

RELATIONSHIP BETWEEN FACTORS OF THE THEORY OF PLANNED BEHAVIOR (TPB) WITH ENTREPRENEURIAL INTENTION AMONG HOSPITALITY STUDENTS AT UiTM CAWANGAN PULAU PINANG

Nik Mohd Shahril Nik Mohd Nor^{1*}

Iffah Najwa binti Mhd Jamil¹

Nor Hamizan Hamir¹

Norliana Hashim¹

Ahmad Fauzan Badiuzaman¹

¹Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang, (Email: nik.shahril@uitm.edu.my)

¹Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang, (Email: iffahnajwajamil@gmail.com)

¹Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang, (Email: norhamizan317@uitm.edu.my)

¹Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang, (Email: norli1974@uitm.edu.my)

¹Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang, (Email: fauzanb@uitm.edu.my)

Article history

Received date : 4-9-2025

Revised date : 5-9-2025

Accepted date : 5-10-2025

Published date : 30-10-2025

To cite this document:

Nik Mohd Nor, N. M. S., Mhd Jamil, I. N., Hamir, N. H., Hashim, N., & Badiuzaman, A. F. (2025). Relationship between factors of the Theory of Planned Behavior (TPB) with entrepreneurial intention among hospitality students at UiTM Cawangan Pulau Pinang. *Journal of Islamic, Social, Economics and Development (JISED)*, 10 (77), 1061 – 1079.

Abstract: *The government has always encouraged the community to become a self-employed community through various programs and incentives, especially for graduates to be involved in entrepreneurship. The incentives and programs can be in the form of financial assistance and training. The purpose of this study is to examine the relationship between the factors of the Theory of Planned Behaviour (TPB), which are attitude, subjective norms, perceived behavioural control, and entrepreneurship education with entrepreneurial intention among students from Diploma and Bachelor's Degree Program in hospitality. This study used quantitative methods and data from 248 respondents were successfully collected for data analysis. A Partial Least Squares (PLS) was used to analyse all data. The findings indicate that attitude, subjective norms, and perceived behavioural control have a strong positive influence, while entrepreneurial education has a moderate positive influence on hospitality students' entrepreneurial intention. Universities should enhance experiential entrepreneurship education and industry collaboration. Future research should include diverse samples, explore additional variables, and consider longitudinal and qualitative approaches to deepen understanding of entrepreneurial intention.*

Keywords: *Entrepreneurial Intention, Attitude, Subjective Norms, Perceived Behavioral Control, Entrepreneurship Education*

Introduction

Entrepreneurship is the process of creating new ventures and businesses (Hong, Sha'ari, Zulkifli, Aziz & Ismail, 2020). According to Ambad and Damit (2016), developing countries such as Malaysia encourage students and graduates to engage in entrepreneurship regardless of their field of study and consider it as a career option. The government's preparation in fostering the interest of students and graduates in the field of entrepreneurship started with "Pelan Pembangunan Pendidikan Malaysia (PPPM) 2016-2020" by the Ministry of Higher Education (MoHE). Later, the Ministry of Higher Education continued the effort with the launch of "Pelan Tindakan Keusahawanan Institusi Pendidikan Tinggi (PTK IPT) 2021–2025" by the Minister of Higher Education, Datuk Seri Dr Noraini Ahmad. In order to show the commitment, on February 19, 2021, MoHE has developed a Guide to Entrepreneurship Integrated Education (EIE) virtually to support the sustainability of the entrepreneurship agenda at Higher Education Institutions (HEIs) and to produce more entrepreneurs among HEIs students and graduates. Entrepreneurs are considered the backbone of any economy as they contribute significantly to gross domestic product (GDP) and job creation (Bhatti et al., 2021).

The government has put an effort into changing the situation of the Bumiputera community, who are salaried to a self-employed community, which has indirectly encouraged them to do business and become entrepreneurs. According to the Department of Statistics Malaysia (2022), unemployed female graduates comprise 54.2% of 106.9 thousand people, while unemployed male graduates comprise 45.7% of 90.5 thousand people. In 2021, the statistics of unemployed male graduates showed a decrease of 5.3% compared to 2020, while the number of unemployed female graduates recorded a small increase of 0.03%. Amaran (2015) suggested that efforts to instill entrepreneurship need to be expanded and supported, especially among graduates who have the desire and potential to succeed as entrepreneurs.

Information from the website of the Ministry of Higher Education (2020) shows the Graduate Tracking Survey report for 2019, the majority of graduates (70.6%) prefer to work for private organizations over government organizations (10.7%). While 6.5% prefer to work alone, 5.1% prefer to work with family, and only 4.8 percent prefer to work with others. This shows that the percentage of graduates who engage in the field of entrepreneurship is still low compared to salaried work. A study by Sakarji, Shari, Zainudin, Hatta, Mustapha, and Thani (2021) also found the same issue, where although legislative bodies and higher education institutions have provided various initiatives, the number of graduates participating in entrepreneurial endeavors is still low.

Using the framework of the Theory of Planned Behavior (TPB) by Ajzen (1991), which shows three variables which are (attitude, subjective norms, and perceived behavioral control) the study will investigate the relationship with the entrepreneurial intention. Therefore, the researcher wants to include entrepreneurship education in this study to test whether the variables have a relationship to the intention of graduates. Several researchers have carried out the study on entrepreneurship education as one of its independent variables, which is included in TPB theory (Bae et, al., 2014). However, because hospitality students provided entrepreneurship as one of the main core subjects in the course structure, this study included entrepreneurship education as one of the independent variables. The students of the hospitality course from the Universiti Teknologi MARA Campus Pulau Pinang (UiTM CPP) who are

currently studying and who have studied entrepreneurship courses will be the subjects of the study.

The main objective of this study is to examine the relationship between the factors of the Theory of Planned Behaviour (TPB), which are attitude, subjective norms, perceived behavioral control, and entrepreneurship education with entrepreneurial intention among hospitality students at Universiti Teknologi Mara Campus Permatang Pauh (UiTM CPP).

Literature Review

Entrepreneurial Intention

Entrepreneurial intention refers to an individual's conscious state of mind that precedes the decision to start a new business or venture. According to Ajzen (1991), intention is a strong predictor of one's willingness to perform a particular behavior, forming the basis of the Theory of Planned Behaviour (TPB). Building on this, Kamarudin et al. (2016) define entrepreneurial intention as a person's desire and willingness to engage in entrepreneurial activities. Joseph (2017) further explains it as a cognitive process shaped by prior experiences, attention, and actions that guide individuals toward achieving specific business goals. Similarly, Nathani and Dwivedi (2019) view entrepreneurial intention as a mental inclination consisting of desire, hope, and ambition that motivates the pursuit of entrepreneurship.

Recent empirical studies continue to validate the relevance of TPB in explaining entrepreneurial intention among students and aspiring entrepreneurs. For example, Xanthopoulou and Sahinidis (2024) confirmed that attitude, subjective norms, and perceived behavioural control remain significant predictors of entrepreneurial intention across diverse contexts. Furthermore, research by Andrade and Carvalho (2023) highlights the growing importance of cultural and regional factors in shaping these intentions. Emerging variables such as creativity, digital competencies, and sustainability values are increasingly integrated into TPB frameworks to enhance the understanding of entrepreneurial motivation (Islam & Mehdi, 2024; Ramos-Rodriguez et al., 2023).

Given these findings, entrepreneurial intention is best understood as a dynamic construct influenced not only by internal factors like beliefs and attitudes but also by external elements such as education, training, and environmental values. This suggests that higher education institutions should tailor entrepreneurship programs to include experiential learning, mentorship, and value-based components that align with students' motivations. Future research should also consider longitudinal and cross-cultural studies to better understand how entrepreneurial intention evolves over time and in different contexts.

Attitudes

Attitude, as conceptualized by Ajzen (1991), refers to the degree to which an individual holds a favorable or unfavorable evaluation of performing a particular behavior—in this case, becoming an entrepreneur. In the context of the Theory of Planned Behaviour (TPB), attitude serves as a critical predictor of entrepreneurial intention, representing personal beliefs, values, and emotional responses toward entrepreneurship. Taha, Ramlan, and Noor (2017) supported this notion by stating that attitudes can reflect positive or negative reactions toward specific objects, events, or behaviors. Malebana (2017) further explained that entrepreneurial support

mechanisms, such as training or institutional backing, can positively influence attitudes, which subsequently enhance entrepreneurial intention. This is consistent with the findings of Kabir et al. (2017), who emphasized the strong relationship between personal attitudes and behavioral intentions.

Several empirical studies have demonstrated that students' positive attitudes significantly influence their intention to pursue entrepreneurship. Gitonga (2017) revealed that students from the United States International University in Africa exhibited a strong and favorable attitude toward entrepreneurship, which was significantly related to their entrepreneurial intention. Similarly, Gathoni (2018) found consistent results among student populations, indicating the centrality of attitude in forming entrepreneurial goals. Hong et al. (2020) also observed that students at Kolej Islam Antarabangsa Sultan Ismail Petra (KIAS) had their entrepreneurial intentions strongly shaped by their positive attitudes and exposure to entrepreneurial education. These findings illustrate the robust influence of attitude across different educational and cultural contexts.

Recent literature continues to support the pivotal role of attitude in shaping entrepreneurial intention. For instance, Xanthopoulou and Sahinidis (2024) concluded in their meta-analysis that attitude remains one of the most consistent and significant predictors of entrepreneurial intention across global student populations. Lou and Yaakob (2025) found that attitude not only predicts intention directly but also mediates the effects of entrepreneurial self-efficacy and education. Furthermore, Walczyna and Arent (2024) highlighted the long-term stability of entrepreneurial attitude as a predictor through longitudinal research. These recent studies reaffirm the need for higher education institutions to cultivate positive entrepreneurial attitudes through relevant curriculum, mentorship programs, and practical experiences, as such attitudes significantly enhance students' motivation and readiness to engage in entrepreneurial activities. The following is the hypothesis between attitude and entrepreneurial intention in this study:

H1: There is a relationship between attitude and entrepreneurial intention among hospitality students.

Subjective Norms

Subjective norms, as defined by Ajzen (1991) in the Theory of Planned Behavior (TPB), refer to an individual's perception of social pressure from important others such as family, friends, or mentors to perform or not perform a specific behavior. These normative beliefs play a crucial role in shaping intention, especially when an individual perceives that key referents approve or expect the behavior to be carried out (Nguyen, 2017). Within the entrepreneurial context, subjective norms reflect the degree to which an individual believes that their immediate social environment supports entrepreneurial actions. Hong et al. (2020) emphasized that encouragement from peers, family, and social networks significantly stimulates entrepreneurial intentions, especially among students in higher education institutions.

Empirical studies have consistently demonstrated a positive relationship between subjective norms and entrepreneurial intention across different cultural and academic contexts. For instance, Saraih et al. (2018) found that among Malaysian engineering students, subjective norms were significantly associated with entrepreneurial intention. Similarly, Ahmed (2020) confirmed that in Bangladesh, students' entrepreneurial intentions are influenced by perceived

social expectations and support. Mohammed, Fethi, and Djaoued (2017) also showed that social factors such as family influence and peer encouragement positively affect the entrepreneurial intentions of Algerian students. These studies suggest that subjective norms play a reinforcing role in validating entrepreneurial pursuits, especially when societal approval and emotional support are evident.

Recent research, however, offers a more nuanced understanding of the influence of subjective norms. Nessel et al. (2024) found that while subjective norms may not always exert a direct effect, they significantly influence entrepreneurial intention indirectly through attitudes and perceived behavioral control. Additionally, a Malaysian study noted that the strength of subjective norms' influence may vary depending on contextual factors, such as culture, education, and personal values. During the COVID-19 pandemic, perceptions of social support were found to remain strong predictors of entrepreneurial intention, highlighting the enduring importance of normative influence in times of uncertainty. These findings underscore the dynamic role of subjective norms and suggest that fostering supportive social environments within educational institutions and families can significantly enhance students' entrepreneurial motivation. The following is the hypothesis between attitude and entrepreneurial intention in this study:

H2: There is a relationship between subjective norms and entrepreneurial intention among hospitality students.

Perceived Behavioral Control

Perceived behavioral control (PBC) is a central construct within the Theory of Planned Behavior (TPB) and refers to an individual's belief in their capability to perform a specific behavior (Ajzen, 1991). Within the context of entrepreneurship, PBC is commonly understood as the perceived ease or difficulty of establishing and running a business. DINC and BUDIC (2016) define PBC in entrepreneurial research as an individual's perception of control over the start-up process, influenced by access to resources, skills, and self-confidence. Ahmed (2020) similarly emphasized that PBC reflects an individual's capability and confidence in executing the behaviors necessary to become an entrepreneur. These perceptions are influenced by both internal factors (e.g., knowledge, skills) and external conditions (e.g., institutional support or market access).

A significant body of empirical research has consistently supported the positive relationship between PBC and entrepreneurial intentions. Studies by Gathoni (2018) and DINC and BUDIC (2016) found that students with high perceived behavioral control were significantly more likely to express entrepreneurial intention. Nguyen (2017) notably identified PBC as the strongest predictor of entrepreneurial intention among business students in Vietnam. Recent studies reaffirm this finding; for example, Aga (2023) discovered that among Ethiopian university students, PBC significantly mediated the relationship between entrepreneurship education and entrepreneurial intention. Similarly, a study conducted in Indonesia showed that PBC explained a substantial portion of the variance in students' entrepreneurial intention, indicating its strong predictive role when combined with entrepreneurship curriculum and experiential learning.

Beyond direct influences, recent research highlights that PBC is also shaped by broader contextual and psychological factors. Makai and Döry (2023) emphasized the role of institutional support, such as mentoring, entrepreneurial ecosystems, and university-driven initiatives, in strengthening students' perceived control. Furthermore, personality traits, prior business experience, and human capital elements have been identified as influential in enhancing PBC (Mubarik et al., 2021). These insights suggest that universities and policymakers play a critical role in fostering PBC by creating supportive environments and developing students' entrepreneurial competencies. Enhancing perceived behavioral control through structured education, skill-building, and access to entrepreneurial resources can thus serve as a key strategy in cultivating future entrepreneurs. The following is the hypothesis between attitude and entrepreneurial intention in this study:

H3: There is a relationship between perceived behavioral control and entrepreneurial intention among hospitality students.

Entrepreneurship Education

Entrepreneurship education has become a key component of higher education curricula worldwide, with its primary aim being to equip students with the knowledge, skills, and mindset required for entrepreneurial success (Ahmed, 2020). It emphasizes innovation, creativity, and business planning, helping students understand the structure and function of business within society (Shamsuddin et al., 2018). According to Kabir et al. (2017), entrepreneurship education involves cultivating essential skills and traits that support the development of innovative ventures. Hong et al. (2020) further emphasize that entrepreneurial competencies in students can be developed through structured educational programs to foster new venture creation.

Several empirical studies support the positive influence of entrepreneurship education on students' entrepreneurial intention. For instance, Oguntimehin and Oyegoke (2017) reported a significant relationship between entrepreneurship education and students' entrepreneurial intentions in Nigerian universities. Similarly, Aida (2015) and Hong et al. (2020) found consistent results across different institutional and cultural contexts. Shamsuddin et al. (2018) also confirmed the significance of entrepreneurship education in shaping entrepreneurial intention among Malaysian accounting students.

Recent studies further validate these findings. Xanthopoulou and Sahinidis (2024) highlighted entrepreneurship education as a consistent antecedent of entrepreneurial intention across global samples. Makai and Döry (2023) emphasized that university support programs and experiential learning environments significantly enhance students' perceived readiness to engage in entrepreneurship, suggesting that entrepreneurship education is not only influential but necessary for fostering a new generation of entrepreneurs. The following is the hypothesis between attitude and entrepreneurial intention in this study:

H4: There is a relationship between entrepreneurial education and entrepreneurial intention among hospitality students.

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB), introduced by Ajzen (1991), is a prominent psychological framework that explains how individual intention leads to actual behavior. In the context of entrepreneurship, TPB has been widely adopted to understand and predict entrepreneurial intention, as it incorporates both personal and social factors influencing decision-making (Aida, 2015). The theory posits that an individual's intention to perform a behavior—such as starting a business—is shaped by three independent constructs: attitude toward the behavior, subjective norms, and perceived behavioral control. According to Taha et al. (2017), TPB is empirically validated and effective in explaining entrepreneurial intention, making it a suitable theoretical foundation for entrepreneurship studies.

The first determinant, attitude toward behavior, refers to the degree to which a person has a favorable or unfavorable evaluation of becoming an entrepreneur. This includes beliefs about the personal outcomes of entrepreneurship—such as financial gain, independence, or risk—and emotional responses to these outcomes. A positive attitude significantly increases the likelihood of entrepreneurial intention, as individuals are more inclined to act if they believe the outcomes are beneficial. It reflects both rational assessment and emotional valuation of entrepreneurship as a career path.

The second construct, subjective norms, involves perceived social pressure from significant others—such as family members, friends, and mentors—regarding whether the individual should engage in entrepreneurial activities. If individuals believe that influential people in their lives support entrepreneurship, they are more likely to form strong entrepreneurial intentions. Lastly, perceived behavioral control reflects an individual's perception of their ability to successfully perform the entrepreneurial behavior. It encompasses self-confidence, access to resources, and perceived ease or difficulty of launching a venture. This construct closely resembles the concept of self-efficacy and is often considered the strongest predictor of entrepreneurial intention. Collectively, these three variables enable TPB to offer a comprehensive and predictive model of entrepreneurial behavior.

Methodology

Research Design

This study uses a quantitative method. The purpose of this study is to examine the intention and factors that determine an entrepreneur among hospitality students after graduating. Participants in this study will be given a questionnaire to complete. The questionnaire will be distributed to the respondents, who are hospitality students from part 4 and part 5 Diploma programs and students from part 3 and part 5 of Bachelor's Degree programs at UiTM Campus Permatang Pauh (UiTMCPP). The questionnaire will be distributed via Google Forms and will be divided into six sections: A and B, C, D, E and F. It includes a consent form for answering the questionnaire.

Population and Sample Size

According to Sekaran and Bougie (2013), the sample is defined as a subset of a population that includes some members chosen from it. In this study, the probability sampling, that is, stratified sampling, will be chosen as the sampling method. This is because stratified sampling gathers a random selection from the entire population, where each unit has an equal chance of selection.

Besides, the proportioned stratified sampling design was used. The population is the entire group of people, events, or things that the researcher wishes to investigate or explore (Sekaran & Bougie, 2013). The population selected for this study are hospitality students' part 4 and part 5 Diploma programs and students from part 3 and part 5 of Bachelor's Degree programs from the Faculty of Hotel and Tourism Universiti Teknologi Mara Campus Permatang Pauh (UiTMCP) where the total population of 697 student will be provided by the Diploma and Degree Program Coordinator UiTMCP. The students involved are those who are currently and have studied entrepreneurship courses which are Diploma in Hotel Management, Diploma in Tourism Management, Diploma in Food Service Management, Diploma in Culinary Arts, Diploma in Pastry Arts, Bachelor of Science (Hons) Hotel Management and Bachelor of Science (Hons) Culinary Management. It is assumed that they will graduate and start an entrepreneurial career after graduation. The sample will be chosen using the table created by Krejcie and Morgan (1970), which concludes that the appropriate number of samples from 697 populations is 248 respondents. Table 1 displays the population size.

Table 1: Hospitality Students From Part 4 And Part 5 Diploma Programs And Students From Part 3 And Part 5 Of Bachelor's Degree Programs At Uitm Cawangan Pulau Pinang (Uitmcp) Population

Program	Number of Students
HM110 - Diploma in Hotel Management	82
HM111 - Diploma in Tourism Management	81
HM112 - Diploma in Food Service Management	88
HM115 - Diploma Culinary Arts	253
HM116 - Diploma in Pastry Arts	85
HM240 - Bachelor of Science (Hons) Hotel Management	26
HM245 - Bachelor of Science (Hons) Culinary Management	82
Total	697

Sources: Diploma And Degree Program Coordinator Uitmcp

Research Instrument

In this study, the research instrument uses the Google Form questionnaire, which is adopted from the questionnaire by Ahmed (2020) and from the questionnaire by Aida (2015). The following resources were used to develop the measurements used in this study:

Table 2: Sources of Variables' Instruments

Category	Instrument	Coding	Items
Section A Demographic	Self-Developed	-	4 Items
Section B Entrepreneurial Intention	Adopted from: Ahmed (2020)	EI1-EI4	4 Items
Section C Attitudes	Adopted from: Ahmed (2020)	A1-A8	8 Items
Section D Subjective Norms	Adopted from: Ahmed (2020)	SN1-SN6	6 Items

Section E Perceived Behavioral Control	Adopted from: Ahmed (2020)	PBC1-PBC6	6 Items
Section F Entrepreneurship Education	Adopted from: Aida (2015)	EE1-EE13	13 Items

Section A's questions are based on demographic characteristics, and the respondents will be asked questions about their age, gender, level of education, and programmed. This section contains a total of four questions. As previously stated, sections B, C, D, and E will be asked by using the five-point Likert Scales anchored by 1 = Not at all likely, 2 = Not very Likely, 3 = Somewhat Likely, 4 = Very Likely, and 5 = Extremely Likely. For section F will be asked by using the five-point Likert Scales anchored by 1 = Strongly Agree, 2 = Agree, 3 = Neutral, 4 = Disagree, and 5 = Strongly Disagree. To reduce confusion among target respondents, two languages, English and Malay, are provided.

Data Collection Procedures

The researcher obtained a list of hospitality students from the academic advisor at UiTM CPP, including their program, class group, and class representative contact details. The researcher then contacted each class representative, briefed them, and provided a link to the online questionnaire to be shared with their classmates. Data collection was conducted over three weeks. During the first two weeks, class representatives were asked to distribute the link to their respective groups. In the third week, a reminder was sent to encourage participation from students who had not yet responded. The respondents comprised students from the Diploma (Part 4 and Part 5) and bachelor's degree (Part 3 and Part 5) programs in hospitality. A total of 248 questionnaire links were distributed to class representatives for this purpose. Data was collected once the students completed the online questionnaire.

Findings

Respondents' Frequency Analysis

This study involved 248 respondents. Based on descriptive analysis, a total of 131 (52.8%) respondents were aged between 21 to 24 years, while 110 (44.4%) respondents were aged between 18 to 20 years, and respondents aged 25 to 27 years recorded only 7 (2.8%). Most of the respondents are female, with 155 (62.5%), and males make several 93 (37.5%) of the total number of respondents. As for the level of education, many respondents who answered this survey were from Diploma students, with 152 (61.3%) respondents, while bachelor's degree students recorded 96 (38.7%) respondents. Diploma in Hotel Management and Bachelor of Science (Hons) in Hotel Management students recorded the same number of 44 (17.7%), while 40 (16.1%) were Diploma in Tourism Management students. Bachelor of Science (Hons) Culinary Arts Management with a record of 34 (13.7%) students and 32 (12.9%) are Diploma in Food Service Management students. The Diploma in Culinary Arts program only recorded the number of 29 (11.7%) students, and 25 (10.1%) were students of the Diploma in Pastry Arts program. Table 3 also displays the overall frequency analysis result.

Table 3: Frequency of Respondents' Demographic Profile

Demographic Characteristics	Frequency	Percentage (%)
Age		
18 – 20 years old	110	44.4
21 – 24 years old	131	52.8
25 – 27 years old	7	2.8
Gender		
Male	93	37.5
Female	155	62.5
Level of Education		
Diploma	152	61.3
Bachelor of Degree	96	38.7
Programmed		
HM110 - Diploma in Hotel Management	44	17.7
HM111 - Diploma in Tourism Management	40	16.1
HM112 - Diploma in Food Service Management	32	12.9
HM115 - Diploma in Culinary Arts	29	11.7
HM116 - Diploma in Pastry Arts	25	10.1
HM240 - Bachelor of Science (Hons) in hotel Management	44	17.7
HM245 -Bachelor of Science (Hons) Culinary Arts Management	34	13.7

Hypothesis Testing

The study utilized Partial Least Squares-Structural Equation Modeling (PLS-SEM) analysis to examine the proposed hypotheses. This process consisted of two separate phases: measurement and structural assessment models. The measurement model assessment aimed to analyze the relationships between unobserved or latent variables (LV). The structural model assessment sought to simultaneously evaluate the links between the basic exogenous and endogenous constructions.

Measurement model assessment

According to Hair Jr et al. (2021) and Hanafiah (2020), the reflective measurement model was subjected to a thorough investigation that covered four crucial dimensions: internal consistency reliability, indicator reliability, convergent validity, and discriminant validity. The outcomes are shown in Table 4 together with the outer loading values, AVE scores, composite reliability, indicator reliability, and Cronbach Alpha values. The dependability of each measurement item was checked using factor loading, and the distinct loading of each measurement item onto its designated latent variable was verified by looking at cross-loading results. Table 4 results showed large loadings (>0.70) for every item, satisfying the requirements for indication reliability (Fornell & Larcker, 1981). Furthermore, AVE and composite reliability values were higher than the suggested cutoffs of 0.50 and 0.70, respectively, confirming the overall reliability of the research components and convergent validity.

The cross-loading criteria proposed by Chin (2010) and Fornell & Larcker (1981) were both used to evaluate discriminant validity. All off-diagonal elements satisfied the required standards, as determined by the Fornell-Larcker criterion, if their square roots were less than the corresponding AVE values. Based on Chin (2010)'s criteria, the cross-loading study

validated the measurement model's discriminant validity. To sum up, the assessments of discriminant validity, convergent validity, and reliability produced positive outcomes, suggesting that the measurement model is appropriate for evaluating the structural model. Table 4 provides a thorough summary of the reflecting measurement model's outer loadings, indicator reliability, composite reliability (CR), Average Variance Extracted (AVE) scores, and Cronbach Alpha values.

Table 4: Reflective Measurement Model

Latent Variable	Indicators	Outer Loadings	Composite Reliability (CR)	AVE	Cronbach Alpha
Attitude	A1	0.584	0.936	0.650	0.921
	A2	0.830			
	A3	0.867			
	A4	0.822			
	A5	0.783			
	A6	0.854			
	A7	0.848			
	A8	0.827			
Ent. Education	EE1	0.894	0.980	0.800	0.977
	EE2	0.897			
	EE3	0.887			
	EE4	0.888			
	EE5	0.916			
	EE6	0.880			
	EE7	0.916			
	EE8	0.893			
	EE9	0.907			
	EE10	0.888			
	EE11	0.911			
	EE12	0.853			
Ent. Intention	EI1	0.860	0.927	0.762	0.896
	EI2	0.899			
	EI3	0.865			
	EI4	0.865			
Perv. Behavioral Ctrl	PBC1	0.803	0.938	0.716	0.920
	PBC2	0.878			
	PBC3	0.873			
	PBC4	0.849			
	PBC5	0.804			
	PBC6	0.867			
Subjective Norm	SN1	0.719	0.871	0.532	0.825
	SN2	0.573			
	SN3	0.769			
	SN4	0.675			
	SN5	0.805			
	SN6	0.809			

Note: Item EE13 Was Removed Due to Low Loading.

Upon scrutiny of Table 4 the evaluation of internal consistency reliability is predicated on items within the model that exhibit composite reliability values (CR) surpassing the threshold of 0.7. Subsequently, the assessment shifts to convergent validity, which was ascertained via the calculation of the Average Variance Extracted. An AVE value exceeding 0.5 signifies that the constructs under investigation collectively account for more than half of the variance within their respective measurement items, thereby establishing the model's discriminant validity. Hence, the measurement model is deemed to possess discriminant validity.

This study was rigorously validated by comprehensively assessing discriminant validity through the application of the Fornell-Larcker (1981) and Chin (1998) cross-loading criteria. These well-established principles dictate that the square root of the average variance extracted must exceed the correlations between a given measure and all other measures, and that indicators' loadings must surpass their respective construct's loadings on other constructs. Consistent with the Fornell-Larcker assessment in Figure 1, the findings convincingly demonstrate that all off-diagonal elements are lower than the square roots of AVE, thereby satisfying the stringent criteria set forth by Fornell and Larcker. Furthermore, the cross-loading analysis in Table 5 provides robust evidence corroborating the measurement model's discriminant validity, as Chin's rigorous assessment prescribes. Collectively, these rigorous evaluations substantiate the presence of strong discriminant validity within the measurement model, reinforcing the credibility of the study.

	ATTITUDE	ENT EDUCATION	ENT INTENTION	PER BEHAVIOR CTRL	SUBJ NORM
ATTITUDE	0.806				
ENT EDUCATION	0.29	0.894			
ENT INTENTION	0.766	0.338	0.873		
PER BEHAVIOR CTRL	0.733	0.356	0.714	0.846	
SUBJ NORM	0.677	0.235	0.668	0.678	0.73

Figure 1: Fornell-Larcker assessment

Table 5: Cross-Loading Assessment

	Attitude	Ent Education	Ent Intention	Per Behavior Ctrl	Subj Norm
A1	0.584	0.113	0.386	0.430	0.389
A2	0.830	0.272	0.685	0.606	0.567
A3	0.867	0.249	0.670	0.621	0.562
A4	0.822	0.250	0.621	0.614	0.555
A5	0.783	0.229	0.599	0.537	0.557
A6	0.854	0.240	0.626	0.636	0.557
A7	0.848	0.246	0.643	0.620	0.586
A8	0.827	0.235	0.654	0.639	0.568
EE1	0.233	0.894	0.258	0.273	0.161
EE10	0.285	0.888	0.310	0.323	0.224
EE11	0.303	0.911	0.344	0.353	0.248
EE12	0.232	0.853	0.358	0.364	0.249
EE2	0.237	0.897	0.275	0.274	0.177

EE3	0.244	0.887	0.309	0.314	0.190
EE4	0.287	0.888	0.319	0.308	0.232
EE5	0.267	0.916	0.297	0.312	0.208
EE6	0.244	0.880	0.263	0.298	0.212
EE7	0.252	0.916	0.261	0.325	0.180
EE8	0.250	0.893	0.302	0.337	0.192
EE9	0.263	0.907	0.285	0.313	0.222
EI2	0.684	0.333	0.899	0.612	0.602
EI3	0.642	0.290	0.865	0.586	0.557
EI4	0.679	0.253	0.865	0.655	0.586
PBC1	0.572	0.361	0.551	0.803	0.506
PBC2	0.610	0.274	0.609	0.878	0.490
PBC3	0.606	0.295	0.557	0.873	0.593
PBC4	0.621	0.318	0.620	0.849	0.615
PBC5	0.631	0.255	0.607	0.804	0.624
PBC6	0.673	0.309	0.668	0.867	0.606
SN1	0.589	0.296	0.575	0.605	0.719
SN2	0.336	0.105	0.311	0.311	0.573
SN3	0.555	0.198	0.541	0.528	0.769
SN4	0.308	0.081	0.331	0.382	0.675
SN5	0.493	0.151	0.517	0.505	0.805
SN6	0.576	0.141	0.547	0.548	0.809
EI1	0.668	0.303	0.860	0.638	0.586

Structural Model Assessment

A structural model assessment was conducted to evaluate the hypothesized relationships among the core constructs of the Theory of Planned Behavior (TPB) and their influence on entrepreneurial intention among hospitality students at UiTM Cawangan Pulau Pinang. This path analysis was used to examine the nomological validity of the model by assessing the direction and strength of the relationships between the independent variables—attitude toward behavior, subjective norms, perceived behavioral control, and entrepreneurship education—and the dependent variable, entrepreneurial intention. The analysis was performed using SmartPLS version 4.1.1.4, utilizing both the algorithm estimation and bootstrapping procedure to determine the statistical significance of the path coefficients. The regression coefficients (β) were examined to assess the magnitude of each path, while the corresponding t-statistics obtained from the bootstrapping output were used to determine significance levels. The results of this analysis are summarized in Table 6, which presents the path coefficients, t-values, and p-values for each hypothesis tested within the model. The findings reveal that all four constructs attitude, subjective norms, perceived behavioral control, and entrepreneurship education have significant and positive effects on students' entrepreneurial intention. Notably, attitude toward behavior emerged as the strongest predictor, followed by perceived behavioral control and subjective norms. Although entrepreneurship education showed a relatively smaller effect, it remained statistically significant. These results affirm the theoretical propositions of TPB and emphasize the importance of psychological and contextual factors in shaping students' entrepreneurial motivations.

In conclusion, the structural model supports the validity of TPB in explaining entrepreneurial intention among hospitality students at UiTM Cawangan Pulau Pinang. These insights contribute to a deeper understanding of how educational and psychosocial factors interact to influence students' decisions to engage in entrepreneurial careers.

Table 6: Path coefficients, T-statistics, and significance levels.

Hypo	Path Analysis	Path Coefficient (β)	T-statistic	P-value	Result
H1:	ATTITUDE -> ENT INTENTION	0.441	6.263	***0.000	Accepted
H2:	ENT EDUCATION -> ENT INTENTION	0.083	2.222	**0.026	Accepted
H3:	PER BEHAVIOR CTRL -> ENT INTENTION	0.226	3.376	***0.001	Accepted
H4:	SUBJ NORM -> ENT INTENTION	0.198	3.120	**0.002	Accepted

* $P < 0.10$, ** $P < 0.05$, *** $P < 0.01$

The results of the structural model analysis provide valuable insight into the factors that influence entrepreneurial intention among hospitality students. Attitude toward entrepreneurship emerged as the most influential factor, with a path coefficient of $\beta = 0.441$, $t = 6.263$, and a significance level of $p < 0.001$. This indicates that students who hold a positive perception of entrepreneurship such as viewing it as fulfilling, financially rewarding, or aligned with personal goals are more inclined to express strong entrepreneurial intentions. These findings are consistent with the Theory of Planned Behavior (Ajzen, 1991) and reinforce previous studies highlighting attitude as a central predictor of intention.

Entrepreneurship education also showed a statistically significant relationship with entrepreneurial intention ($\beta = 0.083$, $t = 2.222$, $p < 0.05$). Although the influence is relatively modest compared to other factors, it confirms that educational exposure such as learning about business fundamentals, participating in workshops, or engaging in entrepreneurship-related coursework can positively shape students' entrepreneurial thinking. This suggests that formal education plays a foundational role by increasing awareness, enhancing skills, and fostering interest, even if it does not directly trigger immediate intentions for all students.

Perceived behavioral control, which reflects the belief in one's ability to perform entrepreneurial tasks, also had a meaningful impact ($\beta = 0.226$, $t = 3.376$, $p < 0.001$). Students who feel confident in their entrepreneurial abilities whether due to past experience, skillsets, or available resources are more likely to intend to start a business. This supports the concept that self-efficacy and perceived control are essential psychological enablers of entrepreneurial behavior.

Meanwhile, subjective norms were also found to be significant ($\beta = 0.198$, $t = 3.120$, $p < 0.01$), indicating that social influence plays a key role in shaping entrepreneurial intentions. Students who receive encouragement from family, friends, lecturers, or peers may feel more motivated to explore entrepreneurship. While not the strongest predictor, the social approval and expectations of influential people can boost students' confidence and validate their interest in entrepreneurial pathways.

In conclusion, these findings confirm the applicability of the Theory of Planned Behavior in explaining entrepreneurial intention within the context of hospitality education. All three core TPB constructs, attitude, perceived behavioral control, and subjective norms, along with entrepreneurship education, were significant contributors. The results highlight the need for higher education institutions to foster positive attitudes, build students' entrepreneurial skills and confidence, and create supportive environments that reinforce entrepreneurial aspirations through peer and institutional encouragement.

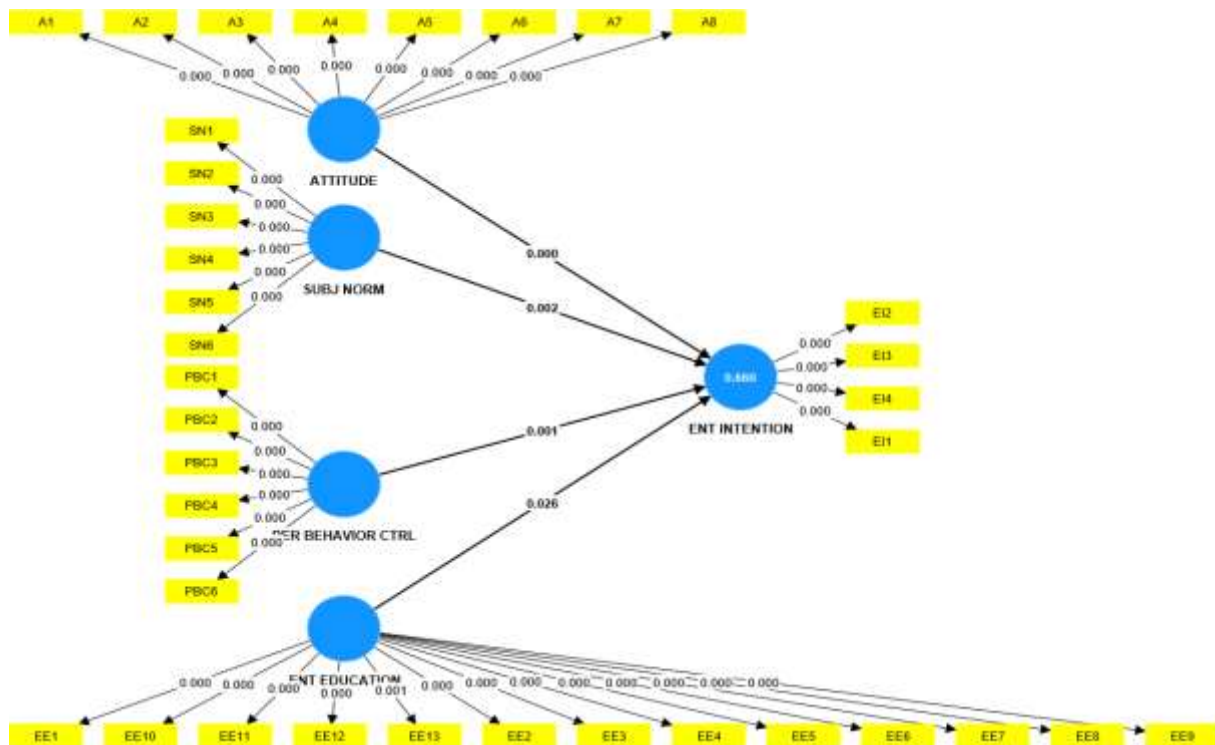


Figure 2: Final Model

Discussion

In this study, the findings of the first hypothesis show that there is a strong relationship between attitude and entrepreneurial intention (44.1%) among UiTM CPP hospitality students. It is because a career as an entrepreneur interests them, and they see themselves as entrepreneurs in the next 5 years. Therefore, a study from Kabir et. al 2017 stated that the relationship between attitude and entrepreneurial intention is significant, and they concluded that the higher entrepreneurial attitude of students ultimately influences them to participate in entrepreneurial activities.

For the second hypothesis, the results showed that there is a partial relationship between subjective norms and entrepreneurial intention (8.3%) among UiTM CPP hospitality students after graduation. The researcher found that the encouragement from the family for UiTM CPP students to engage in entrepreneurship is very important. This is because their family will approve of their decision to start a business, and they will do anything to become entrepreneurs. In line with previous studies from Saraih et al (2018) found that among engineering students, there is a significant relationship between subjective norm and entrepreneurial intention, and

another study from Ahmed (2020) shows that entrepreneurial intentions are positively related to subjective norms among university students in Bangladesh. Gathoni (2018) stated that the more support from their parents, family, friends, and colleagues, the better their entrepreneurial intentions.

The third hypothesis showed that there is a relationship between perceived behavioral control and entrepreneurial intention (22.6%) among hospitality students at UiTM CPP after graduation. Therefore, the researcher justified that UiTM CPP hospitality students have confidence and a medium chance of success if they try to start a business and think seriously about starting a business in the future. The findings are directly in line with previous findings, a study from DINC and BUDIC (2016) shows that perceived behavioral control had a significant effect on entrepreneurial intention among women in the Federation of Bosnia and Herzegovina. The author also explained that self-efficacy or belief in personal ability to succeed and perform tasks or control the process of creating a company plays an important role in increasing entrepreneurial intentions. The study conducted by Ahmed (2020) found that perceived behavioral control positively affects to increase in entrepreneurial intention among university students in Bangladesh.

In this study, researchers have added an independent variable, which is entrepreneurship education, with 3 variables from the Theory of Planned Behavior (attitude, subjective norms, and perceived behavioral control). Finding the fourth independent variable showed that there is a relationship between entrepreneurship education and entrepreneurial intention (19.8%) among hospitality students at UiTM CPP after graduation. Entrepreneurship education (courses/modules) has improved their ability to think strategically in making business decisions and to make every effort to start and run a business. This can be supported by the study from Aida (2015) stated that entrepreneurship education changed students' perceptions of self-employment because, after being exposed to the programs and modules available in entrepreneurship education, they will be more positive in assessing self-employment as a career path, thus significantly influencing entrepreneurial intention.

Conclusion

This study successfully achieved its objective of examining the relationship between the factors of the Theory of Planned Behavior (TPB) namely attitude, subjective norms, perceived behavioral control and entrepreneurship education with entrepreneurial intention among hospitality students enrolled in Parts 4 and 5 of the Diploma program and Parts 3 and 5 of the Bachelor's Degree program at UiTM Cawangan Pulau Pinang (UiTM CPP). The findings revealed that attitude, subjective norms, and perceived behavioral control demonstrated strong, positive relationships with entrepreneurial intention, whereas entrepreneurship education exhibited a weaker yet still significant relationship. These results validate the applicability of TPB in the context of hospitality education, emphasizing that students' intentions to engage in entrepreneurship are largely shaped by personal beliefs, social influence, and perceived competence. However, the study also uncovered that 25.5% of students expressed skepticism regarding the effectiveness of current entrepreneurship modules and theories in preparing them for future entrepreneurial pursuits. This suggests a need for the Faculty of Hotel and Tourism Management at UiTM CPP to enhance entrepreneurship education through more engaging, experiential, and practical approaches such as interactive seminars, real-world simulations, and

hands-on activities to supplement traditional theoretical instruction. These methods may foster deeper understanding and better prepare students for entrepreneurial challenges.

Future research is encouraged to replicate this study across other UiTM campuses to strengthen generalizability. Additionally, incorporating other influential factors, such as economic conditions and personality traits like extraversion and conscientiousness, could provide a more comprehensive understanding of the determinants influencing entrepreneurial intention among hospitality students.

Acknowledgments

The authors want to express deep gratitude to Universiti Teknologi MARA Cawangan Pulau Pinang, especially the Faculty of Hotel and Tourism Management, and all those who were involved in finishing this study.

References

- Ahmed, M. (2020). Exploring entrepreneurial intentions among university students in Bangladesh. *Master's in International Business Management Autumn 2020*, 82. <https://www.theseus.fi/bitstream/handle/10024/355809/Master%20Thesis.pdf?sequence=2&isAllowed=y>
- Aida, W. Z. (2015). Determinants of entrepreneurial intention: The case of UUM's business undergraduates. *Master of Science (Management) Universiti Utara Malaysia, June*. <https://etd.uum.edu.my/5238/1/s815749.pdf>
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Amaran, M. A. (2015). Involvement of Graduate in the Field of Entrepreneurship in Kuala Lumpur, Malaysia. *International Journal of Liberal Arts and Social Science.*, 3(9), 8.
- Ambad, S. N. A., & Damit, D. H. D. A. (2016). Determinants of Entrepreneurial Intention Among Undergraduate Students in Malaysia. *Procedia Economics and Finance*, 37(16), 108–114. [https://doi.org/10.1016/s2212-5671\(16\)30100-9](https://doi.org/10.1016/s2212-5671(16)30100-9)
- Botha, M., Carruthers, T. J., & Venter, M. W. (2019). The relationship between entrepreneurial competencies and the recurring entrepreneurial intention and action of existing entrepreneurs. *The Southern African Journal of Entrepreneurship and Small Business Management*, 11(1), 1–15. <https://doi.org/10.4102/sajesbm.v11i1.191>
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- DINC, M. S., & BUDIC, S. (2016). The Impact of Personal Attitude, Subjective Norm, and Perceived Behavioural Control on Entrepreneurial Intentions of Women. *Eurasian Journal of Business and Economics*, 9(17), 23–35. <https://doi.org/10.17015/ejbe.2016.017.02>
- Gathoni, G. J. (2018). The role of entrepreneurship education in developing students entrepreneurial intentions among Kenya university students. *United States International University-Africa*. 89. [https://erepo.usiu.ac.ke/bitstream/handle/11732/4084/GITAKA JACKLINE GATHONI MBA 2018.pdf?sequence=1&isAllowed=y](https://erepo.usiu.ac.ke/bitstream/handle/11732/4084/GITAKA%20JACKLINE%20GATHONI%20MBA%202018.pdf?sequence=1&isAllowed=y)
- Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-statisticians. *International Journal of Endocrinology and Metabolism*, 10(2), 486–489. <https://doi.org/10.5812/ijem.3505>
- Gitonga, A. N. (2017). Factors influencing entrepreneurial motivation on university student's intentions of becoming entrepreneurs: A case of United States International University–Africa (USIU-A). *Doctoral dissertation, United States International University-Africa*. 1–

14. http://erepo.usiu.ac.ke/bitstream/handle/11732/3303/AGNES_NKIROTE_GITONGA_MBA_2017.pdf?sequence=1&isAllowed=y
- Department of Statistics Malaysia Official Portal (2022, July 27). Graduates statistics 2021. Retrieved October 24, 2022, from https://www.dosm.gov.my/v1/index.php?r=column%2FcthemByCat&cat=476&bul_id=N0w0QU95YkIKRDFoQWhSV3F6N3NHQT09&menu_id=Tm8zcnRjdVRNWWlpWjRlbmtlaDk1UT09
- Hong, L. M., Sha'ari, M. A. A. H., Zulkiffli, W. F. W., Che Aziz, R., & Ismail, M. (2020). Determinant factors that influence entrepreneurial intention among students in Malaysia. *Jurnal Manajemen dan Kewirausahaan*, 22(1), 80–86. <https://doi.org/10.9744/jmk.22.1.80-86>
- Joseph, I. (2017). Factors influencing International student entrepreneurial intention in Malaysia. *American Journal of Industrial and Business Management*, 07(04), 424–428. <https://doi.org/10.4236/ajibm.2017.74030>
- Kabir, S., Haque, A., & Abdullah, S. (2017). Factors affecting the intention to become an entrepreneur: A Study from Bangladeshi business graduates perspective.. *International Journal of Engineering and Information Systems(IJEAIS)*, 1(6), 10–19.
- Kamarudin, W. N. W., Abas, S. A., Kamal, M. H. M., Ghani, A. M., Shattar, N. A., & Nawawi, W. N. W. (2016). Entrepreneurial intention among hospitality students: A case study in UiTM Terengganu, Malaysia. *Heritage, Culture and Society: Research agenda and best practices in the hospitality and tourism industry - Proceedings of the 3rd International Hospitality and Tourism Conference, IHTC 2016 and 2nd International Seminar on Tourism, ISOT 2016*, 797–802. <https://doi.org/10.1201/9781315386980-143>
- Malebana, M. J. (2017). Knowledge of entrepreneurial support and entrepreneurial intention in the rural provinces of South Africa. *Development Southern Africa*, 34(1), 74–89. <https://doi.org/10.1080/0376835X.2016.1259990>
- Ministry of Higher Education (2022, October 7). Hebahan. KPT - Kenyataan Media Bajet 2023: Mensejahtera Pendidikan Tinggi Negara. Retrieved October 24, 2022, from <https://www.mohe.gov.my/hebahan/kenyataan-media/kenyataan-media-bajet-2023-mensejahtera-pendidikan-tinggi-negara>
- Ministry of Higher Education. (2020). *2019 Malaysia's Graduate Tracer Study*. 1–135. <https://www.mohe.gov.my/muat-turun/penerbitan-jurnal-dan-laporan/lkpg/2019/828-laporan-kajian-pengesanan-graduan-2019/file>
- Mohammed, B. S., Fethi, A., & Djaoued, O. B. (2017). The influence of attitude, subjective norms and perceived behavior control on entrepreneurial intentions: Case of Algerian students. *American Journal of Economics*, 2017(6), 274–282. <https://doi.org/10.5923/j.economics.20170706.02>
- Nguyen, C. (2017). Entrepreneurial intention of international business students in Viet Nam: a survey of the country joining the Trans-Pacific Partnership. *Journal of Innovation and Entrepreneurship*, 6(1). <https://doi.org/10.1186/s13731-017-0066-z>
- Oguntimehin, A. Y., & Oyegoke, O. E. (2017). The relationship between entrepreneurship education and students' entrepreneurial intentions in Ogun state-owned universities, Nigeria. *European Centre for Research Training and Development*, 5(3), 9–20. <http://www.eajournals.org/wp-content/uploads/The-Relationship-between-Entrepreneurship-Education-and-Students'-Entrepreneurial-Intentions-in-Ogun-State-Owned-Universities-Nigeria.pdf>

- Pallant, J. (2005). SPSS SURVIVAL MANUAL: A step by step guide to data analysis using SPSS for Windows (Version 12), 57-63.
- Sakarji, S. R., Shari, A. S., Zainudin, F. M. I., Hatta, S. A. M., Mustapha, W. M. W., & Thani, A. K. A. (2021). Entrepreneurial intention among Undergraduates from B40 group: A case study in UITM Kelantan Campus. *Proceedings of International Conference on Language, Education, Humanities & Social Sciences (i-LEdHS2021)*, 82–90.
- Saraih, U. N., Zin Aris, A. Z., Abdul Mutalib, S., Tunku Ahmad, T. S., & Amlus, M. H. (2018). Examining the Relationships between Attitude Towards Behaviour, Subjective Norms and Entrepreneurial Intention among Engineering Students. *MATEC Web of Conferences*, 150. <https://doi.org/10.1051/mateconf/201815005011>
- Sekaran, U. and Bougie. R (2013). *Research methods for business* (6th ed.). New York: John Wiley & Sons, Inc Learning.
- Shamsuddin, A., Ganesan, T. K. A., Rosli, N. S. D. C., Mathaven, V. K. A., & Zawari, M. Z. Bin. (2018). Factors Influence Graduates in Becoming Entrepreneurs Among Accounting Students in Malaysian University. *International Journal of Business, Economics and Law*, 15(4), 87–98.
- Taha, K. A. S., Ramlan, S. N., & Noor, I. M. (2017). The Factors Affecting Entrepreneurial Intentions of University Students in Malaysia. *International Journal of Business and Technopreneurship*, 7(2), 189–202.
- Usman, B., & Yennita. (2019). Understanding the entrepreneurial intention among international students in Turkey. *Journal of Global Entrepreneurship Research*, 9(1). <https://doi.org/10.1186/s40497-018-0136-0>
- Su, B.-H., Shen, M.-y., Esposito, E. X., Hopfinger, A. J., & Tseng, Y. J. (2019). In Silico Binary Classification QSAR Models Based on 4D-Fingerprints and MOE Descriptors for Prediction of hERG Blockage. *Journal of Chemical Information and Modeling*, 50(7), 1304-1318. doi:10.1021/ci100081j
- Tropsha, A. (2021). Best Practices for QSAR Model Development, Validation, and Exploitation. *Molecular Informatics*, 29(6-7), 476-488. doi:10.1002/minf.201000061
- Vandebriel, R. J., & Loveren, H. v. (2019). Non-animal sensitization testing: State-of-the-art. *Critical Reviews in Toxicology*, 40(5), 389-404.
- Zainon, S., Sanusi, Z. M., Ahmad, R. A. R., Bakar, Z. A., Jaafar, M. Z., & Tahir, H. H. M. (2018). New Improved Reporting Index of Corporate Social Reporting for Shariah-compliant Companies. *Procedia-Social and Behavioral Sciences*, 145, 146-151.