

The Level of Awareness towards Technopreneurship Dimension

Nurrul Atikah Mohd Fatmi Shah¹, Anim Zalina Azizan^{1,*} &
Nor Kamariah Kamaruddin¹

¹Department of Management and Technology, Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia, 86400 Batu Pahat, Johor, MALAYSIA

*Corresponding Author

DOI: <https://doi.org/10.30880/rmtb.2021.02.02.011>

Received 30 September 2021; Accepted 01 November 2021; Available online 01 December 2021

Abstract: Technopreneurship is business that involved with high technology in developing, deploying and delivering services and solutions that have given new business models, revenues and economic growth. The problem statements are facing the challenges of the Industrial Revolution 4.0. The critical development of technopreneurship education model in course learning for reducing unemployment mainly from group B40. The Faculty of Technology Management and Business (FPTP) students should have aware of the technopreneurship dimension, which focuses on machines and innovation processes in their learning. The first objective of the research is to find out the dimension of technopreneurship. The second objective is to determine the level of awareness towards the technopreneurship dimension among Faculty Technology Management and Business students. Respondents for this study consisted of final year BPA program from Faculty of Technology Management and Business, University of Tun Hussein Onn Malaysia. The study was conducted in quantitative form using a questionnaire instrument for data collection and data were analyzed descriptively using (SPSS). The study found that the awareness of technopreneurship dimension among the respondent is at high level. Other than that, the study's findings show that the mean for the highest level of awareness technopreneurship dimension is self-employment. The results of this study will benefit human society and the country.

Keywords: Awareness level, Technopreneurship dimension, Entrepreneurial skill

1. Introduction

In the era of the knowledge-based economy, Malaysia needs an innovative group of knowledgeable technologists, high technology and skilled in entrepreneurship. However, many still do not fully understand the importance of more entrepreneurs based on high technology. It is crucial to help to improve the country's competitiveness towards making Malaysia a developed country by 2020.

According to (Norashidah *et al.*, 2015), to produce successful and innovative techno-entrepreneurs in the strategic industries, the government has made various efforts through the Ministry of Entrepreneurial Development and the private sector.

In developing Malaysia, graduates are the proper generation to venture into the business to secure their lives. The culture of job-hunting is declining due to reduced employment opportunities for the Higher Learning Institutions' graduates. The grudge among fellow graduates in the academic program is quite severe because it is a high competition among the fresh graduates (Azis, Suzalina, & Fahmy, 2019). To help an unemployed person to be employed by creating or inventing a new product on the market. Through technology, those graduates not only can develop or design products they also can sell quickly on an online platform. As we all know, the internet and technology are available and highly recommend in today's generation.

According to Hassan and Kosmo (2019), Malaysian society has become the only consumer of technology to contribute to scientific and technological development. The entrepreneurial culture attitude makes Malaysia a thriving country and able to meet the challenges of the Industrial Revolution 4.0 is a synergy between technology and entrepreneurs as a catalyst for national entrepreneurship development models through the empowerment of entrepreneurs. Globally, many countries have their perceptions regarding the technopreneurship education model and the significance of technopreneurship to all states to avoid their citizens becoming unemployed and increase economic growth.

1.1 Problem Statements

The country should create a Malaysian society that is a consumer of technology and contributes to future scientific and technological development. These suggestions prove the importance of creating an entrepreneurial culture that can overcome future challenges in making Malaysia a developed nation and facing the Industrial Revolution 4.0. Therefore, the synergy between technology and entrepreneurs needs to be defined as an essential plan as a catalyst for national entrepreneurship development models through the empowerment of Technopreneurship.

Higher Learning Institutions are the cornerstone and field for producing a productive and professional workforce to mobilize all the development mechanisms and machinery our leadership uses. In other words, the institution provides skilled and experienced workers to advance the national development agenda. The lack of technopreneurs opens excellent opportunities for Faculty Technology Management. Business students will be graduating from being unemployed instead of becoming technopreneurs due to entrepreneurship or technopreneurship education model. The critical development of the technopreneurship education model in course learning for reducing unemployment (Muhammad & Agus, 2015). The birth of technopreneurs in the Faculty of Technology Management and Business can help these students to support themselves and their families. The teaching and learning provided by this faculty can guide them to start their own business after graduation.

According to Azis *et al.* (2019), opportunities to further their education in the ivory tower are no longer a guarantee for children from low-income families and the lower-income group B40 to change the fate of families and themselves. With a diploma and a degree held after two to four years of study, their chances of obtaining a job well after graduation appear to be increasingly tricky unless they have the opportunity to join the civil service. The Department of Statistics Malaysia reported that in the first quarter of 2019, the country recorded 516,600 unemployed. At the same time, a total of 238,286 unemployed, including 174,327 graduates, registered as active job seekers with JobsMalaysia under the Peninsular Department of Labor.

Unfortunately, many unemployed graduates are children of their own families who have always belonged to the lower-income group, B40 and low-income families. The significance of the technopreneurship dimension among Faculty Technology Management and Business students will produce they graduate. It will produce more creativity and innovation, improve entrepreneurship, quality product, and improve people's standard of living.

1.2 Research Questions

- (i) What is the dimension of Technopreneurship?
- (ii) What is the level of awareness of FPTP towards the Technopreneurship dimension?

1.3 Research Objectives

- (i) To find out the dimension of Technopreneurship.
- (ii) To determine the level of awareness of FPTP towards the Technopreneurship dimension.

1.4 Significance of the Study

This study helps students to identify the characteristics of technopreneurship which can guide those who want to start a business or grow their existing business more advance. It also produces more creative and innovative technopreneurship among students itself. Technopreneurship can produce quality products which takes shorter production period. Technopreneurship facilitates information achievement between entrepreneurs and supply chain management; it is easier to get information fast and feedback. The dimension of technopreneurship will lead future generations to know about technopreneurship from this graduate teacher in the future. Technopreneur's birth impacts human society and nation, and it is improving community living in many aspects like biotechnology, agrotechnology, automotive industry, electronics and information systems. The development of these fields has to give many opportunities for students to take part to grow in business-wide platforms.

1.5 Scope of the Study

This study was conducted at the University of Tun Hussein Onn Malaysia, Parit Raja. Respondents for this study consisted of final year students for one course at the Faculty of Technology Management and Business, University of Tun Hussein Onn Malaysia, which is Bachelor of Technology Management (BPA) only.

2. Literature Review

2.1 Awareness

Awareness is a derivative of the verb conscious. It is also associated with being aware of what is happening or related to something while being interested in something by Hassan (2015). This study focuses more on students' sensitivities and attitudes in the Faculty Technology Management and Business at UTHM to the technopreneurship dimension.

2.2 Entrepreneurship

Entrepreneurship is a long-standing career in the world. Entrepreneurship defines as a social science field with many meanings. It not only involves the exchange of goods, but this field is also the subject of research by presenting various theories and research results for sustainable development. Researchers and scholars are still looking for a holistic purpose to guide (Mustapha *et al.*, 2013).

The field of entrepreneurship provides a space for those who want absolute power and want to challenge their potential. According to Hafeez (2013), there is no definitive definition of entrepreneurs in entrepreneurship education because of their cross-disciplinary nature. A broader knowledge of entrepreneurship can give an awareness of entrepreneurship and foster an entrepreneurial spirit.

2.3 Technopreneurship

Technopreneurship itself defines entrepreneurs who take advantage of today's high technology in producing products and services that use a technique involved in the process of input, conversion or output. Technopreneurship has a comprehensive understanding and covers a wide range of areas in entrepreneurship (Norashidah Hashim *et al.*, 2015). The concept of technopreneurship is still new to us.

Based on Rezal *et al.* (2013), in the Ninth Malaysia Plan (2006-2010), the government has emphasized efforts to produce technopreneurs. Various approaches need to be implemented to ensure this plan is achieved. In general, trying to create an entrepreneur is not easy. What are more, ICT and technology-based entrepreneurs?

2.4 Dimension

According to Bahasa (2017), dimension is the measurement of the size of an object, for example, height, length, width or center. In this context, dimension is characteristic of an individual on technopreneurship. In other words, we need to discover new things, explore, and build so that excellence becomes something real and lasting.

2.5 Technopreneurship Dimension

In the context of this study, the researcher selected six technopreneurship dimensions by Janain (2018), who were frequently cited or found in almost every previous study. Still, this study choose four technopreneurship dimensions to measure the level of final year students have technopreneurship dimension which is (i) taking reasonable risks, (ii) motivation, (iii) have a goal and (iv) consistency, that is enough to show successful characteristics of technopreneurship.

(a) Take Reasonable Risks

Technopreneurs will also find out why the business is not profitable and not quickly disappointed if the company fails. In other words, these findings indicate that successful technopreneurs are brave, like to try something new, and are adventurous. Individuals who have the technological competencies of successful technopreneurs do not take risks without estimating them first.

With the uncertainty of the dynamic rate of change in today's educational situation, individuals need to learn to take risks and ensure that the risks taken are reasonable and reasonable with the rewards received (Rosmani & Aishah, 2018). New explorations in identifying environmental opportunities contribute to the continuous creation that can shape future progress. The competencies possessed by students will produce a creative mind in creating something new and solving problems logically. In today's ever-changing world, the ability to act flexibly requires a high level of competence.

(b) Motivation

To motivate students from a variety of backgrounds to engage in technopreneurship. According to Ravi (2015), motivation also plays an important role as one of the technopreneurship dimensions to be a successful technopreneur. Motivated technopreneurs may have an inner strength to continue producing innovative goods without hurdles and refuse to succeed. This situation solves unemployment and helps improve their standard of living while improving the country's economy. In addition, high motivation also allows a technopreneur to be willing to change in any situation.

(c) Have a Goal

Tengku and Aishah (2016) define the technopreneur as a successful individual in setting up and managing a business. According to researchers, the main goal of entrepreneurs is to achieve success in profit and contribute to the development of the country. The establishment of individual capabilities is a process that can increase a person's ability and credibility of a technopreneur to solve problems and achieve goals in business and determine the success of a business. Personal ability is the ability of a technopreneur to determine the vision and steps to achieve business goals. Successful technopreneur knows the direction of their venture, have clear goals and can be measured by their achievements and vision. With this goal, they are always motivated to act and focus all efforts and energy on choosing the appropriate opportunities to achieve their goals. This study is how technopreneurs set goals and act to achieve those goals (Zaimah & Sazuani, 2017).

(d) Consistency

Technopreneurs are hardworking individuals who always work hard to achieve their goals. Consistency enables technopreneurs to see and analyze a situation and take the necessary action plans, working continuously without despair. Consistent makes a technopreneur work hard to find opportunities and explore areas that others have not explored. While going through the twists and turns of grief and sorrowful life full of mines and thorns, students exhibit positive qualities and hold fast to noble values. Based on life's positive nature and attitude, such as determination, consistency, courage, and patience born of various shortcomings, he can change and control the direction of his life in a perfect direction (Abidin, Junaidi, & Zakaria, 2017).

2.6 Technopreneurship Skills

Technopreneurship skills are one of the most critical soft skills students should have at undergraduate or postgraduate levels. The field of technopreneurship is considered capable of generating human resources that can preserve the country's economic, social and political stability and technology (Mustapha, Yusof Tawang, and Halim Ahmad, 2016).

Furthermore, according to (Selladurai 2016), to develop a technopreneur, a working playground to examine their business thoughts should apply industry because they can innovate the product through this. The developments of skills and talents need to highlight from technopreneurship education to generate a technical mindset and training to solve complicated business problems in the future. The governments should encourage the students to be more active in technopreneur's activities and collaborate with non-government organizations that must contribute to the students in their companies by giving them opportunities to brainstorm new ideas on how to increase company sales.

Marco (2007) defines a technopreneur's skill as translating the behavior or actions into technopreneurs. These skills include the ability to start a new business, manage a business, make decisions, identify opportunities, manage time, communicate well, solve problems creatively and manage stress which is all considered basic skills in business management (Selvan, Fazilah, Arihasnida, Norhasyimah, & Kamariah, 2018).

Besides that, in Zheng (2017), technopreneurship skills can get the opportunity and risk awareness, creativity and innovation in the activity related to business planning, ability to build, explore and seize business and employment and self-employment opportunities. The element entrepreneurial skills found in this research by Philip (2012); Hamali (2014); Norashidah *et al.* (2015): (i) the ability to identify business opportunities, (ii) the ability to plan business planning, (iii) the ability to build, explore and seize business and employment opportunities and (iv) self-employment ability which is:

(a) The Ability to Identify Business Opportunities

An entrepreneur is always forward-thinking. Then will come with a lot of great ideas and plans will be born. They should use their mind power to think all the time, concentrate on business, try to change what they see, and make it a business idea. Brainstorming is a discussion of the techniques to get new ideas. Existing products and services resulting from the creativity and innovation of previous entrepreneurs to suit the current situation. As the activities of human life continue to change, existing products and services also need to be improved. Every change to an existing product will get consumers' attention and give business opportunities to anyone who changes or designs them. Market needs and requirements change from time to time. Prospective entrepreneurs have to research new market demands if they want to get business opportunities. Daily relationships and interactions can provide business opportunities to entrepreneurs in the way the information provided and shared may be transformed into one business and sometimes offers directly to us as a business opportunity.

(b) The Ability to Plan Business Planning

A business plan is a written document describing a business or project proposal that will be implemented comprehensively. The purpose of a business plan is to evaluate the proposed investment

objectively, critically and realistically, to review and evaluate the viability of the planned business. Besides that, the document convinces investors and financial institutions to obtain capital and support services and serves as a guideline in the company's management to be a capital resource and business; the input can be distributed effectively. The plan will be able to increase the confidence and ability of entrepreneurs to conduct business operations. Therefore, entrepreneurs can reduce the risk of failure when planning at an early stage. A business plan documented business ideas, identifies potential problems and finds solutions to those problems. It is also used to assess the potential, uniqueness of the business, the commercial value of technology, market and competition, and explain its usefulness to entrepreneurs and stakeholders.

(c) The Ability to Build, Explore and Seize Business and Employment Opportunities

The ability to build, explore and seize business opportunities and job opportunities shows awareness of risk and has the power of creativity and innovation that translates to business. It develops the potential of students to be more creative, innovative and wise in decision making and translating ideas in the form of reality or economic activity to address the problem of unemployment. Entrepreneurs need to explore new business areas that any entrepreneur and the market have not explored. Entrepreneurs should be encouraged to explore global markets and penetrate new markets internationally. The network of entrepreneurship among Muslim entrepreneurs at the international level needs to be strengthened.

(d) The Self-Employment Ability

When you work on your own, you automatically become a boss and also a laborer. Every day there is no need to face the boss to work according to your steps or pace. Able to perform work more comfortably and calmly directly and already free from work stress. Every effort that is poured out for one's own business is fruitful. It is more definitely giving satisfaction that it feels more enjoyable than to work for someone else.

Furthermore, what you do yourself is something you like and are interested in doing willingly. When working alone, all incomes are your responsibility, so start diligently trying to make many results. Indirectly you can increase your self-confidence; if you are serious and sincere, your income will increase it will be more fun to do business. However, there is no pressure from the boss for anger to go to work late. However, for the sake of the rice cooker itself must not make such a thing. No constraints and no pressure from superiors. Working hours are not the same as other people's work, and the self can be flexible. If the work is too much at that time and the feeling of not continuing the work all day, you can only decide to go home early.

2.7 Significance of Technopreneurship Skills

The impact of technopreneurship education provided by the Public Higher Learning Institution has been recognized as a catalyst for the development of the interest and inclination of young people to engage in entrepreneurship. The role of the Public Higher Learning Institution in producing competitive technopreneurs is clear that the government takes this matter seriously. It can benefit the Higher Learning Institution administration to update technopreneurship courses offered according to current trends.

Besides that, entrepreneurship and business programs in several universities such as Universiti Putra Malaysia, Universiti Kebangsaan Malaysia, Universiti Malaya, and Universiti Sains Malaysia show that entrepreneurship is very relevant in helping the government grow economy better Mustapha *et al.* (2013). Universiti Tun Hussein Onn Malaysia provided technopreneurship programs via Student Technopreneurship Center lead by Dr. Umi Kartini Binti Rashid from the Faculty Technology Management and Business, which provides student entrepreneurship value creation and student entrepreneurship culture (UTHM, 2019). The center allows students to participate in the program to enhance their soft skills rather than study only or passive students.

According to Gorman, King, and Hanlon (1997), Technopreneurial education is the best mechanism for enhancing students' theoretical and practical understanding. From course learning that departments

provide for their students, it makes them acknowledge technopreneurship. Attitudes and knowledge in technopreneurship, one factor that can improve boost interest in the business world. Furthermore, the passion for technopreneurship can develop through the family business. The experience they achieving can improve their family business worldwide.

2.8 Awareness of Technopreneurship Dimension among Students

This research aimed to identify entrepreneurial career aspirations among Higher Learning Institutions (IPTAs) and factors influencing career selection entrepreneurship. Among the factors contributing to career, choice technopreneurship is a profit orientation and a desire to excel in life, Career and Among (2010).

The government's goal to create a technologically-minded Malaysian society is through technopreneurship education available in every Higher Learning Institutions. This situation is intended to provide awareness, knowledge and skills of technopreneurship among the students of the Higher Learning Institutions and provide various forms of assistance to them to start their own business after graduation. Thus, the field of technopreneurs can address various issues and challenges among the students who will be graduating when this field is made a career for them because it has the potential to undertake (Ravi, 2015).

Based on Selladurai's (2016) findings, the researcher proposes to spark the technopreneurship career among Higher Learning Institution students of all parties, including students, universities, professors, ministries, parents. The public should be responsible for recognizing and embracing technopreneurship as a career that can be created as a job opportunity after graduation.

Besides that, Yusof's (2011) research was to identify the level of knowledge of technopreneurship education among technopreneurs in the Farmer Area of East Johor Bahru. His study showed that technopreneurs' expertise in entrepreneurship programs courses is higher than entrepreneurs who do not attend classes. Their perceptions are similar to the importance of technopreneurship education.

According to Haron & Anuar (2008), technopreneurship skills are the interest and ability to explore opportunities and develop an awareness of the technopreneurship dimension, risk, creativity and innovation in business and employment-related activities. Technopreneurship activities are a process of cultivating and producing students with a business culture.

The ability to identify business opportunities (entrepreneurial skills level 1) is considered as a must-have category skill, while abilities to create business planning, as well as build, explore also seize business or employment opportunities, and self-employment abilities (entrepreneurship skills level 2 to 4) are counted as additional category entrepreneurial skills. From here, researchers can determine the level of awareness of technopreneurship among Faculty Technology Management and Business students.

2.9 Technopreneurship Education

Technopreneurship education can shape the entrepreneurship culture and can give exposure or methods to develop awareness among students. Students are cultivating technopreneurship simultaneously, educational goals not only for getting a job but also for giving birth to technopreneurs for commercializing the result of research.

University must have characteristics to provide a technopreneurship ecosystem that enables graduates to commercialize products and innovations created by university researchers. Not any typical entrepreneur, but technopreneurs who can commercialize high technology and innovation. In fact, in Datu and Shamsudin (2008), graduates right now not only have more knowledge and skill in any field, but graduates should have technopreneurship dimensions.

Education is considered one of the critical factors in the economic growth and development of humans. According to Kenechukwu (2017), in looking at the relationship between levels of education

with success, research shows that a businessman is more successful at higher education levels in his field. Based on the evidence, it shows that the educational factor is an essential factor in boosting entrepreneurship. The well-educated technopreneur in courses and training will be more skilled and confident in technopreneurship.

Technopreneurship is an entrepreneurial field that applies and applies technological expertise in product production, services, business management and business-related decision making. The technopreneur model is a model to strengthen the capacity and capability of existing entrepreneurs from small and medium (SME) to large-scale enterprises. According to their respective clusters implemented through Technology Partner Collaboration which includes Higher Learning Institutions (IPT), Training Institutions Skills (ILK), Technology Providers and Agencies Providers Technology or Private Sector (ABKPTSS) with expertise based on strategic research and technology (Rozi, 2019).

Based on the course learning itself in Faculty Technology Management and Business, the lecturer's research introduced to equip the final year students with the knowledge and skills of entrepreneurship process by discovering, evaluating and exploiting opportunities for building scalable business in general and technology or knowledge-based ventures. The credit value must student takes this course for 42 weeks. The delivery methods are lecture, group discussion and presentation, while assessment methods are tests, quiz, individual assignment, group assignment, report and project presentation.

The course learning outcomes (CLO), at the end of the course, students will be able to (i) appreciate the contribution of technopreneurship to the social and economic development (CLO1), (ii) develop a business plan which is realistic and professional based on current technology and lastly (iii) relate the skill sets of an entrepreneur with the career of an innovative technologist. The transferable skills, if applicable, soft skills learned in the course that can be utilized in student development are knowledge in Technopreneurship, application of technology in business, and problem-solving.

3. Research Methodology

3.1 Research Design

Quantitative research methods were used in this study through the distribution of questionnaires to collect quantitative data. This method is used to identify the technopreneurship dimension and the level of awareness of the technopreneurship dimension.

3.2 Research Population

The population of this study is one through four students taking the Bachelor's degree in Technology Management and Business, UTHM in the course Technology Management with Honours of which 130 people as the population.

3.3 Research Sample

Sampling is done to obtain information from a sample that can estimate and illustrate the population being studied. Based on Krejcie and Morgan (1970), the sample size of this study was 97 people.

3.4 Research Instrument

The researchers used questionnaires Likert Scale of five levels of the measured responses of respondents also easy to use and to provide a quantitative measure of a character or a personality trait.

Table 1: Questionnaire structure

Part	Element	Source
A	Demographic Respondents	
B	Technopreneurship Dimension	(Janain, 2018)
C	The level of awareness towards technopreneurship dimension among FPTP students, UTHM	(Hafeez, 2013)

3.5 Data Collection

The way data is collected divided into two which are primary data and secondary data.

(a) Primary Data

In order to obtain data, a survey form was distributed to the respondents, among final year students, FPTP, UTHM.

(b) Secondary Data

This study uses journals, reference books, articles, electronic media and other related sources as a reference for data and information. The researcher used education journals by accessing online journals, which are ScienceDirect and UTHM journal portal.

3.6 Pilot Study

A pilot study is a preliminary study carried out on a small scale with various purposes. The objectives are to build benchmarks, improve research skills, estimate the duration of the study and more. The survey form was distributed to the Faculty of Technology Management and Business students at random for the pilot study. Data obtained from the pilot study were tested using the Alpha Cronbach method. A pilot study will be conducted to determine the reliability and validity of the questionnaire built. The findings of this pilot study determine whether or not the instrument used has high reliability by determining acceptable values in the Alpha Cronbach Test.

The Cronbach Alpha test was conducted to see whether the survey questions measured by the Likert Scale were reliable. For this purpose, the researchers conducted a pilot study of 30 undergraduate Technology Management with honors students, UTHM, to get the reliability of the items being built and to see the feasibility of the questionnaire.

After the analysis using the Statistical Package for Social Sciences (SPSS) for Windows, version 22, the pilot study results are available for the Alpha Cronbach item questionnaire is 0.961. Table 3.3 and Table 3.4 shows Alpha Cronbach's Pilot Study for Part B and Part C.

4. Data Analysis and Results

The data were obtained from the questionnaire form analyzed to provide all visible results to answer all the study's objectives.

4.1 Demographic Profile

This section was analyzed using frequency and percentage descriptive tests. A total of 97 sets of questionnaires were distributed to final year students in the Bachelor of Technology Management course with Honors at UTHM. Respondents' demographics were related to gender, race and age. Table

1 shows the respondent's distribution and student's percentage by gender where as many as 20 people or 20.6% are male, and as many as 77 people or 79.4% are female.

Table 2: The distribution of respondents and the percentage of students by gender

		Frequency	Percent
Valid	Male	20	20.6
	Female	77	79.4
	Total	97	100.0

Based on Table 3 shows the distribution of respondents and the percentage of students by race. The majority of respondents were the Malay race, namely a total of 83 people or 85.6%, followed by as many as ten people or 10.3% of the Chinese nation and of 2 or 2.1% were the Indians and respondents were non-Malays, Chinese and Indians of 2 or 2.1% from the Melanau and the indigenous peoples which is Orang Asli.

Table 3: The distribution of respondents and the percentage of students by race

		Frequency	Percent
Valid	Malay	83	85.6
	Chinese	10	10.3
	Indian	2	2.1
	Other	2	2.1
	Total	97	100.0

Table 4 shows the respondents and the percentage of students by age. The respondent's number was between the ages of 23 and 27 years is the highest total of 61 people or 62.9%, and 36 people or 37.1% of the respondent's ages ranging between the ages of 18 and 22 years. Meanwhile, 28 and above have no respondents.

Table 4: The distribution of respondents and the percentage of students by age

		Frequency	Percent
Valid	18 - 22 years	36	37.1
	23 - 27 years	61	62.9
	Total	97	100.0

4.2 Technopreneurship Dimension

Overall, the analysis results show that the overall mean scores for all four elements of the technopreneurship dimension are high, mean = 4.02 and standard deviation = 0.59. The result indicated that individuals have the technopreneurship dimension of themselves to become successful technopreneurs. Table 5 below shows the findings of the study of the elements of the technopreneurship dimension.

Table 5: Overall part B mean, standard deviation and technopreneurship dimension

	N	Mean	Std. Deviation	Level
Element 1: Take reasonable risks	97	3.7814	.51485	Higher
Element 2: Motivation	97	4.1258	.50110	Higher
Element 3: Have a goal	97	4.2206	.67669	Higher
Element 4: Consistency	97	3.9588	.65252	Higher
Valid N (listwise)	97			

4.3 Overall Part C Mean, Standard Deviation and The Level of Awareness towards Technopreneurship Dimension

Overall, the analysis results show that the overall mean score for all four elements of entrepreneurship skills is high, mean = 4.07 and standard deviation = 0.39. the result indicates that students are aware of the technopreneurship dimension. Table 6 below shows the findings of the overall elements of entrepreneurship skills.

Table 6: Overall part B mean, standard deviation and technopreneurship dimension

	N	Mean	Std. Deviation	Level
Element 1: Ability to identify business opportunities	97	4.0395	.66090	Higher
Element 2: Ability to design business planning	97	3.9777	.74366	Higher
Element 3 - Ability to build, explore and seize business and employment opportunities	97	4.1134	.6116 9	Higher
Element 4 - Self-employment ability	97	4.1564	.54103	Higher
Valid N (listwise)	97			

5. Discussion and Conclusion

5.1 Technopreneurship Dimension

(a) *Take Reasonable Risks*

This study shows that the technopreneur dimension of final year students in the Faculty of Technology and Business Management is high but unsatisfactory found that the characteristics of this domain need to be improved. Respondents need to be more courageous to take risks to mean = 3.78. The study results for reasonable risk-taking elements are not in line with the study conducted by Janain (2018), mean = 4.78. Technopreneurs will also find out why the business is not profitable and not easily disappointed if the business fails. The findings align with previous studies such as Hisham (2015) and S. Abdullah, Hamdan, Hasna, Yahya, & Hasyamuddin (2010). They found that successful entrepreneurs are willing to take reasonable risks in business, enjoy challenges, and success will lead to satisfaction overcome in themselves. In other words, these findings indicate that successful technopreneurs are brave, like to try something new, and are adventurous.

(b) *Motivation*

This study shows that the technopreneur dimension of final year students in the Faculty of Technology and Business Management is high but unsatisfactory found that the characteristics of this domain need to be improved. Respondents need to be more motivated to seize business opportunities, mean = 4.13. The study results for motivational elements are not in line with the study conducted by Janain (2018), mean = 4.27.

Technopreneur's motivation plays an important role in enhancing entrepreneurial excellence and success in the business world. Many factors cause entrepreneurs to get involved in the business world. It agrees with previous researchers such as Kamarul & Shahrul (2010) that entrepreneurs have a high-performance achievement motivation. According to Fzlinda, Hanim, Mizal, & Juliana (2014), technopreneurs with sufficient technical knowledge but a lack of business skills could be balanced with high motivation to succeed in business.

(c) Have a Goal

This study shows that the technopreneur dimension of final year students in the Faculty of Technology and Business Management is high level and very satisfactory found that the characteristics of this domain have shown that respondents have a high goal to achieve dreams mean = 4.22. The study results for the element have a goal, not in line with the study conducted by Janain (2018), mean = 3.95.

To cultivate entrepreneurship among students, making entrepreneurship a viable career (Ibrahim, Zaifurin, & Nashriah, 2009). While the research by Nazrolnizah (2014) found entrepreneurs to succeed will set a pace for business growth to pursue their goals. The findings support Janain's (2018) view, stating that successful entrepreneurs are individuals who have vision and foresight, think positively and strive to achieve what they dreamt.

(d) Consistency

This study shows that the technopreneur dimension of final year students in the Faculty of Technology and Business Management is high level and unsatisfactory found that the characteristics of this domain have shown inconsistent respondents in business, mean = 3.96. The study results for the consistent element are not consistent with the study conducted by (Janain 2018), mean = 4.07.

This finding is supported by Syahrina, Armanurah, & Julienti's (2016) view that consistency also means that entrepreneurs are willing to make repeated efforts to overcome obstacles and challenges to achieve their goals. While the findings of this study support, Arni, Bharuddin, & Hisyamudin (2009) view that the fundamental characteristics of technopreneurs identified as entrepreneurs are individuals with high energy and enthusiasm, more tolerant than others against risk and uncertainty, craving autonomy and the ability to consistent goals despite various challenges and resources.

5.2 The Level of Awareness Towards Technopreneurship Dimension

(a) The Ability to Identify Business Opportunities

The study found that final year students are aware of entrepreneurial skills by showing a positive attitude and that university entrepreneurship skills are important. According to the study, the students are aware of entrepreneurship skills in the field of their course. This realization arises when they are exposed to the learning situation at the University itself. This study also shows that students are aware of entrepreneurial skills after gaining exposure to entrepreneurial skills.

This study shows that the level of awareness towards technopreneurship dimension of final year students in the Faculty of Technology and Business Management is high and very satisfactory found that the characteristics of this domain have shown that respondents can identify business opportunities, mean = 4.04. The study results for identifying business opportunities do not align with the study (Hafeez, 2013), mean = 2.45.

The findings of this study were supported by Sarimah, Norlizah, & Aisyah (2010), which stated that to become successful technopreneurs, students must learn a skill to be successfully able to identify business opportunities. This awareness is important and necessary in shaping students towards becoming entrepreneurs. The findings of this study also indicate the ability to identify opportunities in the environment, generate creative and innovative ideas in the face of competition (Norashidah, Norasmah, & Aishah, 2009).

(b) The Ability to Plan Business Planning

Awareness of the importance and advantages of technopreneurship can influence a student's potential and aspiration to become an entrepreneur. In addition, the study results also show that students' level of awareness of the elements of business planning ability is low compared to other elements, even at high levels. It shows that respondents are less responsive and less aware of planning business-related activities through teaching and learning activities.

This study shows that the level of awareness towards the technopreneurship dimension of final year students in the Faculty of Technology and Business Management is high. Satisfactory found that the characteristics of this domain have shown that respondents can formulate business plans with the guidance of lecturers, mean = 3.98. The study results for the ability to design business planning are not consistent with the study conducted by (Hafeez 2013), mean = 2.50.

An element of business planning ability is an important element of entrepreneurial skills because it can influence the success and failure of an entrepreneur (Sarimah *et al.*, 2010). The findings from Selvan, Fazilah, Arihasnida, Norhasyimah, & Kamariah (2018) the average value of the mean score can be concluded that the ability to plan business planning among the final year students (FPTV) has been revealed early on. Most respondents have provided a complete business plan. Some respondents Faculty of Technology Management and Business also provided a complete business plan guided by lecturers.

(c) The Ability to Build, Explore and Seize Business and Employment Opportunities

The findings of this study from Haron & Anuar's (2008) view can enhance students' interest in taking the course offered, appreciating and exploring disciplines and then tracking the development of knowledge. Respondents were able to build, explore and seize employment opportunities provided by the University to explore business-related matters. The findings of this study were supported by Aini (2003) that the funds provided in the form of grants were given to eligible female entrepreneurs without the need for collateral and no repayment. It is aimed at encouraging women entrepreneurs to explore high-tech businesses.

This study shows the level of awareness towards the technopreneurship dimension of final year students in the Faculty of Technology. Business Management is high level, and very satisfactory found that this domain feature has shown respondents can build, explore and seize business opportunities that are in front of their eyes by taking all courses and competitions provided by the faculty, mean = 4.11. The study results for the ability to build, explore and seize business and employment opportunities are not in line with the study conducted by (Hafeez 2013), mean = 2.54.

(d) The Self-Employment Ability

In any business or field of endeavor, not everyone will succeed, similarly in the field of entrepreneurship, where some entrepreneurs succeed while others fail. Many things can be classified as a person's attitude, such as work discipline, ethics, and sense of responsibility. Because entrepreneurs are self-employed, some people are unable to discipline themselves Zamzuraidah (2004). Doing whatever you want, not keeping time for one-on-one appointments, not fulfilling promises, paying off debt is among the negative aspects of unscrupulous, unethical and irresponsible entrepreneurs.

This study shows that the level of awareness towards the technopreneurship dimension among the final year students in the Faculty of Technology and Business Management is high and satisfying. This domain has shown that respondents can work on their own after graduation if it is difficult to get a job in the public and private sectors, mean = 4.16. The study results for the ability to work independently are not in line with the study conducted by Hafeez (2013), mean = 2.60.

According to Selvan *et al.* (2018) view, respondents believed that graduating in entrepreneurship could be their second choice as a career of choice because respondents agreed and believed that if they entered the field of entrepreneurship, this would bring them significant results. Therefore, respondents agreed to choose entrepreneurship as a choice of career. Therefore, it can be concluded that entrepreneurship is an important area of study as it can help one succeed in business.

5.3 Limitations of the study

Among the limitations faced was a lack of cooperation from the respondents to help answer the questionnaire form distributed. In addition, the researcher's time constraints in obtaining data from the respondents and the dishonest attitude of the respondents in answering the questions provided.

Other than that, the study sample was small ($n = 97$) and selected from respondents only one course only, Technology Management. Therefore, the results cannot be generalized to the larger population. Further studies should broaden the scope of the study by sampling other courses in the same faculty or other faculty in UTHM.

5.4 Implication of the study

The results of this study can serve as a guide for future researchers, students, lecturers and the parties concerned to enhance the entrepreneurial element in technopreneurship teaching and learning. The next generation of entrepreneurs is more about the technopreneur dimension in themselves.

Furthermore, this study is expected to improve the amount of research done on the technopreneurship dimension and the level of awareness of the technopreneurship dimension. Furthermore, the researchers also hope that this study will help researchers in Malaysia to make this study a reference as such studies are not yet widely conducted in Malaysia.

5.5 Recommendations

Based on the conducted analysis, the researcher would like to submit some suggestions and recommendations for consideration by the authorities. These suggestions and recommendations are expected to assist, improve and enhance entrepreneurship skills among students and empower technopreneurship in Malaysia. Some of the suggestions are as follows:

(a) Personality

Studies show that personality and mental aspects such as personalization, support, networking and entrepreneurial training are essential to forming innovative thinking of successful technopreneurs. Therefore, it is proposed that those who undertake technopreneur development programs should consider personality, internal and external support, networking and incubators as a core of a uniform training ground for all government agencies.

(b) Student

Entrepreneurial skills are among the most important skills in soft skills that students must be owned and master. Each year, the unemployment rate of local high school graduates is increasing. Entrepreneurship has been addressed in many ways and drew attention among the unemployed youth. Therefore, researchers recommended that students grab an opportunity to increase their level of entrepreneurial skills from time to time regardless of time and place while in the classroom, in workshops and while attending academic activities even while away from University. In addition, students are also encouraged to attend courses, seminars, workshops, motivational camps and further their knowledge and enhance their entrepreneurship skills. In this way, students will master entrepreneurship skills and make entrepreneurship a career that can be a job opportunity after graduation.

(c) Incubator

Researchers propose a special incubator to provide technopreneurs with free politically flexible entry and serve as an information center for each faculty. The findings of this study found suggested elements such as business capital, technopreneurship training and all the management skills and basics of the business as among the possible fillings in the incubator.

(d) Lecturer

Lecturers are encouraged to diversify teaching techniques throughout the teaching and learning process. Lecturers also need to be smart in organizing, strategizing and creative in attracting students to entrepreneurship. In addition, lecturers will need to choose teaching methods appropriate to their student's style and purpose of learning in specific situations. Lecturers are also encouraged to continue

to improve their knowledge in entrepreneurship to keep pace with the times where now exists technopreneurship.

(e) University

Universities play an important role in producing and preparing graduates ready for employment. The University is the main runway and field for producing a productive and professional workforce to mobilize the country's mechanisms and development. Universities need to provide students with opportunities for formal or informal technopreneurship education and create a technopreneurs culture among students to provide technopreneurship awareness, knowledge and education. Universities need to increase the number of technopreneurship courses or activities per student at every faculty in the University. It builds knowledge and experience that can be applied alongside areas of student expertise in the business.

5.6 Conclusion

The result was based on the average mean value obtained from the respondents through the distributed questionnaire. The analysis shows that the technopreneurship dimension and the level of awareness of the technopreneurship dimension towards the entrepreneurial skills element recorded high levels. Based on the study's findings, it can be concluded that the technopreneurship dimension and level of awareness of the technopreneurship dimension among the final year students of Technology Management at UTHM are at a high level they are satisfied.

Referring to the first research question, the researcher focused on the dimensions of the technopreneur's need to be present in the technopreneur's self. From the literature review, four dimensions of technopreneurship are identified as the main characteristics of entrepreneurship: take reasonable risks, motivation, have a goal, and consistency. Based on the study's findings, these dimensions of technopreneurship shape the personality and identity of the technopreneurs to compete and survive in their respective fields of business. The findings from the analysis of the survey indicate that the technopreneurship dimension is high.

For the second research question, the result showed that the final year Undergraduate Degree in Technology Management with Honors in UTHM on entrepreneurship skills through teaching and learning activities was high in measuring the level of awareness of the technopreneurship dimension. The literature review identifies four elements of entrepreneurial skills: the ability to identify business opportunities, plan business planning, build, explore and seize business and employment opportunities, and self-employment ability. The findings of this analysis clearly show high from the questionnaire that students are aware of entrepreneurial skills in their learning activities. This realization arises when they are exposed to the learning situation at the University itself.

Overall, this study concludes that the technopreneurship dimension and the level of awareness of the technopreneurship dimension are high. Although the two research questions are satisfactory, they need to be taken care of and require the support and involvement of all students, lecturers, universities, ministries, parents and the community. There are eight elements in technopreneurship in choosing entrepreneurship as a career that can be a job opportunity after graduation.

Acknowledgement

The authors would like to thank the Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia for its support.

References

- Abdullah, S., Hamdan, K., Hasna, N. M. N., Yahya, B., & Hasyamuddin, O. (2010). *Peranan PBM Dalam Penerapan ke Terhadap Budaya Keusahawanan Pelajar Universiti Awam di Malaysia*. 193–205. Retrieved from <http://eprints.uthm.edu.my/id/eprint/3545>
- Aini, I. N. (2003). *Daya saing usahawan wanita Melayu menghadapi cabaran globalisasi*. 1–16. Retrieved from <https://iyres.gov.my/jdownloads/kertaskerja/daya-saing-usahawan-wanita-melayu-menghadapi-cabaran-globalisasi-.pdf>
- Anuar, A. K., & Haron, H. M. (2008). *Kemahiran keusahawanan: satu kajian analisis kandungan buku-buku teks*. 1–64. Retrieved from http://eprints.uthm.edu.my/id/eprint/129/1/muhammad_haron_husaini.pdf
- Arni, B. S., Bharuddin, C. P., & Hisyamudin, R. S. R. (2009). Prinsip-Prinsip Kualiti ke Arah Melahirkan Usahawan Muslim yang Berjaya. *Syariah*, 17, 327–352. Retrieved from <https://ejournal.um.edu.my/index.php/JS/article/view/22738>
- Azis, N. M., Suzalina, H., & Fahmy, A. R. (2019). Eksklusif: Graduan, siswazah miskin, B40 sukar dapat kerja setimpal. *Berita Harian Online*, p. 1. Retrieved from <https://www.bharian.com.my/berita/nasional/2019/07/582258/eksklusif-graduan-siswazah-miskin-b40-sukar-dapat-kerja-setimpal>
- Bahasa, P. dan D. (2017). Dimensi. Retrieved June 27, 2020, from Central Methods Sdn Bhd website: <http://prpm.dbp.gov.my/CarianBestari?mode=ext&keyword=dimensi>
- Career, E., & Among, A. (2010). *Aspirasi Kerjaya Keusahawanan dalam Kalangan Pelajar Institusi Pengajian Tinggi Awam*. 35(1), 11–17.
- Fzlinda, F. N., Hanim, P. K., Mizal, M. K., & Juliana, L. (2014). Orientasi Usahawan Kraftangan di Sabah: Ciri Personaliti dan Motivasi. *2nd ASEAN Entrepreneurship Conference 2014*, 1–8. Retrieved from https://www.researchgate.net/profile/Noor_Fabeil/publication/277817078_The_Orientation_of_Handicraft_Entrepreneurs_in_Sabah_Their_Personality_Characteristics_and_Motivations_Orientasi_Usahawan_Kraftangan_di_Sabah_Ciri_Personaliti_dan_Motivasi/links/557517
- Gary, G., Dennis, H., & Wayne, K. (1997). Some Research Perspectives on Entrepreneurship Education, Enterprise Education and Education for Small Business Management: A Ten-Year Literature Review. *Research Article*. Retrieved from <https://journals.sagepub.com/doi/pdf/10.1177/0266242697153004>
- Hafeez, A. A. M. (2013). Penerapan Kemahiran Keusahawanan Dalam Kalangan Pelajar Bidang Kejuruteraan Mekanikal Di Uthm. *Malaysian Journal of Learning and Instruction*, 9, 81–109. Retrieved from http://eprints.uthm.edu.my/5369/1/Mohd_Hafeez_Al-Amin_Bin_Adul_Wahab.pdf
- Hisham, M. N. N. (2015). *Konsep Keusahawanan Sosial Islam: Suatu Pengamatan Awal*. 128–138. Retrieved from <http://umkeprints.umk.edu.my/id/eprint/6228>
- Ibrahim, M., Zaifurin, W. N. W. M., & Nashriah, R. N. (2009). Nilai, Sikap dan Amalan Pegawai Kanan Institut Pengajian Tinggi Terhadap Program Pembangunan Usahawan Siswa. 7, 1–20. Retrieved from <https://jurnalkemanusiaan.utm.my/index.php/kemanusiaan/article/view/209>
- Janain, B. (2018). *Pemikiran inovatif, ciri-ciri dan kompetensi teknokeusahawanan industri kecil sederhana bumiputera*. 1–566. <https://doi.org/10.1017/CBO9781107415324.004>
- Kamarul, B., & Shahrul, N. (2010). *Motivasi keusahawanan pemaju perumahan bumiputera di Pulau Pinang*. 1–15. Retrieved from <http://repo.uum.edu.my/id/eprint/2758>
- Latiff, N. A., Rashid, M. R. A., Husin, S., Awang, A. D., & Rahman, M. N. A. (n.d.). Tahap Keusahawanan Dalam Gerakan Koperasi Di Malaysia. *Monograf Penyelidikan*, 1–108. Retrieved from http://www.ikkm.edu.my/images/Awam/Penerbitan/Senarai_Penyelidikan/Monograf-KeusahawananFinal.pdf
- Muhammad, H., & Agus, N. (2015). *The Importance of Technopreneurship Management Model for Vocational School*. 147–150. <https://doi.org/10.2991/ictvet-14.2015.33>
- Nasir, S. M. (2018). *Melahirkan graduan tekno-usahawan*. p. 1. Retrieved from <https://bharian.com.my/kolumnis/2018/03/396172/melahirkan-graduan-tekno-usahawan>
- Nazrolnizah, M. N. (2014). *Hubungan di antara Prestasi Perniagaan dengan Profil HRV Biofeedback Usahawan Amanah Ikhtiar Malaysia*. 84, 1–12. <https://doi.org/http://103.219.237.47/akademika/article/view/7886/3118>
- Norashidah, H., Keat, O. Y., Mohd Salleh, H. D., Hee, H. C., Shuhymee, A., Habshah, B., ... Muhammad Nasri, M. H. (2015). Asas keusahawanan. In *Pace Uum* (Vol. 31).
- Norashidah, H., Norasmah, O., & Aishah, B. N. (2009). *Konsep Kesediaan Keusahawanan Berdasarkan Kajian Kes Usahawan Industri Kecil dan Sederhana (IKS) di Malaysia*. 34, 187–203. Retrieved from <http://ejournal.ukm.my/jpend/article/view/13440>
- Ravi, N. (2015). *Hubungan Sikap, Pemikiran Dan Tingkah Laku Terhadap Keinginan Dalam Pemilihan Kerjaya Keusahawanan Dalam Kalangan Prasiswazah India Di Institut Pengajian Tinggi Sekitar Bangi*. 1–156. Retrieved from

- https://www.researchgate.net/profile/Ravi_Nagarathanam/publication/283009026_Hubungan_Sikap_Pemikiran_dan_Tingkah_Laku_Terhadap_Keinginan_Dalam_Pemilihan_Kerjaya_Keusahawanan_Dalam_Kalangan_Prasiswazah_India_Di_Institut_Pengajian_Tinggi_Sekitar_Bangi/links/562605a708ae4d9e5c4c4077/Hubungan-Sikap-Pemikiran-dan-Tingkah-Laku-Terhadap-Keinginan-Dalam-Pemilihan-Kerjaya-Keusahawanan-Dalam-Kalangan-Prasiswazah-India-Di-Institut-Pengajian-Tinggi-Sekitar-Bangi.pdf
- Rezal, H. M., Amir, K. D. K., Narimah, I., Norizah, A., & Norshahrizan, N. (2013). Tahap Pengetahuan dan Minat Pelajar Universiti Malaysia Perlis Terhadap Bidang Keusahawanan: Satu Tinjauan ke Arah Pembentukan Teknousahawan. *Oliteknik & Kolej Komuniti Journal of Social Sciences and Humanities, Vol. 1, 2016*, 53(1), 1–11. <https://doi.org/10.1017/CBO9781107415324.004>
- Rosmani, A., & Aishah, B. N. (2018). Kompetensi Keusahawanan Sebagai Mediator Kesiapan Penerapan Elemen Keusahawanan dalam Kalangan Pensyarah Institut Pendidikan Guru (IPG). *Jurnal Pendidikan Malaysia, 1*(1), 123–130. <https://doi.org/http://dx.doi.org/10.17576/JPEN-2018-43.03-13>
- Rozi, H. M. (2019). Dimensi Baharu Teknousahawan. *News UMP*, p. 1. Retrieved from <http://news.ump.edu.my/experts/dimensi-baharu-teknousahawan>
- Sarimah, C. H., Norlizah, C. H., & Aisyah, B. N. (2010). Penguasaan kemahiran insaniah (kemahiran keusahawanan) dalam kalangan guru sekolah di Malaysia. *Proceedings of The 4th International Conference on Teacher Education; Join Conference UPI & UPSI*, 1–12. Retrieved from [http://file.upi.edu/Direktori/PROCEEDING/UPI-UPSI/2010/Book_5/PENGUASAAN_KEMAHIRAN_INSANIAH_\(Kemahiran_Keusahawanan\)_Dalam_Kalangan_Guru_Sekolah_Di_Malaysia.Pdf](http://file.upi.edu/Direktori/PROCEEDING/UPI-UPSI/2010/Book_5/PENGUASAAN_KEMAHIRAN_INSANIAH_(Kemahiran_Keusahawanan)_Dalam_Kalangan_Guru_Sekolah_Di_Malaysia.Pdf)
- Selladurai, M. (2016). *Conceptual Framework on Technopreneurship. VII*(27), 1–97.
- Selvan, S. T., Fazilah, A. M. N., Arihasnida, A., Norhasyimah, H., & Kamariah, R. S. (2018). *Kemahiran Keusahawanan Dalam Kalangan Pelajar Tahun Akhir (FPTV) di UTHM*. 1–10. Retrieved from <https://publisher.uthm.edu.my/ojs/index.php/oj-tp/article/view/4846/2918>
- Syahrina, A., Armanurah, M., & Julienti, A. B. L. (2016). Program Transformasi Oku Melalui Edu-Tourism: Satu Tinjauan Terhadap Kompetensi Keusahawanan Orang Kelainan Upaya (OKU). *F Global Business and Social Entrepreneurship, 3*, 20–27. Retrieved from [http://gbse.com.my/isijulai16/GBSE 2\(3\), 20-27 \(July 2016\).pdf](http://gbse.com.my/isijulai16/GBSE 2(3), 20-27 (July 2016).pdf)
- Tengku, M., & Aishah, B. N. (2016). Keberkesanan Program Latihan Usahawan Mikro Dalam Membantu Usahawan Bumiputra Islam. *Reflektika, 12*(12), 59–69. Retrieved from <http://ejournal.idia.ac.id/index.php/reflektika/article/view/29/23>
- UTHM, C. (2019). Pusat Teknousahawan Pelajar. Retrieved June 23, 2020, from <https://community.uthm.edu.my/kartini>
- Yuhanis, C. H. (2015). Pengetahuan, sikap dan kesedaran pensyarah dalam pengamalan penyelidikan di politeknik premier. *Ijazah Sarjana Pendidikan Teknik Dan Vokasional UTHM*. Retrieved from <http://eprints.uthm.edu.my/7118/>
- Yusof, N. B. (2011). *Tahap Pengetahuan Terhadap Pendidikan Keusahawanan Dalam Kalangan Usahawan Di Pertubuhan Peladang Kawasan Johor Bahru Timur*. 25.
- Zaimah, R., & Sazuani, A. (2017). Tahap keupayaan usahawan dalam Perusahaan Kecil dan Sederhana di Kuala Terengganu. *GEOGRAFIA OnlineTM Malaysian Journal of Society and Space, 13*(4), 117–125. Retrieved from <http://ejournals.ukm.my/gmjss/article/view/22253/7024>
- Zairon, M., Yusof, T. M., & Halim, A. A. (2016). Faktor yang mempengaruhi niat keusahawanan dalam kalangan pelajar Kolej Komuniti Malaysia. *Oliteknik & Kolej Komuniti Journal of Social Sciences and Humanities, Vol. 1, 2016, 1*, 128–2875.
- Zamzuraidah, I. (2004). *Faktor-Faktor yang Mendorong Usahawan Wanita Kelantan Menceburi Bidang Perniagaan di Pasar Siti Khadijah Kelantan*. 1–24. Retrieved from <http://www.fp.utm.my/ePusatSumber/pdffail/ptkghdfwP/Zamzuraidahbp010150d2004tpp.Pdf>
- Zheng, W. (2017). *Who is shaping entrepreneurial experience? A multiple case study of Chinese entrepreneurial learning*. <https://doi.org/10.1108/MD-06-2016-0370>