 3 defined the SMEs in Malaysia.

Table 3. Definition of SMEs in Malaysia

Category	Micro	Small	Medium
Manufacturing	Sales turnover less than RM300,000 OR full-time employees less than 5	Sales turnover from RM300,000 to less than RM15 million OR full-time employees from 5 to less 75	Sales turnover from RM15 million to not exceeding RM50 million OR full-time employees from 55 to not exceeding 200
Services and other sectors	Sales turnover less than RM300,000 OR full-time employees less than 5	Sales turnover from RM300,000 to less than RM3 million OR full-time employees from 5 to less 30	Sales turnover from RM3 million to not exceeding RM20 million OR full-time employees from 30 to not exceeding 75

Source: SME Corp. (2013).

2.2 Entrepreneurial Competencies

According to Bird (1995, p. 51), entrepreneurial competencies, which are defined as “underlying characteristics such as generic and specific knowledge, motive, traits, self-image, social roles, and skills which result in venture birth, survival, and/or growth”, may be the key to improving a firm’s performance. Entrepreneurial competencies are the characters of entrepreneur including personality traits, attitudes, skills, knowledge for effective performance in the role of the entrepreneur (Man, 2001). However, entrepreneurial competencies in this study refer to set of skills, knowledge, behaviour, attitude, ability, traits, personality and integrity that required to achieve business objectives that set-up by entrepreneurs themselves. In this study, entrepreneurial competencies that be studied are; (1) strategic, (2) commitment, (3) conceptual, (4) opportunity, (5) organising and leading, (6) relationship, (7) learning, (8) personal, (9) technical, (10) familism, (11) ethical and, (12) social responsibility.

Strategic Competency

Strategic competency related to “setting, evaluating, and implementing the strategies of the firm” (Man, 2001).

Commitment Competency

Commitment competency related to “drive entrepreneurs to move ahead with the business” (Man, 2001).

Conceptual Competency

Conceptual competency related to “different conceptual abilities which are reflected in the behaviours of entrepreneurs, e.g., decision skills, absorbing and understanding complex information, risk-taking and innovativeness” (Man, 2001).

Opportunity Competency

Opportunity competency encompasses behaviours related to recognising market opportunities through various means (Man, 2001).

Organising and Leading Competency

Organising and leading competency related to “the organisation of different internal and external human, physical, financial, and technological resources, including, team building, leading employees, training and controlling” (Man, 2001).

Relationship Competency

Relationship competency related to “person-to-person or individual-to-group based interactions, e.g., building a context of cooperation and trust, using contacts and connections, persuasive ability, communication and interpersonal skill” (Man, 2001).

Learning Competency

Learning competency related to the ability to “learn from various means, learn proactively, keep up to date in the related field, and apply learned skills and knowledge into actual practices” (Man, 2001).

Personal Competency

Personal competency related to the ability to “maintain a high level of energy, motivate self to function at optimum level of performance, respond to constructive criticism, maintain a positive attitude, priorities tasks to manage time, identify own strength and weaknesses and match them with opportunities and threats, as well as recognise and work on own shortcomings” (Man, 2001).

Technical Competency

Technical competency related to “the ability to use the tools, procedures, and techniques of a specialised field”

(Chandler & Jansen, 1992).

Familism Competency

Familism competency defined as “affection and concern for a family that is dominant and drives action and daily life” (Ahmad, 2007).

Ethical Competency

Ethical competency defined as “rules, standards, codes, or principles which provide guidelines for morally right behaviour and truthfulness in specific situations” (Ahmad, 2007).

Social Responsibility Competency

Social responsibility competency defined as “the positive activities a company undertakes in the society in which business operates; including responsibility towards customers, employees, and public” (Ahmad, 2007).

2.3 Determinants of Entrepreneurial Competencies Development

Based on the existing literature, the major factors affecting the development of entrepreneurs’ competencies in SMEs is the demographic variables such as the education level attainment by entrepreneurs, the training received before set-up the business, the training received after entrepreneurs running the business, and working experience. Man and Lau (2005) urged that entrepreneurial competencies can be improved with training and education. However, another scholar, Ahmad (2007) claimed the education only significant in effect of education on entrepreneurial competencies in the comprehensive model in SMEs, and training does not affect the development of entrepreneurial competencies. This is seconded by Haynes (2003) claimed that education enhances the knowledge and skills of entrepreneurs, which in return can enhance the development of entrepreneurial competencies.

Li (2009) suggested, in SMEs in Singapore, the technical training before set-up of business had greater influence on the development of entrepreneurial competencies. This is in line with a study done by Capaldo, Iandoli, & Ponsiglione (2004), claimed that training in managerial and technical aspects influenced the development of entrepreneurial competencies. Contrary with empirical study done by Ahmad (2007) in Australia claimed that training before and after business start-up does not significantly affect the development of entrepreneurial competencies.

For working experience, study was done by Ahmad (2007) in Malaysia and Australia stated that working experience is not significant with entrepreneurial competencies development. However, Man and Lau (2005) argued that trait-based components of entrepreneurial competencies (such as trait, social role, self-image, attitude, personality) take a longer time to develop and more difficult to change due to individual socio-cultural background of the or early experience. However, the skill-based components of entrepreneurial competencies (skill and knowledge) are easier to instill through working experience.

2.3.1 Hypotheses Development

Based on discussion, four hypotheses were suggested for this study and research framework displayed in Figure 1.

H1. Entrepreneurs with higher education level will report possessing greater entrepreneurial competencies.

Markowska (2011) suggested the formal education enhance the knowledge and skills among entrepreneurs which strengthen the entrepreneurial competencies. Ahmad (2007) claimed the education was significant in effect of education on entrepreneurial competencies in the comprehensive model in Malaysia SMEs.

H2. Entrepreneurs with more training before business start-up will report possessing greater entrepreneurial competencies.

Ahmad (2007) found that training before business start-up does not significantly affect the development of entrepreneurial competencies.

H3. Entrepreneurs with more training after business start-up will report possessing greater entrepreneurial competencies.

Man and Lau (2005) urged that entrepreneurial competencies can be improved with training. This view was contradicted with a study done by Ahmad (2007) in Malaysia and Australia found that training business start-up does not significantly affect the development of entrepreneurial competencies among the entrepreneurs.

H4. Entrepreneurs with more work experience will report possessing greater entrepreneurial competencies.

The previous study suggested the work experience has a positive impact on the business success (Stuart & Abetti,

1990). This is seconded by Markowska (2011) claimed that experience encouraging the entrepreneurs to overcome conflicts or issues in business.

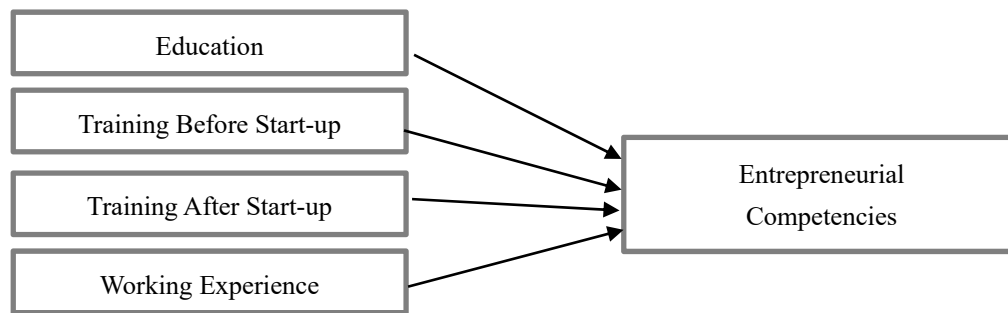


Figure 1. Determinants of entrepreneurial competencies

3. Methodology

3.1 Sample and Data

Our empirical data has been conducted based on data from a survey carried out among Malaysian SMEs. The populations of SMEs in Malaysia is 907,065 firms, consists of 859,367 firms in services & another sector and, 47,698 in manufacturing sector. Thus, the appropriate sample size for this study involved 384 entrepreneurs (Sekaran, 2003). A total of 1,700 questionnaires were distributed and we received replies from 429 firms. After reviewing each of them, we proceed to the removal of the questionnaires on which no questions had been answered. Therefore, we collected 407 valid questionnaires (response rate of 24%) of SMEs. The probability technique (stratified random sampling) was applied in this study because under probability sampling the subjects of the population get an equal opportunity to be selected as a representative sample, the results in unbiased and hypothesis developed can be tested (Sekaran, 2003; Suhaimi et., 2015).

3.2 Variables and Measurements

In order to evaluate entrepreneurial competencies, we used the questionnaires of entrepreneurial competencies developed by Man (2001) 52 items, Ahmad (2007) 16 items and, Chandler & Jansen (1992) 4 items. Item statements are measured as subjective estimates using a seven-point Likert scale (with 1=strongly unimportant to 7=strongly important for entrepreneurial competencies).

4. Findings

As this study interest to determine the effect of key determinant factors (education, training before start-up and after start-up, and, work experience) on entrepreneurial competencies. The results of this study displayed in Table 4 below.

Table 4. Descriptive Analysis of Respondents ($N = 407$)

Items	Categories	Frequency	Percent
The Current Age of Respondents	21-30	4	1.0
	31-40	34	8.4
	41-50	184	45.2
	51-60	164	40.3
	61 or above	21	5.2
Gender of Respondents	Male	365	89.7
	Female	42	10.3
Education Attainment of Respondents	SRP/PMR	8	2.0
	SPM/MCE	11	2.7
	STPM/Certificate	36	8.8
	Diploma	159	39.1
	Degree	174	42.8
	Master	17	4.2
Position of Respondents	PhD/Doctoral	2	.5
	Owner	233	57.2
	Manager	174	42.8
Types of SMEs	Manufacturing	46	11.3
	Services	350	86.0

Items	Categories	Frequency	Percent
Number of Years Company Establishment	Other sectors	11	2.7
	3 years or less	12	2.9
	3 - 6 years	48	11.8
	7 - 10 years	94	23.1
	11 - 14 years	164	40.3
Stage of Business Development	15 years or more	89	21.9
	Introduction stage	33	8.1
	Growth stage	140	34.4
	Maturity stage	219	53.8
Training Received by Respondents Prior Business Start-up	Decline stage	15	3.7
	Management/Finance	181	44.5
	Technical	27	6.6
	Both of them	114	28.0
Training Received by Respondents After Business Start-up	None of them	85	20.9
	Management/Finance	124	30.5
	Technical	57	14.0
	Both of them	204	50.1
Working Experience Prior Running the Business	None of them	22	5.4
	Yes	378	92.9
	No	29	7.1

The multiple linear regression analysis with AMOS is applied because this analysis is only addressed on exogenous construct without taking into consideration on another construct. This model was analysed by individual CFA method to determine their factor loading and fitness indexes. According to Awang (2015), the individual CFA is preferred in this study due to the complexity of the model that has many items to be measured. In addition, the entrepreneurial competencies are very complex (has 12 dimensions) to be determined by categorical scales of education, work experience, training before and after business start-up. As a result, seven items were detected carry low factor loading (below than 0.60) which is recommended to be deleted from the model to improve the quality of the measurement model. Specifically, CON1 from conceptual, ORG1 and ORG5 from organizing, ST1 and ST3 from strategic, PR1 from personal, and F1 from familism being detected have poor factor loading as shown in Figure 2. The final structural model for entrepreneurial competencies displayed in Figure 3. Finally, the dimensions from 12 entrepreneurial competencies were aggregated into one measurement by transforming it as mean score as shown in Figure 4.

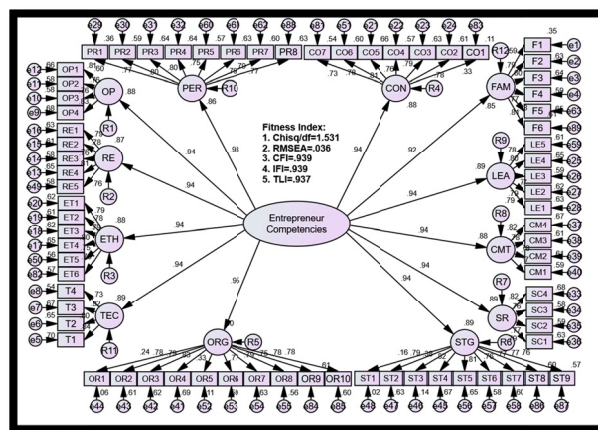


Figure 2. Initial Model for entrepreneurial competencies

Note. FAM = Familism, TEC = Technical, OP = Opportunity, RE = Relationship, ETH = Ethical, CON = Conceptual, LEA = Learning, PER = Personal, SR = Social Responsibility, ORG = Organising & Leading, STG = Strategic, CMT = Commitment, PRO = Process Innovation, PRD = Product Innovation, FIN = Financial, NFIN = Non Financial

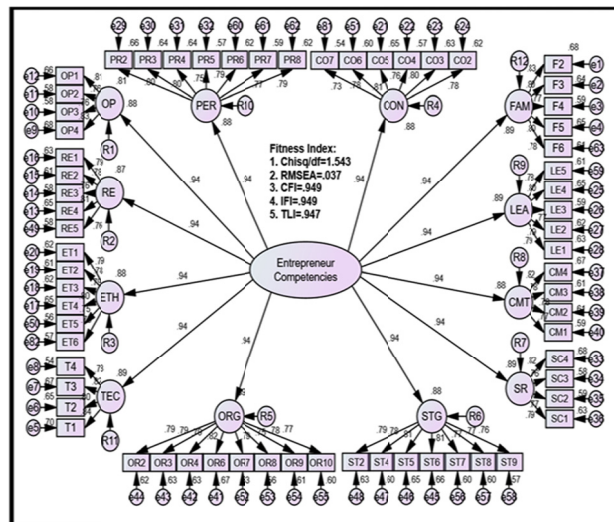


Figure 3. Final structural model for entrepreneurial competencies

Note: FAM = Familism, TEC = Technical, OP = Opportunity, RE = Relationship, ETH = Ethical, CON = Conceptual, LEA = Learning, PER = Personal, SR = Social Responsibility, ORG = Organising & Leading, STG = Strategic, CMT = Commitment, PRO = Process Innovation, PRD = Product Innovation, FIN = Financial, NFIN = Non Financial

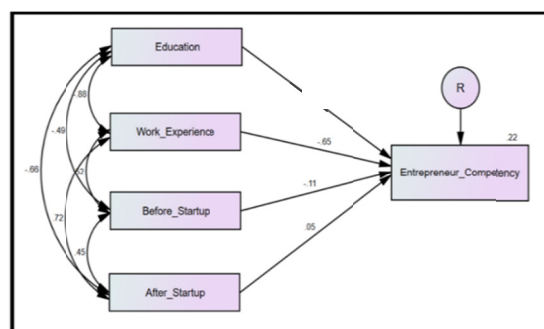


Figure 4. Path analysis

Table 5 below showed the normality results of this finding. All variables are satisfied since the value of skewness is fall in the range between -1.5 to 1.5 (Awang, 2015). Meanwhile, the multivariate of kurtosis also is below than 50.0 indicates that normality existed for this model. Therefore, this model is admissible for hypothesis purposes. This is followed by Table 6 that displayed the regression weights of the determinant factors on entrepreneurial competencies.

Table 5. Assessment of normality

Variable	min	max	skew	c.r.	kurtosis	c.r.
After Startup	1.000	4.000	-.278	-2.286	-1.324	-5.451
Before Startup	1.000	4.000	.193	1.593	-1.602	-6.598
Work Experience	1.000	2.000	1.333	7.454	3.111	7.520
Education	1.000	7.000	-.993	-8.177	2.027	8.346
Entrepreneurial Competency	1.750	5.653	.098	.809	-.191	-.786
Multivariate					9.708	11.704

Table 6. Regression weights of determinant factors on entrepreneurial competencies

			Estimate	S.E.	C.R.	P
Entrepreneurial Competencies	<---	Education	.015	.005	2.794	.005
Entrepreneurial Competencies	<---	Work Experience	-.042	.007	-6.447	***
Entrepreneurial Competencies	<---	Before Start-up	-.009	.004	-2.076	.038
Entrepreneurial Competencies	<---	After Start-up	.004	.005	.729	.466

4.1 The Relationship between Education and Entrepreneurial Competencies

From table 6, the path coefficient of education on entrepreneurial competencies is 0.015. This value indicates that for every one unit increases in education, its effect would contribute 0.015 unit increase in entrepreneurial competencies. The regression weight estimate of 0.015 has a standard error of 0.005. The critical ratio is shown as 2.794 standard errors above zero. The probability of getting a critical ratio of 2.794 in an absolute value is 0.005. Based on the above, the hypothesis suggested that entrepreneurs with higher education level will report possessing greater entrepreneurial competencies is supported.

4.2 The Relationship between Training before Start-up and Entrepreneurial Competencies

From table 6, the path coefficient of before start-up on entrepreneur competency is -0.09. This value indicates that for every one unit increase in before start-up, its effect would contribute -0.09 unit decrease in entrepreneurial competencies. The regression weight estimate of -0.09 has a standard error of 0.004. The critical ratio is shown as -2.076 standard errors above zero. The probability of getting a critical ratio of -2.076 in an absolute value is 0.038. What it means is that the regression weight for before start-up in the prediction of entrepreneurial competencies is significant at 0.05 level, therefore, the hypothesis suggested that the more training before start-up level will report possessing greater entrepreneurial competencies is not supported.

4.3 The Relationship between Training after Start-up and Entrepreneurial Competencies

From table 6, the path coefficient of after start-up on entrepreneurial competencies is 0.004. This value indicates that for every one-unit increase in after start-up, its effect would contribute 0.004 unit decrease in entrepreneurial competencies. The regression weight estimate of 0.004 has a standard error of 0.005. The critical ratio is shown as 0.729 standard errors above zero. The probability of getting a critical ratio of 0.729 in an absolute value is 0.466. What it means is that the regression weight for after start-up in the prediction of entrepreneurial competencies is not significant at 0.05 level, hence, the hypothesis suggested that the more training after start-up will report possessing greater entrepreneurial competencies is not supported.

4.4 The Relationship between Work Experience and Entrepreneurial Competencies

From table 6, the path coefficient of work experience on entrepreneurial competencies is -0.042. This value indicates that for every one unit increase in work experience, its effect would contribute 0.042 unit decrease in entrepreneurial competencies. The regression weight estimate of 0.042 has a standard error of 0.007. The critical ratio is shown as -6.447 standard errors above zero. The probability of getting a critical ratio of -6.447 in an absolute value is 0.001. Based on above, the hypothesis suggested that the more work experience level will report possessing greater entrepreneurial competencies is not supported.

5. Discussion

From the study, it was found that education influenced the development of entrepreneurial competencies. The higher education level possessed by entrepreneurs reported greater entrepreneurial competencies. This is similar to finding by Ahmad (2007) claimed the education was significant in effect of education on entrepreneurial competencies in the comprehensive model in Malaysian SMEs. This is seconded by Haynes's (2003) claimed that education enhances the knowledge and skills of entrepreneurs, which in return can enhance the development of entrepreneurial competencies. Specifically, higher education was associated with self-report of better developed entrepreneurial competencies.

This view seconded by Brush, Greene, and Hart (2001) argue that formal education is an important personal resource for entrepreneurs because it provides good technical knowledge that may help in identifying business

opportunities. Furthermore, education is seen as increasing the opportunity for entrepreneurs to engage in networking, enhancing their credibility and helping them to access funding. Another scholar, Sánchez (2013) suggested that Entrepreneurship Education Program gave better impact on entrepreneurial competencies compared to normal education due to the effect of specific benefits for the students derived from the program itself, which enhances the entrepreneurship quality among students and entrepreneurs. An empirical study done in Austria revealed that the Entrepreneurship Education Program is generally effective for developing entrepreneurial competencies rather than general class (Maresch, Harms, & Kailer, 2016). Interestingly, Lackues, M. (2013) suggested entrepreneurial competencies can be developed through action-based entrepreneurial education, which consists of lectures, reading literature, case-based teaching, and hands-on programme.

From the study, it was found that training before business start-up was not a factor that influences the development of entrepreneurial competencies among entrepreneurs. And surprisingly training after business start-up does not appear to be significant as determinant factor. A study done by Ahmad (2007) claimed that training before and after business start-up does not significantly affect the development of entrepreneurial competencies. It is suggested that Malaysian entrepreneurs may apply the concept of “learning by doing”. Likewise, Gibb (1997) has contended that the primary method of learning among SME business owners/managers were via “hands-on” problem solving and crisis resolution.

From the study, it was also found that work experience is no effect on entrepreneurial competencies. It was suggested that past work experience would not help to develop the entrepreneurial competencies among entrepreneurs. This is in line with a study done by Ahmad (2007) stated that work experience is not significant with entrepreneurial competencies in case of Malaysia and Australia. Keely and Roure (1990) also reported a non-significant relationship between an entrepreneur’s experience and business success. However, there is some previous study suggested the work experience has a positive impact on the business success (Stuart & Abetti, 1990). Moreover, Brush et al. (2001) have pointed out that, the entrepreneurial experience is often criterion that influence start-up business, rather than something that predicts firm success.

6. Implications and Conclusion

As this study aims to understand the key factors that affecting the development of entrepreneurial competencies among entrepreneurs in SMEs in Malaysia. Thus, the identification of behaviour reflecting competencies that have a causal relationship with business success allows the entrepreneurs to recognise the need for, and seek appropriate training. Competencies can be improved with education and training (Man & Lau, 2005) and the entrepreneurship behaviors are able to shape through educational programs (Garavan & McGuire, 2001).

The findings of the present study may help educators and trainers identify and teach the “right things” to practicing and prospective entrepreneurs. Educators and policymakers should also be cognisant of the fact that, at least for participants in this study, current training programs were not seen to contribute much to the development of entrepreneurial competencies. It may be that current training programs are not tailored to the needs of SMEs, or not sufficiently focused on the improvement of competencies, such as those identified in the present study, that are needed by entrepreneurs. Furthermore, given that the majority of learning among entrepreneurs occurs in the course of normal work routine (Kerr & McDougall, 1999). In Malaysia perspective, related ministries and agencies such as Ministry of International Trade & Industry (MITI), and SMEs Corp. should design more appropriate training course that suits the need of industries and seen from the lens of entrepreneurs.

This study has some limitation. The self-reported was used as the source of all data used in the study that may result in bias. However, Chandler & Jansen (1992) argue that self-reported competencies are valid when these competencies are measured using a structural rating instrument (i.e, survey) such as that used in the present study, which has good reliability. Future studies should identify ways to obtain competency data from multiple informants, in order to minimise the possibility of response bias. Secondly, this study was done by empirically investigating SMEs. As larger organisations have more resources and are better structured, the research model should also be tested using samples from large organisations in Malaysia for a comparison with SMEs. In addition, a survey can be conducted to compare the manufacturing and services industries between SMEs and larger organisations. Similarly, it would be interesting to conduct a case study research about the development of entrepreneurial competencies in order to enrich the contribution of this limited study to the field.

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