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Research Article

Exploring the Entrepreneurial Intention Among Information Technology Students

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Abstract

The study aims to investigate the differences on the intention among students studied at Malaysian Institute of Information Technology (MIIT), Universiti Kuala Lumpur (UniKL). The study adopted a survey and data was collected using a questionnaire administered to 81 students randomly selected from two different programs. The purpose of this study is to determine: (i) The student's decision to enroll in UniKL programs because of the entrepreneurship element embedded in the curriculum and (ii) The entrepreneurship course learnt by the students will give impact in terms of becoming an entrepreneur after graduation in the future. The result shows that there are no significant differences between two programs under studies. The findings will provide some useful insight on the perceptions of the students on entrepreneurship programs and also assist in the future study development to encourage students to venture into entrepreneurship world.

Key words: BCEM, BIMD, entrepreneurship, enrollment intention, HEI

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Data Availability: All relevant data are within the paper and its supporting information files.

INTRODUCTION

The private universities in Malaysia are under the Private Higher Educational Institution Act 1996. This act allows private universities to provide tertiary education and to appoint their own degree program. Universiti Kuala Lumpur (UniKL), a private university has been established in 2002. The UniKL establishment aims are to contribute towards the development and advancement in engineering technology fields. Together with the vision is to become a leading entrepreneur, technical university through excellence in research, education, training, entrepreneurship, consultancy and community services. In order to support the aims and vision, UniKL has put focus on developing new technologies and product supports on techno-entrepreneurship ventures with researchers, graduates and industrial partners from local and international.

The UniKL is a fast growing private university in Malaysia with various campuses nationwide with diverse programs. Student's enrollment in any of the UniKL campuses has grown rapidly through the years. Valuable information on the choice of university students preferred to enroll, could lead UniKL to stand out as one of the prominent higher institutions in Malaysia. As preliminary research, the study is focused to the Malaysian Institute of Technology (MIIT), one of the campuses in UniKL. The significance of this study is to provide a basis for UniKL to understand their customers to improve their service quality and student's selection process. These factors could be used as an instrument for UniKL to develop a strategy to obtain a position against competitors. The UniKL can address these factors through their service and other marketing strategies. This study can also be used to assist in the development of a more comprehensive study.

This study examined the enrollment intention of the students who decide to study in MIIT UniKL and also examined the entrepreneurship education offered to the students are relevant enough to motivate them to venture as entrepreneurs in the future. Specifically, the following research questions were addressed in the study:

- What are the important factors to enroll in UniKL?
- Do BCEM students enroll in UniKL because of the entrepreneurship education?
- Does entrepreneurship education, develop an entrepreneurial intention for the students?
- Does entrepreneurship education and skills acquired in the program is sufficient to become an entrepreneur?
- Does the students seriously considered to become an entrepreneur after graduation?

Malaysia HEI sectors include public and private institutions. Malaysia vision in 2020 is to achieve the status of a high-income and knowledge-based economy. Together the private HEI has put the efforts to complement the public HEI in producing graduates with knowledge and skills towards achieving the goal. In 2010, Ministry of Education of Malaysia has launched an entrepreneurship program to instill the exposure on entrepreneurship values to HEI students. The programs believe to boost graduates with value, thinking style and entrepreneurship attributes therefore, Malaysian economies will be transformed into higher income countries.

The MIIT UniKL is one of the campuses in UniKL which offers programs specialization in Information Technology. Two of the programs discussed in this study is Bachelor of Computer Entrepreneurial Management (BCEM) and Bachelor of Multimedia (BIMD). The main objective of BCEM program is to produce students with the expertise to manage IT-related companies of tomorrow and the main objective of BIMD program is producing students that will work in various fields associated with design, media, creative arts and communication technologies.

MATERIALS AND METHODS

Choice of University: Many research on student's choice of HEI employed economic and sociological theoretical frameworks in order to understand the HEI choice process. The conceptual models for HEI choice were derived from these frameworks¹⁻³. The student's choice of a university was mainly determined by five factors: Value and reputation of education, program structure, facilities and resources, choice by the influences and customer orientation⁴. The HEI image and reputation has an effect on the choice of the institutions. Students value the reputation of the institutions. One of the significant predictor that influences HEI choice decisions^{5,6}. The issue of choice criteria of HEI has been widely researched in Malaysia⁷⁻¹⁰. The study on student decision making on the choice of HEI are basically involved within three categories: Economic model, status-attainment model and combined models¹¹. Students make a rational decision by considering their social, economic factor before making a choice. This study including the cost benefit decisions by maximizing utilities and minimize risks in order to obtain the best choice^{12,13}. Cost of education is increasing as the years goes by, cost related issues are one of the important factors in selecting HEI of choice^{14,15}. The house holds a view in selecting HEI is also considered important because the selection criteria need to match academically, financially and socially¹⁶.

Consequently, availability of financial aid becomes one of the important choice factors, attributes expected from a particular HEI^{9,17,18}.

Entrepreneurship education and skills: Public policy and universities should strengthen their activities to implement educational, research and resource programs on entrepreneurship¹⁹. University education is considered an efficient way for obtaining the necessary knowledge about entrepreneurship²⁰. Education programs should pay particular attention to positively influence the student's attitudes towards entrepreneurship activities²¹. In a study conducted by Cheng *et al.*²² revealed that the effectiveness of entrepreneurship education in Malaysia is related to the content of the present curriculum. Entrepreneurship education becomes vital to nurture and encourage students to choose entrepreneurship as a career option.

The study conducted by Schultz *et al.*²³ entrepreneurship education should be exposed to the technical students as a means of learning how to commercialize research and development projects and in the future they could build their own high-tech companies to commercialize ideas for new products and services.

Skills could develop through exercise, questioning and investigation. The attitude and values of the students could encourage through a case study or role play²⁴. The skills could be acquired through teaching methods which were divided into two groups traditional methods-normal lectures and innovative methods-action based. There are 26 methods mentioned in 21 articles, the most commonly used teaching methods are lectures, case studies and focus groups²⁵.

Entrepreneurial intention: Students who have been exposed to entrepreneurship education were found have highly intentional towards venturing into business. They possessed entrepreneurial characteristics and act as entrepreneur compared to other students without similar exposure²². Students who have previous working experience interested to become entrepreneurs as they already possess many entrepreneurial characteristics. In many current employment scenarios, prospective employers prefer students with entrepreneurship skills as they have the abilities to deal with dynamic business environment²⁶.

Methods: The study focuses on the Malaysian Institute of Information Technology, Universiti Kuala Lumpur (MIIT UniKL) students. In this study, a hybrid combined factor was utilized

to produce this survey. The following data are the compiled results of a study, approximately 81 surveys administered to students who enroll in the bachelor program in MIIT, UniKL.

The sample size of this study is relatively small in comparison with the total student population in UniKL. A small sample size may lead to bias and findings cannot be confidently generalized. The data was gathered through questionnaires and 81 questionnaires were collected.

The students comprise of 81 bachelor student studying in two different courses BIMD and BCEM. Respondents were required to answer the questions by using a 5 point likert scale. Some of the questions were adapted and modified from questionnaires developed by Linan *et al.*²⁷.

The questionnaire is divided with the following break up: Enrollment intention, entrepreneurial education, entrepreneurial skills and entrepreneurial intention. The data collected was analyzed using descriptive statistics of frequency and percentages, ANOVA and also independent T-test to analyze data between the two groups of students BCEM and BIMD. The data in the research questions were analyzed using the Statistical Package for Social Science (SPSS).

RESULTS

The data from the completed survey was compiled to help illuminate some possible areas of future study as well as provide preliminary insights about students reason to enroll in UniKL and student's perceptions on the entrepreneurship education that they have studied. The studies consist of student's participation of 43.2% male and 56.8% female and they are also come from various states in Malaysia as shown in Fig. 1. The results of the analysis obtained are presented.

Research question 1: What are the important factors to enroll in UniKL?

Based on the participation ratings of importance, in Table 1 the majority of students indicated that the main reasons they choose programs in UniKL because of the financial assistance (59%).

Table 1: Student's enrollment intention

Factors	Percentage
Financial assistance	59.0
Career opportunities	37.0
Employment availabilities	33.3
Advised from family and friends	28.4
Entrepreneurship education	21.0

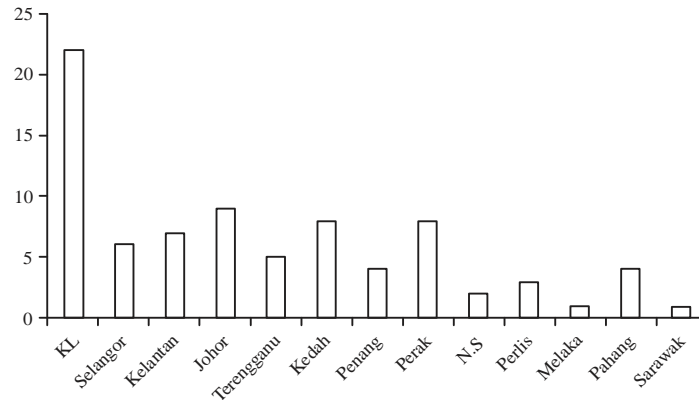


Fig. 1: Students hometown in Malaysia

Table 2: Independent sample T-test

Entrepreneurship education									
Parameters	Levene's test for equality of variances				T-test equality of means			95% confidence interval of the difference	
	F	Significant	t	df	Significant (2- tailed)	Mean difference	Standard error difference	Lower	Upper
Equal variances assumed	3.402	0.069	3.229	79.00	0.002	0.5444	0.16860	0.20886	0.88003
Equal variances not assumed			3.180	69.873	0.002	0.5444	0.17123	0.20292	0.89597

Table 3: T-test

Entrepreneurship education				
Groups	N	Mean	Standard deviation	Standard error mean
BCEM	45	4.0444	0.70568	0.10520
BIMD	36	3.5000	0.81064	0.3511

Table 4: Mean and standard deviation differences

Parameters	Mean BCEM	Mean BIMD	Standard deviation BCEM	Standard deviation BIMD
Knowledge about entrepreneurial environment	4.04	3.33	0.705	0.802
Necessary abilities to be an entrepreneur	4.07	3.39	0.780	0.802
Intention to be an entrepreneur	4.02	3.28	0.891	0.814

Other important factors that they considered important are career opportunities, employment availabilities, advised from family and friends and entrepreneurship education.

Research question 2: Do BCEM students enroll in UniKL because of the entrepreneurship education?

Analysis of independent T-test in Table 2 was conducted to understand whether the students who enrolled in BCEM program have higher intentional level to follow the entrepreneurship education offered by MIIT UniKL. The result obtained shows there is no difference in the enrollment intentional levels between students who enrolled in BCEM and BIMD. The T-test result is not significant ($t = 3.229$, $df = 79$, $p < 0.05$). The mean difference is value of 0.544 shows in Table 2 that the students who enrolled in BCEM (mean score = 4.04, Table 3) and BIMD (mean score = 3.50,

Table 3). Entrepreneurship education is not the main factor for both programs to enroll in MIIT UniKL.

Research question 3: Does entrepreneurship education, develop an entrepreneurial intention and knowledge for the students?

Analysis of variance (ANOVA) was employed to understand whether the education courses offered in UNIKL will develop the student's entrepreneurial intention for both bachelor programs.

The responses as shown in Table 4 revealed that BCEM students have more exposure on the entrepreneurial environment compared to BIMD students. This could be in the syllabus of BCEM program offers subjects more details on entrepreneurship. The mean difference shown in Table 4 is higher for BCEM students.

Table 5: Entrepreneurial knowledge and intention between BCEM and BIMD

Parameters	Sum of squares	Mean square	F	Significant
Knowledge about entrepreneurial environment	Between groups	10.114	17.403	0.000
	Within groups	0.581		
Necessary abilities to be an entrepreneur	Between groups	9.188	14.706	0.000
	Within groups	0.625		
Intention to be an entrepreneur	Between groups	11.084	15.045	0.000
	Within groups	0.737		

Table 6: T-test entrepreneurship skills

Groups	N	Mean	Standard deviation	Standard error mean
BCEM	45	3.96	0.597	0.0889
BIMD	36	3.78	0.756	0.1259

Table 7: Independent sample T-test

Entrepreneurship education									
Parameters	Levene's test for equality of variances				T-test equality of means			95% confidence interval of the difference	
					Significant (2- tailed)	Mean difference	Standard error difference	Lower	Upper
	F	Significant	t	df					
Equal variances assumed	1.975	0.164	1.233	79.00	0.221	0.18519	0.15023	-0.11385	0.48422
Equal variances not assumed			1.201	69.612	0.234	0.18519	0.15422	-0.12275	0.49312

However, the results in Table 5 show there is no significant differences in entrepreneurial knowledge and intention between BIMD and BCEM program. Both programs have cultivated the desire to develop their entrepreneurial knowledge and the intention to become an entrepreneur.

Research question 4: Does entrepreneurship skills acquired in the program is sufficient to become an entrepreneur?

The mean difference value of 0.19 shows in Table 6 that the students who enrolled in BCEM (mean score = 3.96, Table 6) and BIMD (mean score = 3.78, Table 6). Both programs believe that entrepreneurship skills are obligatory to become an entrepreneur.

The findings supported by the T-test results show in Table 7, shows that ($t = 1.233$, $df = 79$, $p < 0.05$), there is no difference in the entrepreneurship skills among students who took BCEM program and students who took BIMD program. Even though BCEM students are more equipped with knowledge on the entrepreneurship subjects, they are not confident with the possession of their entrepreneurship skills.

Research question 5: Does the students seriously considered to become an entrepreneur after graduation?

The results in Table 8 show that 29.7% BCEM students and 18.5% BIMD have confidently answered that they have the intention to become an entrepreneur. However, 8.6% of BCEM students and 12.3% of BIMD students expressed that they do not sure of the intention to be an entrepreneur.

Table 8: Students percentage seriously interested to become an entrepreneur

Program	Yes (%)	No (%)	Not sure (%)
BCEM	29.7	17.3	8.6
BIMD	18.5	13.6	12.3

Table 9: Entrepreneurial Intention difference between BCEM and BIMD

Groups	Sum of squares	df	Mean square	F	Significant
Between groups	0.640	1	0.640	1.364	0.246
Within groups	37.065	79	0.469		
Total	37.765				

In Table 9, the result shows there is no significant difference between entrepreneurial intention between BCEM and BIMD program ($F = 1.364$ and significant = $0.246 > 0.05$). The exposures on entrepreneurship education in MIIT UniKL have built the entrepreneurial intention of the students to become entrepreneurs.

DISCUSSION

The MIIT is one of the campuses in UniKL which offers programs specialization in information technology. Most of the students have chosen to study in MIIT UniKL because of the financial assistance. This shows that the student's concern on the availability of the financial assistance when attending UniKL as their preferred choice of universities. The second major concern of the students is the career opportunities. The students are aware about the programs of their choice before they make the decisions to enroll in the programs offered. This shows that the intention of students who enrolled in BCEM program are not because of the entrepreneurship programs.

Students who have enrolled in MIIT UniKL are compulsory to take the subject related to entrepreneurship. The subject exposed students with some aspects of entrepreneurship. The students were evaluated whether the knowledge of entrepreneurial is adequate if they were to venture into business once they graduated from UniKL. The objectives of the BCEM program are to produce students with knowledge to manage IT related companies. The subjects contents of the BCEM program should have more exposure on the entrepreneurship compared to BIMD program. The results indicated that the BCEM students have a higher intention to become an entrepreneur after graduation, but only 29.7% students who seriously think to become an entrepreneur after graduation. This shows that educational support has been considered important in previous literature since the data shows on the entrepreneurial intention increment as the student has more exposure entrepreneurship education²⁰.

Entrepreneurship skills are also important for the students to be developed. However, both programs, especially BCEM students believed that they have not possessed enough satisfactory level to venture into business. This similar to the results mentioned by Cheng *et al.*²² that Malaysian universities student's inclination towards entrepreneurship program were low because the program activities organized by the university have not matched the student's skills expectations with skill acquisition. However, in order to determine that the entrepreneurship course that the students acquire has relative impact in student entrepreneurial aptitude, a test should be taken to test on their creativity, risk taking, self-motivation, work ethic and team work²⁸.

CONCLUSION AND LIMITATIONS

This study provides an overview exploratory analysis on the implementation of entrepreneurship in MIIT UniKL. The result of the study shows positive perception of the students toward the entrepreneurship education. Along the way, during their studies the exposure on the entrepreneurship courses should have built the student's entrepreneurial intention to become an entrepreneur. Educational support such as entrepreneurship courses have shown a positive impact on the entrepreneurial intention of the students, however the courses may not be sufficient enough to foster the entrepreneurship spirit among the MIIT UniKL students. The entrepreneurship education in UniKL has been promoted

as the belief that entrepreneurship can be nurtured and learnt. In order to produce entrepreneurial graduates, there should be an effort on the continuous exposure in UniKL curriculum and on the entrepreneurship activities. Student's intention to become entrepreneur will lead them to venture into these activities.

Therefore, a more supportive environment for entrepreneurship should be created together with the educational content should be revised to develop course contents that would encourage the students to become entrepreneurs.

The study is subject to some limitations. The findings are more focused on the entrepreneurial intention. However, the intentions may not turn into actual behaviors in the future. The study aims to understand the perceptions of student in the entrepreneurship education conducted in MIIT UniKL and may not reflect all campuses in UniKL. Thus, future research should look to overcome the limitations that were not covered in this study.

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