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## The Effectiveness of Entrepreneurship Programmes and Collaboration of Institutions-Industry in the Technical and Vocational Training Centres

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### Abstract

The entrepreneurship programme conducted at two technical and vocational training centres namely the mobile technical services (MTS) programme at MARA skills institute (IKM) and school enterprise (SE) in vocational colleges (KV) aims to produce more young entrepreneurs in the future. However, the rate of involvement of the younger generation in entrepreneurship and working in entrepreneurship is still decreasing and increases the unemployment rate among the youth. The design of the study is Ex Post Facto. This study aims to identify the effectiveness of entrepreneurship programmes and collaboration between institutions-industry in the MTS and SE programmes. Next, this study will determine whether there is a difference between the non-dependent variables i.e. institutional-industry collaboration in the MTS and SE programmes on the dependent variable which is the effectiveness of the entrepreneurship programme. Data was collected using questionnaire instruments involving 225 respondents through purposeful sampling method. Respondents were students of IKM under the Mechanical Department who conducted the MTS program as well as students who conducted the SE program at KV under the Mechanical Department in 2020 in the central zone (Kuala Lumpur and Selangor), the northern zone (Perlis) and the southern zone (Melaka). The questionnaire has 5 sections and is analyzed using descriptive and inferential statistical analysis, T-tests of non-dependent samples. The findings showed that the mean value of the MTS entrepreneurship program effectiveness variable was high (Min = 3.62, SP = .60) and the overall mean for the effectiveness of the SE entrepreneurship program was moderate (Min = 3.00, SP = .66). Min overall for the variable institutional collaboration with industry for the MTS entrepreneurship program recorded high value (Min = 3.64, SP = .63) and the SE entrepreneurship program was moderate (Min = 3.34, SP = .70).

**Keywords :** Entrepreneurship Programmes, Effectiveness, Collaboration, School Enterprise

### Introduction

Malaysia aspires to be a united, prosperous and dignified nation which in turn will be the most important economic axis in Asia. Progress and prosperity in this inspired economic field should not be backed up to the Gross Domestic Product (GDP) figures alone. In enhancing the

economic growth of a country, entrepreneurship is key as entrepreneurship can contribute to increasing the country's GDP, stimulating investment and generating business opportunities. In this regard, a government policy called the National Entrepreneurship Policy (DKN) 2030 was launched by the 8th former prime minister of Malaysia on 11 July 2019.

In an effort by DKN to make Malaysia an entrepreneurial nation by 2030, DKN has developed a long-term strategy to set the direction for the country's entrepreneurial development which is the first entrepreneurial policy introduced for Malaysia. However, in the country's efforts towards achieving DKN 2030, all corners of the world have been threatened with the spread of the Coronavirus (COVID-19) pandemic in 2019 which has continued to date. According to a report released by the Ministry of Human Resources (MOHR) almost 800,000 workers lost their jobs or were laid off by employers in Malaysia due to the impact of the COVID-19 pandemic. As a result, it has had an impact on the economic development of the country. Most of those who have lost their jobs choose to open a business to support themselves and their families despite not having qualifications and skills in business and entrepreneurship. This shows that business and entrepreneurship are among the areas of choice to generate income to sustain life especially in living in these challenging times.

The awareness to venture into business and entrepreneurship is a positive development among the community and this should be taken seriously by the Ministry of Education (MOE) and the Ministry of Higher Education (MOHE) (Munira, 2020). The application and emphasis on school and university students should be increased for them to learn and empower business and entrepreneurship in all fields, whether it is social science or technology science. Students should be educated to be entrepreneurs who are empowered with real business skills and applications, able to inspire innovative products and services, bold to take risks so that they can open up jobs to others and be able to generate income and become distinguished entrepreneurs.

In addition, collaboration between students and entrepreneurs is also important to learn knowledge directly and clearly with successful entrepreneurs through the sharing of valuable experiences they have gone through to succeed in order to be a catalyst and inspiration to students. In this way, Malaysia is able to produce entrepreneurs to overcome the severity of the economy without expecting outside expertise. MOHE further finalizes the Higher Education Institution Entrepreneurship Action Plan 2021-2025 and the MOHE guidelines towards Entrepreneurship Integrated Education (EIE) in an effort to strengthen the entrepreneurial agenda among students.

Both action plans are the basic guidelines for producing graduates with the character of entrepreneurs and the formation of an entrepreneurial ecosystem in institutions of higher learning. In addition, the development of digital entrepreneurs is also a focus area as the field of digital entrepreneurship emphasizes the mastery of skills and technology towards students. With this, Malaysia can produce entrepreneurs from every field of knowledge and skills to overcome the severity of the economy without expecting outside expertise.

In particular, this study is to identify the effectiveness of entrepreneurship programmes and institutional collaboration with industry in two PLTV institutions, namely the SE program at KV and the MTS program at IKM. Therefore, the objectives of the study are as follows (i) Identify the level of effectiveness and collaboration between institutions and industry in MTS and SE programs (ii) Comparing institutional collaboration with industry between MTS and SE programmes with the effectiveness of entrepreneurship programmes. Based on the

objectives of the above study, this study aims to find answers to some of the following questions:

- i. What is the level of effectiveness of entrepreneurship programmes in MTS and SE programmes?
- ii. What is the level of collaboration between institutions and industry in MTS and SE programs?
- iii. Is there a difference in institutional collaboration with industry between MTS and SE with the effectiveness of entrepreneurship programmes?

## Literature Review

### *Effectiveness of Entrepreneurship Programs*

The effectiveness of the entrepreneurship programme refers to the success and capability of the programme to nurture, inculcate and inculcate the entrepreneurial culture through the training provided as well as the improvement of the skills needed in business (Othman, 2002). The effectiveness of entrepreneurship programmes is an important key to producing more young entrepreneurs in the future (Badariah, 2016). At the higher education institution (IPT) level, entrepreneurial programs need to be ideally placed in universities and other institutions of higher learning to expose students to an environment that fosters an entrepreneurial mindset. The effectiveness of the entrepreneurship program is defined as a program that can influence a person's intention or inclination to become an entrepreneur (Souitaris et al., 2007).

Scientists have pioneered studies on entrepreneurship and entrepreneurship in the early 18th century. There are several entrepreneurial theories such as the theory of achievement that lead to the theory of entrepreneurial motivation. According to Mohanty (2005) the theory of entrepreneurial development is divided into three levels of achievement, namely, the need for achievement, the need for power and the need for a combination and the first stage for achievement needs is usually present in every individual, group and entrepreneurial community (Mohanty, 2005). A person with achievements will be a successful entrepreneur, a high-achieving person would be responsible, determining achievement targets and taking risks (McClelland, 1962). The effectiveness of the entrepreneurship programme is dependent on business plan, critical thinking, self-efficacy, achievement requirements and locus control (Badariah, 2016) as shown in Figure 1.

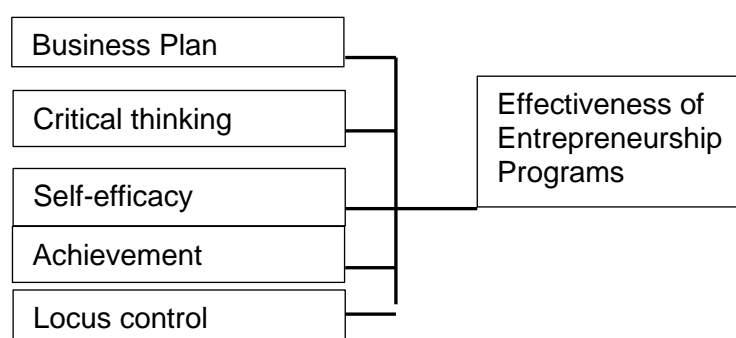


Figure 1 Effectiveness of Entrepreneurship Programme 1

Entrepreneurship programmes conducted in institutions of study especially in universities should be more structured in the delivery of knowledge such as business plans that cover financial topics and so on to students. When the knowledge is communicated to

the students, it will automatically make the effectiveness of the entrepreneurial program effective and thus produce future young entrepreneurs (Badariah et al., 2016). Early experience of entrepreneurial education can inspire students towards an entrepreneurial career (i.e. business start-up) or towards another career. Therefore, it is important to look at entrepreneurship education programs holistically to know how students have been inspired or spared entrepreneurial intentions (Nabi et al., 2018).

The effectiveness of education and training in entrepreneurial programmes is dependent on the need to meet the requirements and official relationship between the industry as a client and the training institution as a supplier. This requirement requires cooperation in order for improvements in the preparation of relevant and qualified graduates for mutual benefit and national development (UNEVOC, 1996). The establishment of these relationships is important in providing a solid foundation for curriculum adjustment and renewal, placement of students for practical experience, identifying job opportunities, implementation of joint projects, assessing educational success, and training in meeting the needs of employers.

Cheng (2009) in his study of the effectiveness of entrepreneurship education in public and private institutions of study in Malaysia found that entrepreneurship programmes failed to attract students to engage in entrepreneurial challenges. Overall only 7.3 percent of respondents said the entrepreneurship program was brilliantly run and 41.7 percent said it was well run. The study of students of Sekolah Menengah Kebangsaan Agama (SMKA) found that the level of entrepreneurial skills and entrepreneurial determination among SMKA students is at a high level and they have a high entrepreneurial determination to become entrepreneurs in the future (Akhsan et al., 2019).

A survey by Mohd et al (2016) on 41 secondary schools participating in the Tunas Niaga Programme found that a small proportion of respondents had a moderate determination to venture into entrepreneurship. This is due to the fact that they are still thinking about the opportunities available in the field of entrepreneurship and their enthusiasm is still not strong enough to work as an entrepreneur. In addition, respondents reported that they are still lagging behind in terms of knowledge, skills, finance, legislation and business start-up strategies. Badariah et. al (2016) in its study to evaluate the effectiveness of entrepreneurship education programmes at UUM shows that the entrepreneurship program conducted at UUM is very effective in improving students' entrepreneurial skills.

### ***Institutional Collaboration with Industry in Entrepreneurship Programme***

In implementing entrepreneurship programmes, collaboration between institutions and industries is closely related to each other. Collaboration of educational institutions and industries means collaboration between educational institutions and industry in various aspects necessary to achieve the objectives of quality and excellent human resource development (Bagale, 2018; Amin, 2012). Institutional collaboration with industry refers to multi-faceted interaction between the highest educational institutions and industries aimed at promoting the exchange of knowledge and technology (Bekkers et al., 2008; Siegel et al., 2003).

According to Grimpe and Hussinger (2008), there are two types of institutional collaboration with industry, namely formal collaboration where it does not involve any contractual relationship and formal collaboration where it is carried out on a contractual relationship between the two parties. Institutional collaboration with industry refers to informal and formal collaboration as adapted from Oliver's (1990) systematic study (Samuel



et al., 2016). Formal and informal collaboration are among the six critical contingencies or motivational determinants for universities and industry to engage in collaboration. The organization for collaboration that is developed is as shown in Figure 2.

<b>Formal Collaboration</b>	<b>Informal Collaboration</b>
Receive practical training from industry experts at my institution.	Get consulting services from the industry on a paid or free basis
Participate in motivational programs with already successful entrepreneurs in my institution.	Connect with the industry easily.
Given exposure on career opportunities in the industry upon graduation.	Exposed to the real workplace environment.
Be given the opportunity to make practical training in the industry chosen by the institution	Makes me to be more open-minded.
Be given the opportunity to continue working in the industry involved after undergoing practical training.	Increase confidence to work in the industry.
Given the opportunity to get scholarships from the industries involved	Participate in skills courses conducted in the industry.
Given the opportunity to engage in skills projects organised by the industry.	Participate in career seminars organized by institutions and industries.

Figure 2 Establishment of Formal Collaboration Organizations and Informal Collaboration (Source: Adaptation of Samuel and Omar, 2016)

Among the advantages of cooperation between training institutions and industries have been classified into three: the provision of an effective vocational technical curriculum, the introduction of students into the real world and matching training skills with the opportunities available in the industry (UNEVOC, 1996).

The findings of the study showed that institutional collaboration programmes with industry such as student industrial training, industry learning visits and new product innovation research were found to show high mean scores for program management (Amin, 2012). Thus, this collaboration programme has been found to benefit students, educational institutions and industry. A case study on polytechnic and industrial collaboration concluded that the implementation of collaborative relations with the industry as a whole is at an impressive level and has been successful at the polytechnic institution level (Syamhanim et al., 2018). This is evident when this collaboration continues even though polytechnics have upgraded their programmes to a bachelor's degree program.

The study of 50 students at SMK Tasik Malaya, Indonesia reported that entrepreneurship education and industrial training had increased the positive influence on entrepreneurial attitudes by 24 percent (Kakang Harudin et al., 2016). Industrial training is the foundation of the formation to enhance the effectiveness of entrepreneurial learning which is influenced by the psychological factors of students as well as entrepreneurial knowledge. The higher the level of entrepreneurial knowledge affected by industrial training, the more positive the student's attitude towards entrepreneurship. This reinforces the Fishbein & Ajzen Theory (1975) which states that attitude is one of the components of entrepreneurial determination towards some behaviour towards entrepreneurship. Morgan

(1986) said the need to provide students with knowledge and skills according to job requirements in industry would make linkage and relationship (collaboration) policies successful.

### **Approach to Entrepreneurship Theory** **Ajzen Planned Behavior Theory (1991)**

The determination or intention of entrepreneurship in this study has an impact and impact on the effectiveness of the entrepreneurship programmes carried out. The determination of a behavior has been identified as the best indicator for planned behavior, especially if the behavior is rare, difficult to observe and involves an indeterminate period of time (Mazurah, 2015). Determination is an indication of how difficult it is for a person who wants to try and as much effort as possible to carry out a behavior. Determination is believed to be a predictor of the formation of human behavior in various situations and is recognized as the most effective in predicting human behavior. There are several theories that can be used to understand the determination of entrepreneurship.

Planned Behavior Theory (TTT) is a sequence to the Theory of Reasoned Action (Ajzen, 1991). This theory identifies three attitude variables that influence determination. The three variables are attitudes, subjective norms and behavior. The attitude factors of the individual themselves and the subjective norm factor describe the perceived desire to carry out a behavior. The third factor is the assumed control behavior which means the ability that is considered feasible and this is strongly related to self-efficacy. Clearly here states that determination is formed by three elements, namely (1) the subject's attitude towards a behavior, (2) subjective norms (the subject's perception of the public's view of the behavior in question) and (3) the control behavior considered the subject's perception of the difficulty and the ease of performing the intended behavior.

TTT which was pioneered by Ajzen (1991) and is an extension of the Theory of Reasoned Action has been widely adapted in assessing one's determination (Fayolle et al., 2006). This theory assumes that a person's social behavior is reasoned, can be controlled or planned in implementing and doing things. According to this theory, a person will only carry out his intentions when he feels capable of controlling the implementation of such actions. That perceived control is according to the degree of difficulty in performing such behavior. This perception is based on the experiences and obstacles that a person faces in performing such behavior. Both theories assume behavior is the result of a person's intention to act according to a certain behavior. Basically, intent is a fundamental factor when explaining one's behavior. This indicates that a person's behavior is guided by one's determination.

TTT is a sequence to TORA (Theory of Real Action), that is taking into account control over perceived behavior. According to this theory, a person will only carry out his intentions when he feels capable of controlling the implementation of such actions. The control he felt was varied according to the perception of the difficulty of performing the behavior. This perception is based on the reflection of one's experience as well as the obstacles or obstacles to perform such behavior. This means that a person who is determined to become an entrepreneur will only open his own business when he feels he is able to control all the risks and difficulties that will be faced based on the skills, abilities and experience they have in relation to their career as an entrepreneur.

Ajzen (1991) concluded that, the importance of perceived control (*perceived control*) in determining the relationship between attitudes and behavior has been proven in several studies. Self-efficacy has been referred to in the works as a construct equal to or similar to

the expectation of behavioral control (Ajzen, 2002). This study supports the hypothesis that those with high control will have a strong intention to perform certain behaviors and will do so when the situation feels appropriate. Both theories assume behavior is the result of a realized decision to act according to a certain commission. For example, when a person needs to make a choice between two forms of behavior, then he will process information about the conduct. He will take into account the characteristics of the object or situation, the attitude appropriate to the commission and the disadvantages and pros of the commission. Everything will be processed cognitively. However, there are also behaviors that are carried out spontaneously. Therefore this theory is in parallel with the study that the researcher will do.

The theory of organized behavior has been widely used in predicting a person's behavior towards an act for example when one wants to see how a student attitudes towards a field they are interested in. The theory includes individual attitudes, subjective norms (support and encouragement from those who are important in the individual concerned) and perceived control behaviors (Ajzen, 1991). The theory of organized behavior sees determination as an attempt to implement a planned behavior to a real situation. The determination is considered a motivating factor that influences behavior, in which it shows how a person is ready to try based on their efforts in the realization of such behavior.

It also describes and predicts how the cultural and social environment affects human behavior. This theory also links environmental factors such as social support, where the support and encouragement provided by the immediate family, close friends, society and culture of the country to a career as an entrepreneur. In this study, entrepreneurial determination is a measured dimension to see the effectiveness of the entrepreneurship programme. Entrepreneurial determination pushes one to have determination as well as encourages one to choose entrepreneurship as a career in the future.

## Methodology

The design of the studies conducted was a comparative type of cause (*Ex Post Facto*). Researchers using this design are due to the entrepreneurship programme in two PLTVs, namely the MTS program at IKM and the SE program at KV. According to Ary (2019), the design of this type of causal comparison is intended to investigate or study the probability of the existence of an effect and cause relationship by looking at the existing effects or consequences without being influenced by the researcher. Therefore, this study is to identify the effectiveness of entrepreneurship programmes, the cohesion of the entrepreneurship curriculum, collaboration between institutions and industry and students' financial management practices in the MTS and SE programmes. Next, this study will determine whether there is a difference between the non-dependent variables ; institutional-industry collaboration in the MTS and SE programmes on the dependent variable which is the effectiveness of the entrepreneurship programme.

With reference to Creswell (2017), the sampling in this study is the *purposive sampling* which consists of IKM students under the Mechanical Department who conducted the MTS program as well as students who conducted the SE program at KV under the Mechanical Department in 2020 in the central zone (Kuala Lumpur and Selangor), the northern zone (Perlis) and the southern zone (Melaka). Once identified, the population involved for the study was under the Mechanical Department as the MTS and SE programmes conducted by both institutions are led under the Mechanical Department and are only conducted in the affected zones. Next to determine the total population, the number of students involved with the MTS and SE programmes was obtained through the head of department at the PLTV



institution involved therefore the total population, N in this study was 436 students and the sampling calculation for the study was done using the Cochran formula (1977) where the sample number would represent the population and could reflect the characteristics of the population studied.

Based on the sampling calculations made according to the Cochran formula (1977) with a total population of 436, the sample required was 205 respondents. After that, the researchers compared the number of samples obtained from the calculation of the Cochran formula (1977) using the Krejcie & Morgan sampling table (1970) and found that 204 samples. Therefore, the number of samples taken by the researchers was 225, taking into account the 10% increase in the sample as a preparatory measure for the expected receipt of the questionnaire feedback answered incomplete and so on by respondents (Bartlett, 2001).

Next to divide the 225 respondents into two MTS and SE entrepreneurship programmes in the zones involved, the respondents were divided according to the same ratio of 112 respondents for the MTS program and 113 respondents for the SE program. Next the researchers determine the number of samples required in each institution. Questionnaires are distributed to randomly selected respondents where researchers make a selection of respondents from a list of names compiled in Microsoft Excel software.

## Research Findings and Discussions

### *Entrepreneurship Programme Effectiveness Level in MTS and SE Programmes*

The data on the items of the effectiveness of entrepreneurship programmes in the MTS and SE programmes are as shown in Table 1. The measurement in the effectiveness of the MTS and SE entrepreneurship programmes refers to the overall mean by summing up all the score values from the skill items and entrepreneurial determination that represent the variables of the effectiveness of the entrepreneurial program in the MTS and SE programs.

*Table 1*

*Overall Mean Score, SP for Aspects of Entrepreneurial Skills and Determination in MTS and SE Programmes*

Aspects	Entrepreneurship Program			
	MTS (IKM)		SE (KV)	
	Min	SP	Min	SP
Skills	.41	.73	2.78	.64
Entrepreneurial Determination	3.84	.68	3.23	.82
<b>Min and SP Overall</b>	<b>3.62</b>	<b>.60</b>	<b>3.00</b>	<b>.66</b>

Table 1 shows that the mean value of the skills aspect of the MTS entrepreneurship program is high (Min = 3.41, SP = .73) while the mean value of the skills aspect of the SE entrepreneurship program is moderate (Min = 2.78, SP = .64). For the second aspect of entrepreneurial determination, the mean value of the MTS program is high (Min = 3.84, SP = .68) and the mean value of the entrepreneurial determination aspect of the SE entrepreneurship program is moderate (Min = 3.23, SP = .82). Based on the mean value reported, some of the respondents in the MTS entrepreneurship programme reported that their entrepreneurial determination was high followed by the skills aspect assessed in the effectiveness of the entrepreneurship programme. The determination of entrepreneurship and skills for the respondents of the SE entrepreneurship programme was modest as reflected in the mean value reported. Next, the researchers will detail the descriptive analysis of each

item for the assessed aspects of the entrepreneurial skills and determination of the MTS and SE entrepreneurship programmes.

*Table 2*

*Skills Item Analysis for MTS and SE Entrepreneurship Programme*

Statement	Entrepreneurship Program			
	MTS		SE	
	Min	SP	Min	SP
<b>Skills</b>				
Master the skills of managing a business.	3.24	.80	2.61	.67
Master the skills to start a business.	3.36	.80	2.56	.76
Able to communicate orally well.	3.55	.88	3.11	.82
Skilled to assess the strengths and weaknesses of business competitors.	3.20	.92	2.74	.83
Proficient in dealing with customers.	3.54	.82	2.89	.82
Can determine the selling price of the product.	3.53	.88	2.81	.85
Can devise business profit expectations.	3.34	.90	2.69	.84
Can choose a suitable potential supplier	3.53	.82	2.86	.92
<b>Min Overall</b>	<b>3.41</b>	<b>.73</b>	<b>2.78</b>	<b>.64</b>

Table 2 shows the mean and SP values in detail for each statement based on the feedback of students of the MTS and SE programs. Respondents of the MTS entrepreneurship program reported they were adept at communicating verbally well the values (Min = 3.55, SP = .88) were high. The mean value is also high on the skill of dealing with customers (Min = 3.54, SP = .82), the skill of selecting a suitable potential supplier (Min = 3.53, SP = .82) and also the skills to determine the selling price of the product (Min = 3.53, SP = .88). The feedback of MTS program respondents for business start-up skills with mean values (Min = 3.36, SP = .80), skills in drawing up expected business sales gains (Min = 3.34, SP = .90), business management skills (Min = 3.24, SP = .80) and skills assessing the strengths and weaknesses of business competitors (Min = 3.20, SP = .92) were moderate.

As for the skills aspect of the SE entrepreneurship program respondents, respondents responded by reporting that their skills to communicate verbally well were moderate (Min = 3.11, SP = .82), followed by the skills to deal with clients were also moderate (Min = 2.89, SP = .82). Respondents also reported skills to select suitable suppliers (Min = 2.86, SP = .92), skills assessing the strengths and weaknesses of business competitors (Min = 2.74, SP = .83), skills of drawing up business profit expectations (Min = 2.69, SP = .84) and skills to start a business (Min = 2.61, SP = .67) were moderate.

Based on the respondents feedback from both MTS and SE entrepreneurship programmes on the skills aspect, MTS programme respondents said good verbal communication skills, customer dealing skills and product selling skills are high compared to other skills. Thus, it can be seen that the respondents of the MTS entrepreneurship programme as reported to have mastered the skills that are important make the effectiveness of the entrepreneurship programme high. Feedback from SE entrepreneurship programme respondents showed a moderate mean value in verbal communication skills well and

moderate mean value on other skills. So respondents reported their skills for the skills assessed for the effectiveness of the SE entrepreneurship program to be moderate.

Business experience in entrepreneurship programmes conducted by the MTS programme has been found to enhance skills that can highlight the effectiveness of the entrepreneurship programme. Studies conducted by Siti Zakiah and Nurena (2020) on students' communication skills showed that verbal communication skills improved after participating in social entrepreneurship programmes conducted at their institutions. Therefore, the entrepreneurship programme is supposed to improve the communication skills of the students especially when dealing with and dealing with customers. Next, the findings of the analysis of entrepreneurial determination items for both MTS and SE entrepreneurship programmes are as set out in Table 3.

*Table 3*

*Analysis of Entrepreneurial Items for MTS and SE Entrepreneurship Programmes*

Statement	Entrepreneurship Program			
	MTS		SE	
	Min	SP	Min	SP
<b><u>Entrepreneurial Determination</u></b>				
Choosing entrepreneurship as a career in the future.	3.73	.89	2.61	.67
Choose to be an entrepreneur instead of being a regular employee in a company.	3.87	.88	2.56	.76
Determined to create your own business in the future.	4.02	.86	3.11	.82
Strive to run your own business.	4.01	.82	2.74	.83
Work with partners to open a business in the future.	3.68	.76	2.89	.82
Starting my own business with sufficient capital.	3.69	.81	2.81	.85
Be prepared to face all kinds of challenges to start a new business.	3.77	.88	2.69	.84
Believe I will be a successful entrepreneur through his own business.	3.95	.77	2.86	.92
<b>Min Overall</b>	<b>3.84</b>	<b>.68</b>	<b>3.23</b>	<b>.82</b>

Based on the respondents' feedback on the aspect of entrepreneurial determination, respondents from the MTS entrepreneurship program reported that the determination to create their own business in the future and strive to run their own business was high with mean values (Min = 4.02, SP = .86) and (Min = 4.01, SP = .82). The respondent also has an entrepreneurial determination to believe in becoming a successful entrepreneur through his own business (Min = 3.92, SP = .77) and choosing to be an entrepreneur over an ordinary employee (Min = 3.87, SP = .88). is high. Other entrepreneurial determinations also recorded high mean values, thus showing that the respondents of the MTS entrepreneurship programme have a high entrepreneurial value towards entrepreneurship.

Respondents to the SE entrepreneurship program reported that the determination to create their own business in the future was modest (Min = 3.42, SP = 1.03), as well as the

determination to run a simple own business (Min = 3.30, SP = 1.01). The entrepreneurial determination of the respondent of the SE entrepreneurship program to become a successful entrepreneur through his own business and work with partners to open his own business in the future is also modest with mean values (Min = 3.38, SP = 1.01) and (Min = 3.27, SP = .92). The findings of this study are in line with the study from Esmalaily et. al (2019) on the aspect of entrepreneurial determination which shows that students with a high entrepreneurial determination are more likely to become entrepreneurs.

Students who participated in the Tunas Niaga Programme had a moderate determination to venture into entrepreneurship (Mohd et al., 2016). The success of entrepreneurship depends on the tendency of youth towards entrepreneurial activity (Carsrud et al., 2009). This finding is different from the SE programme where the level of respondents who choose entrepreneurship as a career is only at a moderate level. Here it can be seen that respondents in the MTS entrepreneurship program as a whole chose entrepreneurship as their career. However, the findings obtained from the SE programme respondents were found to meet the BPLTV target which targets ten percent of graduates to become entrepreneurs. This is due to data findings from the study showing that some of the SE programme respondents chose entrepreneurship as their career.

#### ***Institutional Collaboration Stage with industry in MTS and SE Programs***

The data obtained for the institution's collaboration stage with industry in the MTS and SE programs are as shown in Table 4. The measurement in the institution's collaboration stage with industry in the MTS and SE programs is to refer to the min as a whole by summing all the score values of the informal and formal collaboration items that represent the institution's collaboration with industry in the MTS and SE programs.

*Table 4*

*Overall Mean Score and Standard Deviation (SP) for Formal and Informal Collaboration Aspects of Institutional Collaboration Variables with Industry*

Aspects	Entrepreneurship Program			
	MTS (IKM)		SE (KV)	
	Min	SP	Min	SP
Formal Collaboration	3.68	.67	3.40	.76
Informal Collaboration	3.61	.65	3.28	.71
<b>Min and SP Overall</b>	<b>3.64</b>	<b>.63</b>	<b>3.34</b>	<b>.70</b>

The data showed that the min value for formal (Min = 3.68, SP = .67) and informal (Min = 3.61, SP = .65) collaboration aspects for MTS programs was high. This makes the overall min value for institutional-industry collaboration makers for MTS enterprise programs high (Min = 3.64, SP = .63). The min value for aspects of formal collaboration (Min = 3.40, SP = .76) and informal collaboration (Min = 3.28, SP = .71) in the SE program is simple and makes the overall min value for institutional collaboration with industry for SE enterprise programs simple (Min = 3.34, SP = .70).

Table 5 shows the findings of item analysis for two aspects evaluated to measure the level of institutional collaboration with industry, namely the formal collaboration and informal collaboration aspects of the MTS and SE entrepreneurship programs. The mean level

assessment for each item is according to the mean interpretation divided into five levels i.e. very low, low, medium, high and very high levels.

*Table 5 Item Analysis of Aspects of Formal Collaboration and Informal Collaboration in MTS and SE Programs*

Statement	Entrepreneurship Program			
	MTS	SP	SE	SP
	Min		Min	
<b><u>Informal Collaboration</u></b>				
Get solemn consulting from the industry on a paid or free basis.	3.37	.84	2.91	.79
Connect with the industry easily.	3.37	.94	3.02	.86
Exposed to the atmosphere of a real workplace environment.	3.71	.82	3.29	.88
Makes me to be more open-minded.	3.84	.74	3.36	.89
Increase self-confidence to work in the industry.	3.70	.67	3.48	.89
Participate in skills courses conducted in the industry.	3.70	.76	3.42	.86
Participate in career seminars organized by institutions with industry.	3.59	.80	3.46	.91
<b>Min Overall</b>	<b>3.61</b>	<b>.65</b>	<b>3.28</b>	<b>.71</b>

Statement	Entrepreneurship Program			
	MTS	SP	SE	SP
	Min		Min	
<b><u>Formal Collaboration</u></b>				
Received an amali training from industry experts at my institution.	3.88	.77	3.51	.92
Participate in motivational programs with already successful entrepreneurs in my institution.	3.67	.81	3.36	.85
Given exposure on career opportunities in the industry upon graduation.	3.84	.69	3.35	.82
Given the opportunity to create practical exercises in the industry chosen by the institution.	3.69	.78	3.39	.92
Given the opportunity to continue working in the engaged industry after exhaustion of practical exercises.	3.64	.82	3.37	.91
Given the opportunity to get a scholarship from the industry involved.	3.52	.10	3.35	.91
Given the opportunity to engage in skills projects organized by the industry.	3.51	.92	3.44	.87
<b>Min Overall</b>	<b>3.68</b>	<b>.67</b>	<b>3.40</b>	<b>.76</b>



Table 5 data shows the min and SP values for each statement based on feedback from MTS and SE program students. For the aspect of informal collaboration in the MTS program, respondents reported that informal collaboration made respondents to think more openly (Min = 3.84, .74). Respondents also reported that through informal collaboration, they were exposed to the atmosphere of a real workplace environment (Min = 3.71, SP = .82), accompanied courses recommended in the industry (Min = 3.70, SP = .76) as well as increased confidence to work in the industry (Min = 3.70, SP = .67) with high min scores.

Furthermore, respondents reported that through informal collaboration, they were able to accompany their work seminars recommended by institutions with industry (Min = 3.59, SP = .80) was high. Respondents also reported the min value of getting consulting solemnity from the industry on a paid or free basis (Min = 3.37, SP = .84) and connecting with the industry easily (Min = 3.37, SP = .94) was simple.

For the informal collaboration aspect of the SE program, respondents reported that the mean value was high in increasing self-confidence to work in the industry (Min = 3.48, SP = .89), participate in career seminars organized by institutions with industry (Min = 3.46, SP = .91) and participate in career skills organized by institutions with industry (Min = 3.46, SP = .91). SE program respondents also reported that informal collaboration made them open-minded (Min = 3.36, SP = .89), exposed to a real workplace environment (Min = 3.29, SP = .88), easily connected with the industry (Min = 3.02, SP = .86) and received consultation services from the industry on a paid or free basis (Min = 2.91, SP = .79) were moderate.

Next for the formal collaboration aspect of the MTS entrepreneurship program, the mean value finding is high for all item statements. Respondents reported receiving practical training from specialists at the institution (Min = 3.88, SP = .77), being exposed to career opportunities in the industry after graduation (Min = 3.84, SP = .69) and being given the opportunity to do practical training in the industry chosen by the institution (Min = 3.69, SP = .78) was high. In addition, MTS program respondents also reported that formal collaboration allows them to participate in motivational programmes with successful entrepreneurs in institutions (Min = 3.67, SP = .81) and be given the opportunity to continue working in the industry after completing practical training (Min = 3.64, SP = .82) is high.

In addition, respondents also reported being given the opportunity to get a scholarship from the industry involved (Min = 3.52, SP = .10) and being given the opportunity to engage in skills projects organized by the industry (Min = 3.50, SP = .92) was high. Next, for the formal collaboration aspect of the SE entrepreneurship program, respondents reported that the mean value findings were high in receiving practical training from industry experts in institutions (Min = 3.51, SP = .92) and respondents also reported that their chances of engaging in skills projects organised by the industry in institutions were also high (Min = 3.44, SP = .87). Respondents are given the opportunity to do practical training in the selected industry (Min = 3.39, SP = .92), work in the affected industries after completing practical training (Min = 3.37, SP = .91) and participate in motivational programs with entrepreneurs already successful in their institutions (Min = 3.36, SP = .85) with a moderate mean value. Respondents also reported that they were exposed to career opportunities in the industry after graduation (Min=3.35, SP = .82) and the opportunity to obtain a scholarship from the participating institutions (Min = 3.35, SP = .91) with a moderate mean value.

***The difference between MTS and SE based on institutional collaboration with industry with the degree of effectiveness of entrepreneurial programs***

Table 6 shows the results of the t-test of non-dependent samples to determine the difference between institutional collaboration and industry in the MTS and SE programs.

*Table 6*

*Non-Reliant Sample Test-Sample Variables Institutional Collaboration with industry in MTS Program and SE Program*

<b>The t-test of the sample does not lean</b>	<b>Min</b>	<b>SP</b>	<b>t</b>	<b>DF</b>	<b>Sig (2 tailed)</b>
<b>Collaboration</b>			4.96	25.91	.001
<b>MTS</b>	3.64	.63			
<b>SE</b>	3.34	.70			

Based on Table 6, there is a significant difference between institutional collaboration with industry in the MTS program and institutional collaboration with industry in the SE program, where  $t(26) = 4.96$ ,  $p = .001$ . The mean of institutional collaboration with the MTS program industry (Min = 3.64, SP = .63) is higher than institutional collaboration with the SE program industry (Min = 3.34, SP = .70). The measured aspects of institutional collaboration variables with industry are formal collaboration and informal collaboration.

In terms of formal collaboration, the respondents of the MTS programme showed that the formal collaboration conducted provided exposure on career opportunities in the industry after graduation was higher (Min = 3.84, SP = .69), compared to the SE program which recorded a moderate mean value (Min = 3.35, SP = .82). This finding is in line with the findings reported by MTS program respondents who reported that formal collaboration conducted by institutions with industry also gave them the opportunity to make practical training in the selected industry the institution was high (Min = 3.69, SP = .78) compared to the SE program was moderate (Min = 3.39, SP = .92). In addition, the respondents of the MTS program also reported a high mean value in participating in institutional-organized programmes with entrepreneurs who were already successful in institutions (Min = 3.67, SP = .81) compared to the SE program was moderate (Min = 3.36, SP = .85).

Respondents to the MTS programme also reported that the opportunity to continue working in the affected industries after completing practical training was high through formal collaboration in institutions with values (Min = 3.64, SP = .82) compared to the moderate mean value as reported by SE program respondents (Min = 3.37, SP = .91). These findings show that the formal collaboration of institutions with industry conducted by the MTS programme was found to be more beneficial to the respondents than the formal collaboration of institutions with industry conducted by the SE program.

Next for the informal collaboration aspect, MTS program respondents reported informal collaboration made respondents more open-minded (Min = 3.84, SP = .74) compared to the SE program was moderate (Min = 3.36, SP). In addition, MTS program respondents also informal collaborations exposed respondents to a real workplace environment environment (Min = 3.71, SP = .82) compared to the SE program (Min = 3.29, SP = .88). The informal collaboration carried out also increased the self-confidence of MTS program respondents to

work in the industry higher (Min = 3.70, SP = .67) compared to the SE program (Min = 3.48, SP = .89). Informal collaboration also makes MTS program respondents able to participate in industry-run skills courses (Min = 3.70, SP = .76) higher than SE programs (Min = 3.42, SP = .86).

The findings of this study are in line with the findings of Amin (2012) which in his study found that common collaboration programmes such as student industrial training, learning visits to the industry showed a high mean score. This shows that collaboration has an impact on an entrepreneurial programme similar to the one championed by the MOHE minister who said collaboration with industry is emphasised on producing a generation of entrepreneurs among the students. Most students agree that they need to have a creative nature in creating something new, but less agree that as an entrepreneur compulsory has innovative properties.

### **Implications Based on Study Findings**

The findings found that MTS program respondents were more adept at communicating orally well and skilled at dealing with clients than simple SE programmes. The findings showed that this skill was more dominated by respondents from the MTS programme where data findings from the background of the respondents showed that the percentage of MTS respondents who have experience operating business with customers on social media applications is higher than the SE program respondents. Verbal as well as skilled at dealing with clients compared to simple SE programs. Communication skills are one of the important skills in entrepreneurship. The advantages in mastering these skills may be influenced by the exposure of students to clients while conducting entrepreneurial programs.

As for the entrepreneurial determination aspect, the respondents of the MTS programme showed a greater determination to create their own business in the future compared to the moderate for SE program respondents. Respondents to the MTS programme are also determined to choose entrepreneurship as a career in the future while for the respondents the SE program is moderate. This can be seen when the high entrepreneurial determination of MTS respondents to run their own business is driven by a strong determination to choose entrepreneurship as a career in the future, compared to the moderate SE program respondents in choosing entrepreneurship as a career in the future. Respondents to the MTS programme were found to show good attitude by giving high commitment to each entrepreneurial activity by engaging in entrepreneurial activities in institutions compared to moderate SE program respondents. The entrepreneurial determination found based on these data findings reinforces the Fishbein and Ajzen Theory (1975) where attitude is one of the components of the entrepreneurial determination that drives a person towards entrepreneurship.

Respondents to the MTS programme also reported that their attitude to be sensitive to existing opportunities and to be creative and innovative was high compared to the SE programme when it was found that respondents were given the opportunity to operate their business and use the method of receiving orders from customers online that made them creatively and innovative in business. The skill aspect in the entrepreneurial curriculum integration variable also makes MTS program respondents have the skills to manage their finances and organize high entrepreneurial activities compared to the SE program.

Respondents to the MTS programme reported that the skills mentioned were high when they carried out real entrepreneurial activities in the workplace such as servicing the customer's air conditioning unit by using transportation facilities such as vans and service equipment specially provided by the institution to make their program services a success. In

addition, the skills using online business technology reported by MTS program respondents were reported to be high compared to moderate for the SE program. Aspects of moral and ethical values through activities and projects involving respondents with the real world have been found to make the majority of respondents in MTS and SE entrepreneurship programmes have a high level of moral and ethical values i.e. fair in business, respect for the rights of others and respect for the way of life of others.

Respondents to the MTS program and the SE program reported that formal collaboration between the institution and the industry was found to provide high exposure for the MTS program and simple for the SE program. His job opportunities that can be explored after graduating from recitation and provide opportunities to continue working in the industry involved after the end of practical training. This is found to provide good opportunities for students if the business is formally run by institutions with industry such as the opportunity for students to undergo practical training and continue to be given the opportunity to work in the industry makes the chances for students to get a job high. In addition, the formal collaboration that is carried out also provides a high opportunity for respondents to the MTS and SE programs to receive amali training rather than industry experts at their institutions if industry parties involved with the institution are found to contribute expertise as one of the commitments sealed in the institution's collaboration memorandum with industry formally.

Institutional collaboration with industry informally makes the level of respondents in the MTS entrepreneurship programme exposed to a real workplace environment while the SE entrepreneurship programme is moderate. In addition, respondents reported that informal collaborations conducted made them more open-minded and increased self-confidence to work in the industry was higher for MTS programmes compared to simple SE programs. Respondents of the MTS programme were also found to be exposed to a real workplace environment in a high and SE was moderate when the informal collaboration programme conducted provided an opportunity for the respondents to participate in collaboration programmes such as industry visits, programmes with successful entrepreneurs whose purpose was to facilitate students to be assisted by the industry.

## **Conclusion**

The respondents were students who conducted MTS and SE entrepreneurship programmes. The respondents were male and female students who were pursuing their studies and conducting entrepreneurship programmes. The MTS entrepreneurship programme achieved a high level of effectiveness compared to the SE program. MTS program respondents mastered skills such as verbal communication, good dealing with clients, managing business and other skills measured by high versus moderate mean value for the SE program.

The mastery of these skills was found to be related to the background of the respondents of the MTS and SE programs in experience in business activities. The findings showed that this skill was more dominated by respondents from the MTS programme where data findings from the background of the respondents showed that the percentage of MTS respondents who had experience operating business with clients on social media applications was higher than the SE program respondents. The experience in entrepreneurship programmes conducted by the MTS programme was found to improve skills that could highlight the effectiveness of the program. entrepreneurship carried out.

The determination of entrepreneurship reported by the respondent to create a business, run his own business and choose entrepreneurship as a career in the future is high

for the MTS program and medium for the SE program. The involvement and tendency to engage in entrepreneurship is dependent on the entrepreneurial determination shown by the individual to become a successful entrepreneur.

Overall, respondents from the MTS entrepreneurship programme reported that their entrepreneurial determination to create and run their own business, become a successful entrepreneur through his own business and choose to be an entrepreneur over an ordinary employee was high. The findings from the respondents of the MTS entrepreneurship programme were found to be in line with the objective of the MTS programme. The mean value of entrepreneurship reported for the SE programme respondents was moderate and the majority of respondents showed a simple entrepreneurial determination to create their own business, become a successful entrepreneur through his own business and run his own business. These findings were found to be not in line with the goals of establishing the SE programme. The entrepreneurial determination found based on these data findings reinforces the Fishbein and Ajzen Theory (1975) where attitude is one of the components of the entrepreneurial determination that drives a person towards entrepreneurship.

Formal and informal collaborations measured for institutional collaboration variables with industry showed high mean value findings for MTS and medium programs for SE programs. Formal collaborations conducted in institutions have provided high opportunities for MTS and medium program respondents for SE programs to continue working in the industries involved after the practical end, provide high exposure on career opportunities in the industry and receive practical training from industry experts in their institutions. In addition, the informal collaboration of institutions with industry makes the level of respondents in the MTS entrepreneurship program exposed to a real workplace environment is high and moderate for the SE entrepreneurship program in making them more open-minded and increasing self-confidence to work in the industry.

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