



INTERNATIONAL JOURNAL OF ENTREPRENEURSHIP AND MANAGEMENT PRACTICES (IJEMP)

www.ijemp.com



THE EFFECTS OF GENDER ON THE UNDERGRADUATING STUDENTS' ENTREPRENEURIAL INTENTION

T Santhanamery^{1*}, Dalili Izni Shafie², Saw-Imm Song³, Nor Aminin Khalid⁴

¹ Faculty of Business and Management, Universiti Teknologi MARA, Pulau Pinang
Email: santha190@uitm.edu.my

² Faculty of Business and Management, Universiti Teknologi MARA, Pulau Pinang
Email: dalili@uitm.edu.my

³ Faculty of Business and Management, Universiti Teknologi MARA, Pulau Pinang
Email: songsi@uitm.edu.my

⁴ Faculty of Business and Management, Universiti Teknologi MARA, Pulau Pinang
Email: noraminin@uitm.edu.my

* Corresponding Author

Article Info:

Article history:

Received date: 17.04.2022

Revised date: 15.05.2022

Accepted date: 15.06.2022

Published date: 30.06.2022

To cite this document:

Santhanamery, T., Shafie, D. I., Song, S. I., & Khalid, N. A. (2022). The Effects of Gender on The Undergraduating Students' Entrepreneurial Intention. *International Journal of Entrepreneurship and Management Practices*, 5 (18), 25-37.

DOI: 10.35631/IJEMP.518003.

This work is licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)



Abstract:

The purpose of this research paper is to investigate the effect of gender on students' entrepreneurial intention (EI) as well as the determinants of the EI. This research integrated the Theory of Planned Behaviour and Integrated Behavioural Model in adapting the variables in determining the intention. This paper has two objectives, initially it aims to contribute to the literature on EI by integrating the Theory of Planned Behavior (TBP) and Integrated Behavior Model (IBM) to the Malaysian settings. Then, it investigated the effect of gender on Attitude, Perceived Behavioral Control (PBC) and Self Efficacy (SE) towards behavior on students' entrepreneurial intention in the future. The sample consists of 429 UiTM students who have taken the entrepreneurship course. The data was analyzed using Smart PLS 3.3.7. The findings of this study revealed that gender has no significant relationship with students' EI, attitude, PBC and SE towards students' entrepreneurial intention. In terms of the integrated model, the findings discovered that attitude and PBC have a statistically significant relationship with EI. However, SE does not have a significant relationship towards EI. The findings will help the policymakers or the higher education institutes in developing a suitable policy and program in promoting entrepreneurship to the university graduates at the national level.

Keywords:

Entrepreneurial Intention, Gender, Integrated Behaviour Model, Theory of Planned Behaviour; Smart PLS

Introduction

The entrepreneurial activity is considered to be, with increasing determination, an activity that should be encouraged for its crucial contribution to the economic and social development of a given area, a way for creating employment and an essential means to achieve high levels of competitiveness and innovation in the market (Sanchez, Aranda, Gonzalez, 2018). Over the years, the idea of sustainable entrepreneurship has enlarged with a new paradigm shift in entrepreneurship education from traditional perspectives towards sustainability inclusions. Motivated young minds indulge in ventures such as eco-innovation, and sustainable start-up or project. Sustainability linked with entrepreneurship receives a high degree of academic attention, because of its growing practical relevance in various fields (Sharma, Goyal, Singh, 2020).

The Malaysia Government has initiated the Entrepreneurship Action Plan of Higher Education Institutions (2016- 2020) to promote entrepreneurship education and development in institutions of higher learnings to nurture and sustain entrepreneurial engagement among the young minds the Entrepreneurship Action Plan of Higher Education Institutions (2016- 2020) to promote entrepreneurship education and development in institutions of higher learnings (Sani,2018). The initiatives donated to the establishment of formal entrepreneurial education at the local higher education institutions (HEIs) in Malaysia. Currently, all students at the institutions of higher learning are required to take at least a subject related to entrepreneurship. The entrepreneurial education is expected to help in reducing graduate unemployment levels in the country and promote innovativeness.

Despite the Malaysian government has channeled enormous amount of funding towards the promotion of entrepreneurship in HEIs and small and medium-sized enterprises, and the convenience of remote working, technology advancement (social media, online marketing platform, video calls, emails, apps and other collaborative software) and mushrooming cheaper co-working spaces and great opportunities for entrepreneurship, the uptake is still slow. The entrepreneurial education in strengthening the entrepreneurial competency is getting even more critical as the COVID-19 has exacerbated the unemployment problem. According to Graduate Tracer Study (2020) conducted by Malaysian Ministry of Education, the graduate unemployment rate has increased to 4.4% in 2020 from 3.9% in 2019. The Malaysian government also has urged students who have recently graduated to become self-employed as they have the knowledge and skills necessary to establish their own firms (Hamizurraman, Ahmad, Ayob (2020).

Although interest in entrepreneurship education research has been growing over the years (Klapper, 2004; Gurol & Atsan, 2006), most of the existing researches on entrepreneurship in Malaysia mainly focus on the general factors such as factors contributed to entrepreneurial success, government's role (Kamaruddin, Othman, Zaki & Md Sum, 2017) and characteristics of entrepreneurs (Ariff & Syarisa Yanti, 2003). Being an entrepreneur is clearly a conscious action and having a strong entrepreneurial Intention (EI) can have a huge influence on an individual's intention to starting-up a new business (Tomy & Pardede, 2020). Nevertheless, gender stereotypes regarding entrepreneurship have also been demonstrated in studies to have a significant impact on people's intentions to become entrepreneurs (Mahlaole, 2022; Laouiti, Haddoud, Nakara & Onjewu, 2022; Gurel, Madanoglu & Altinay, 2021; Miranda, Chamorro-Mera, Rubio & Pérez-Mayo, 2017; Yukongdi & Lopa, 2017; Santos, Roomi & Liñán, 2016). In view of this, this paper aims to investigate the effect of gender in influencing the entrepreneurial intention particularly among students to become an entrepreneur in the near

future. This paper has two objectives, initially it aims to contribute to the literature on EI by integrating the Theory of Planned Behavior (TPB) and Integrated Behavior Model (IBM) to the Malaysian settings. These behavioral theories have become popular in predicting the entrepreneurs' behavior through the measurement of intention. Then, it will investigate the effect of gender on Attitude, Perceived Behavioral Control (PBC) and Self Efficacy (SE) towards behavior on students' entrepreneurial intention in the future.

The outline of the paper is as follows. In Section 2, we review previous research and develop our hypotheses. In Section 3, we describe our data and methodology used, specifically on the Partial Least Squares method in order to achieve our objectives. In Section 4, we examine the results of the statistical analysis and report our findings. Finally, we spell out our concluding remarks in Section 5.

Literature Review

Entrepreneurial Intention (EI)

According to Drucker (1985), the entrepreneurial character has nothing to do with genes or magic, but it's a discipline and can be learned. But even though entrepreneurship can be learned, Jones and English (2004, p. 417) contended that 'no amount of education could provide business success for those who lack the "entrepreneurial spirit'. This is supported by Ajzen (1991), who developed the Theory of Planned Behaviour (TPB) that intention is the best predictor of behavior. Three independent variables for TPB were used, namely attitude, subjective norm and Perceived Behavior Control to predict the behavior through intention. Fishbein (2000) further developed the behavioral theory and proposed the Integrated behavior Model. His model consists of three perceptions of antecedents of intention, namely attitude, perceived norms, and self-efficacy. Two additional constructs namely skills and environmental constraints were added to the model besides intention. This study attempts to integrate both the Theory of Planned Behaviour and Integrated Behaviour Model to assess the influence of these factors on the intention of the students in UiTM for entrepreneurship intention among the students.

Attitude toward Entrepreneurship (ATT)

Attitude refers to one's overall evaluation, either positive or negative of behavior in question, prior to forming an intention. Ajzen (1991), in his Theory of Planned Behaviour, stipulates that the positive or negative evaluation of the outcome to start a company will influence the decision to become an entrepreneur. The attitude towards entrepreneurial intention could stem from environmental factors (Sanchez & Bannikova, 2018) such as entrepreneurial finance, the government policy, the commercial and legal infrastructure, cultural and social. For instance, the positive beliefs that if a person takes a challenging goal and expects to bring good profits, will increase the likelihood of him to perform the behavior or become an entrepreneur. Schott, Kew and Cheraghi (2015) studied about youth entrepreneurship found that attitude and perception play an important role in creating an entrepreneurial culture. Rudhumbu, Sivotwa, Munyanyiwa and Mutsau (2016) also concur that positive attitude towards entrepreneurship will have a positive outcome on intention. Thus, we hypothesize that the attitude of students towards entrepreneurship will affect the intention of students to be an entrepreneur positively.

H1: Attitude has a significant positive relationship towards entrepreneurial intention.

Perceived Behaviour Control (PBC)

Perceived behavioural control is a degree to which a person believes that he or she can control any given behavior (Ajzen, 1991). The Theory of Planned Behaviour suggests that people are much more likely to perform certain behaviors when they feel that they can represent them successfully. Thus, according to Alexander & Honig (2016), in support of this theory, perceived behavioral control has a positive influence on the probabilities of becoming an entrepreneur. Following a study by Mahmood, Al Mamun, Ahmad and Ibrahim (2019), it enhanced the perceived behavioral control view that it has an indirect influence on the entrepreneurial intention in the context of a local perspective. Hence, the perceived behavioral control dimension should have a positive influence on our students' entrepreneurial inclination.

H2: Perceived Behaviour Control has a significant positive relationship towards the entrepreneurial intention

Self-Efficacy (SE)

Alessandri, Borgogni, Schaufeli, Caprara and Consiglio (2015) defined self-efficacy as people's beliefs about their capabilities to produce designated levels of performance. In a study of a dynamic account of self-efficacy in entrepreneurship by Gielnik, Bledow, and Stark, (2020), self-efficacy developed entrepreneurs who displayed this attribute over time support the depiction of entrepreneurial intentions. A study conducted among students in India shows that students perceived self-efficacy boosts the entrepreneurial intention relationship (Roy, Akhtar, & Das, 2017). Both studies emulate that self-efficacy cultivates and strengthens entrepreneurial intentions among diverse groups. Yet, there is still a lack of study done in the context of Malaysia. Thus, we intend to confirm the relationship that entrepreneurial intentions among the students are positively influenced by their self-efficacy.

H3: Self-Efficacy has a significant positive relationship with entrepreneurial intention.

Effects of Gender in the Antecedents of Entrepreneurial Intentions

In analyzing EI, many previous studies have emphasized the significant role of gender (Mahlaole, 2022; Laouti, Haddoud, Nakara & Onjewu, 2022; Gurel, Madanoglu & Altinay, 2021; Miranda, Chamorro-Mera, Rubio & Pérez-Mayo, 2017; Yukongdi & Lopa, 2017; Santos, Roomi & Liñán, 2016) on the Entrepreneurial Intention and also on Attitude, Perceived Behaviour Control and Self Efficacy. For instances, effect on Attitude (Mahlaole, 2022; Barraza, Cristia, Sepulveda & Muñoz, 2021; Gomes, Lopes, Oliveira, Oliveira, Santos & Sousa, 2021; Jena, 2020). Perceived Behaviour Control ((Mahlaole, 2022; Barraza, Cristia, Sepulveda & Muñoz, 2021; Gomes, Lopes, Oliveira, Oliveira, Santos & Sousa, 2021; Santos, Roomi & Liñán, 2016). Self-Efficacy (Elnadi & Gheith, 2021, [Mantooth](#), [Usher](#) & Love, 2021; Vamvaka, Stoforos, Palaskas & Botsaris, 2020; Bausch, Michel and Sonntag, 2014).

Mahlaole (2022) explores the effect of gender on the student's entrepreneurial intention among undergraduate entrepreneurial students in South Africa and found that there is no significant difference between gender, EI, Attitude and PBC. Similar result was also found by Barraza et al., (2021) on the entrepreneurial intention among the business and economics students in Chile. However, Gomes et al., (2021) asserted that there is a significant influence of gender

on the attitude and PBC among the peripheral region of Europe. In line with that, Miranda et. al., (2017) also found that gender has a significant effect on EI and Attitude of the academics. Similarly, Elnadi and Gheith (2021) found that gender has a significant moderating effect on self-efficacy among the undergraduate students in Saudi Arabia. Also, study by Vamvaka et. al., (2020) also found a significant relationship between gender and self-efficacy among undergraduate students in Greece. Nevertheless, a previous study by Bausch et. al. (2014) found that there is no significant relationship between gender and self- efficacy in a training environment.

As a result, the findings of gender and entrepreneurship studies are still divided. In order to improve EI and entrepreneurial activity rates among students, it is critical to instill good entrepreneurial attitudes, improve PBC, and to instill the believe on their capabilities. Thus, we hypothesize that

H4: Gender has a statistically significant relationship with EI.

H5: Gender has a statistically significant relationship with Attitude

H6: Gender has a statistically significant relationship with PBC

H7: Gender has a statistically significant relationship with SE

Methodology

Data Collection and Sample

This study uses data collected from an online google survey form Univerisiti Teknologi MARA undergraduate students who have taken the entrepreneurship subject during the semester of March to July 2020. The online questionnaires were distributed by the lecturers-in -charge of entrepreneurship subjects at UiTM at the end of the semester in August 2020. A total of 429 questionnaires were successfully completed and returned from 11 branch campuses. The sample was made up of science and technology students (87%) and non-Science and Technology students (13%).

The questionnaire was divided into two main sections. Section I consisted of questions on the background of the respondents which includes ages, gender, campus, program, level of study, whether they are from B40 family (Household income less than RM4000), family with a business background, and the location of their residence. Section II comprised 37 statements designed to gather the information from the respondents regarding their view on entrepreneurial intention and also statements drawing views on factors that influence their entrepreneurial intention. A five-point Likert scale was used where the respondents were required to state the extent to which they agreed or disagreed with the statements in the questionnaire.

Statistical Tools and Methods

To perform the analysis, SPSS software and SmartPLS 3.0 were used. SPSS was used to analyses the demographic profile. We used descriptive statistics to identify the demographic data of the samples and their socioeconomic using Partial Least Square (SMART PLS) method was used (Hair, Black, Babin and Anderson, 2010) to test the study model. This technique simultaneously assesses the measurement model and the structural model by minimizing the error variance. SmartPLS version 3 was used to analyses the relationship among the variables.

Bootstrapping function with 5000 resamples was employed to assess the significance level of the paths.

Findings

Descriptive Statistics

There were 429 completed questionnaires returned through on-line submission. It is about 4% percent of the population who have taken the subject. Krejcie and Morgan (in Sekaran, 2016) provided a sample size decision table that with a 95% confidence level and a total population of up to one million, the sample size of 384 is desired. Generally, a sample of 30 to 500 are deemed appropriate for most of the social science research. Since our sample size is more than 384 and it met the requirement to be analyzed using SmartPLS, we proceed with the analysis.

Table 1 shows the descriptive statistics of the demographic profile of the respondents. The majority of the respondents were females, and more than 50 percent of the respondents were from the B40 family where their household income was below the average of the population or the bottom 40 percent. The majority of the respondents' family did not have business backgrounds. Most of them living in the suburban areas with a quarter of the sample were from the rural area. Generally, the exposure of the students to entrepreneurship or business environments was low.

Table 1: Descriptive Statistics of the Background of The Respondents

		Frequency	Percent
Gender	Female	290	67.6
	Male	139	32.4
B40 family	No	184	42.9
	Yes	245	57.1
Family with business background	No	343	80.0
	Yes	85	19.8
Residential area	Rural	107	24.9
	Sub-urban	180	42.0
	Urban	140	32.6

Data Analysis PLS

Variance based Structural Equation Modelling (SEM) which is Smart PLS was used in analyzing the hypotheses developed. PLS is used as it is known for its ability to handle both reflective and formative measures, and it places a minimal restriction on the sample size (Chin, 1998).

In analyzing the data, the two-step analytical procedure by Anderson and Gerbing (1988) was adopted whereby the measurement model was evaluated first and then the structural model. The bootstrapping method (500 resample) was performed to determine the significant level of loadings, weights and path coefficients (Chin, 1998). Figure 1 shows the Research Model.

Measurement Model

Convergent validity is the extent to which a measure correlates positively with alternative measures of the same constructs. Therefore, the items that are indicators of a specific construct should converge or share a high proportion of variance (Hair et al., 2010). In establishing convergent validity, outer loadings and Average Variance Extracted (AVE) of more than 0.5 and Composite Reliability (CR) of 0.7 or above is considered to be adequate. As a result, the item for Self-Efficacy (E3, E4) and Attitude (D7) which has a loading of 0.28, 0.40 and 0.47 respectively were deleted. The analysis was re-run, and the new loadings and cross loadings were obtained. Based on Table 2, all loadings and AVE are above 0.5 and the composite reliability values are more than 0.7. Thus, it can be determined that convergent validity has been established.

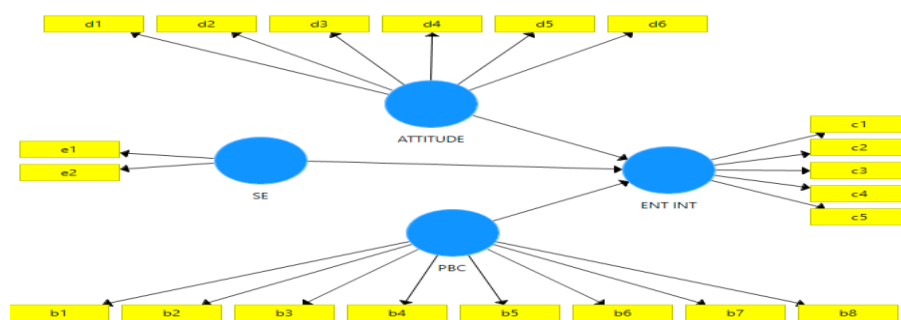


Fig. 1 Research Model

Table 2: Result of the Measurement Model

Construct	Item	Factor Loading	Convergent Validity		
			AVE	Composite Reliability	R ²
Attitude	D1	0.736	0.587	0.895	
	D2	0.843			
	D3	0.836			
	D4	0.726			
	D5	0.69			
	D6	0.753			
Self-Efficacy	E1	0.510	0.629	0.754	
	E2	0.998			
PBC	B1	0.844	0.601	0.923	
	B2	0.847			
	B3	0.829			
	B4	0.851			
	B5	0.736			
	B6	0.744			
	B7	0.726			
	B8	0.588			

ENT INT	C1	0.845	0.894	0.586	0.472
	C2	0.851			
	C3	0.853			
	C4	0.856			
	C5	0.856			

Discriminant Validity will be examined next. Discriminant validity which is the degree to which a construct is truly different from other constructs (Hair et al., 2010). This can be established by the low correlations between all the measures of the variables of interest and the measures of other constructs. To address discriminant validity, the square root of the AVE is compared against the correlations of the other constructs. If it is greater than its correlations with all the other constructs then discriminant validity has been established (Fornell & Larcker, 1981). The result can be referred in Table 3

Table 3: Discriminant Validity of Constructs

Constructs	1	2	3	4	5
(1) Attitude	0.766				
(2) ENT Intention	0.635	0.852			
(3) Gender	-0.044	-0.039	1.00		
(4) PBC	0.694	0.627	-0.071	0.755	
(5) Self Efficacy	0.202	0.088	0.070	0.153	0.812

Note: Diagonal represents the square root of Average Variance Extracted (AVE) while the other entries represent squared correlations

Henseler, Ringer and Sarstedt (2015) reports that the Fornell Larcker criterion and cross loadings do not reliably detect the discriminant validity in a survey-based study. They proposed a new technique based on multitrait-multimethod matrix (HTMT) ratio to address the issue of discriminant validity. The HTMT test involves the calculation of a ratio of the average correlations between constructs to the geometric mean of the average correlations within items of the same constructs (Voorhees, Brady, Calantone & Ramirez, 2016). In order to obtain the HTMT results, this study runs the bootstrapping routine. Henseler et al. (2015) suggested cut off point 0.85 and 0.90 for establishing discriminant validity between two reflective constructs, whereas HTMT 0.85 is the most conservative criterion. If the HTMT ratio is below 0.85, then discriminant validity between the two constructs is established. As per result in Table 4, the results reveal that all HTMT ratios are less than 0.85, indicating no discriminant validity problem in this study. Therefore, based on the previous tests and results of the HTMT test, it is concluded that discriminant validity is established in this study.

Table 4: HTMT Results

Constructs	1	2	3	4	5
(1) Attitude					
(2) ENT Intention	0.703				
(3) Gender	0.050	0.621			
(4) PBC	0.792	0.643	0.082		
(5) Self Efficacy	0.218	0.107	0.072	0.169	

Structural Model

The structural model represents the connection between constructs that were hypothesized in the research framework. The goodness of the theoretical model is recognized by the variance explained (R^2) of the endogenous constructs and the significance of all path estimates (Chin, 2010). The R^2 and the path coefficients results will specify how well the data supports the hypothesized model (Chin, 1998). The results of the structural model from the PLS output can be seen from Figure 2 and Table 5. Attitude, Perceived Behaviour Control, was found to be significantly related to Entrepreneurship Intention ($\beta = 0.93$, $p < 0.01$; $\beta = 0.362$, $p < 0.01$ respectively), thus supporting H1 and H2 of this study. However, Self-Efficacy was found to be insignificantly related to Entrepreneurship Intention ($\beta = -0.046$) thus rejecting H3 of this study. The findings imply that gender has no effect or plays no significant role in students' intentions to establish a business in the future. These findings do not provide support for the proposed study hypothesis and therefore. H1, H2, H3 and H4 are rejected. A closer look on the findings reveals that Attitude and Perceived Behavioural Control can explain 47% of the variation in Entrepreneurship Intention.

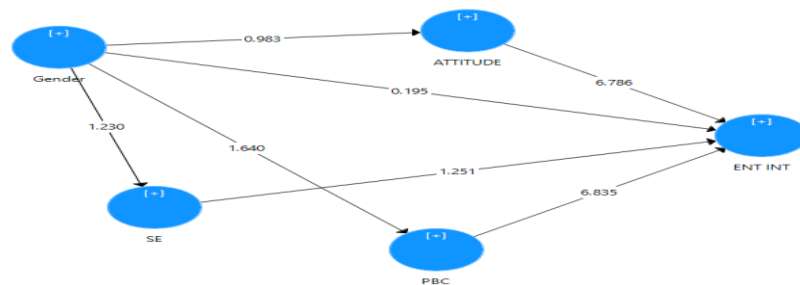


Fig. 2 The Structural Model

Table 5: Hypotheses Testing

Path	Hypotheses	Path Coefficient	Std Error	T Value	Result
ATTITUDE -> ENT INT	H1	0.393	0.062	6.394***	Supported
PBC -> ENT INT	H2	0.362	0.054	6.742***	Supported
SE -> ENT INT	H3	-0.048	0.038	1.256	Not Supported
Gender -> ENT INT	H4	0.007	0.036	0.193	Not Supported
Gender -> ATTITUDE	H5	-0.044	0.048	0.917	Not Supported
Gender -> PBC	H6	-0.071	0.050	1.420	Not Supported
Gender -> SE	H7	0.070	0.057	1.224	Not Supported

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Conclusion

The purpose of this research paper was to examine the influence of gender on EI among the Universiti Teknologi MARA students. The findings of this paper reveal that gender has no statistically significant relationship with the antecedents of the integrated model which is Attitude, Perceived Behaviour Control, Self-Efficacy and Entrepreneurial Intention. This suggests that UiTM students' intention to engage in an entrepreneurial world in the near future are not affected by their gender. These findings are consistent with many recent studies that discovers that gender has no bearings on students EI, Attitude, PBC and Self Efficacy (Mahlaole, 2022; Barraza et. al., 2021; Jena, 2020). Nevertheless, the findings of this paper also contradict with many previous studies which found a significant relationship between gender and entrepreneurial intention, attitude, PBC and Self efficacy (Gomes et al., 2021; Elnadi and Gheith, 2021; Vamvaka et. al., 2020; Miranda et al., 2017).

The findings of this research further revealed that Attitude and Perceived Behavioral Control has a significant positive relationship towards Entrepreneurial Intention with PBC has the strongest relationship. This is consistent with the previous findings by Rudhumbu et al. (2016), Alexander & Honig (2016), Mahmood et. al., 2019) and Bui, Nguyen, Tran and Nguyen (2020). However, an insignificant relationship of self-efficacy towards entrepreneurial intention was found in this study. This could be due to the students who have low self-efficacy. This is consistent with Wang, Kim, Bai and Hu (2014)'s study that low self-efficacy of entrepreneurial decision-making will hinder their career exploration and the development of career decision-making skills.

The implication of the findings can be divided into two; theoretical and practical. Theoretically, this study adds to the growing body of literature that focuses on the factors that have the potential to influence entrepreneurial intention, particularly among graduating students and the significant impact of gender in the student's intention to engage in business in future. Practically, this paper emphasizes and supports previous studies in nullifying the effect of gender on the entrepreneurial intention, attitude, PBC and self-efficacy. Thus, it is important for policy makers to promote equal opportunities for both male and female students in encouraging them to involve in the entrepreneurial process as an option of their career opportunities. All the efforts that have been taken by the governments especially Malaysian government need to be carried forward and the successful implementation should be monitored. The relevant authority should take this into account and understands the need to enhance further and to strengthen the policy of entrepreneurial education among students, particularly in higher learning institutions.

Limitations and Recommendation for Future Research

This paper's main focus was to evaluate the effect of gender among the UiTM under graduates on their entrepreneurial intention near future. More recent studies are focusing on the personality traits of the students in their decision to pursue their career in entrepreneurship. Future researchers could consider the personality traits of gender in influencing their decision. Secondly, to strengthened the generalizability of the conclusion, future research could be extended to compare or to include other public or private university students in Malaysia whereby it will include students from different ethnic groups who may have a different view and opinion towards entrepreneurship.

Acknowledgements

We would like to thank the anonymous referees for their helpful comments and suggestions. Financial support from the management of Universiti Teknologi MARA, Cawangan Pulau Pinang is also gratefully acknowledged.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50 (2), 179-211.
- Alessandri, G., Borgogni, L., Schaufeli, W. B., Caprara, G. V., & Consiglio, C. (2015). From positive orientation to job performance: The role of work engagement and self-efficacy beliefs. *Journal of Happiness Studies*, 16(3), 767-788.
- Alexander, I. K., & Honig, B. (2016). Entrepreneurial intentions: A cultural perspective. *Africa Journal of Management*, 2(3), 235-257.
- Anderson, J.C., & Gerbing, D.W. (1988). Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*, 103(3), 411-423.
- Ariff, M., & Syarisa Yanti, A.B. (2002). Strengthening Entrepreneurship in Malaysia. Malaysian Economic Outlook: 1st Quarter 2002 update, *Proceedings of the 7th Corporate Economic Briefing, 2002*, Malaysian Institute of Economic Research (MIER), Malaysia, p.p 1-22.
- Bausch, S., Michel, A., & Sonntag, K. (2014). How gender influences the effect of age on self-efficacy and training success. *International Journal of Training and Development*, 18(3), 171-187.
- Bui, T. H. V., Nguyen, T. L. T., Tran, M. D., & Nguyen, T. A. T. (2020). Determinants Influencing Entrepreneurial Intention among Undergraduates in Universities of Vietnam. *The Journal of Asian Finance, Economics, and Business*, 7(7), 369-378.
- Chin, W. W. (1998). Commentary: Issues and Opinion on Structural Equation Modeling. *Management Information Systems Quarterly*, 22(1), vii-xvi.
- Chin, W. W. (2010). How to Write Up and Report PLS Analyses. In V. Esposito Vinzi et al. (eds.), *Handbook of Partial Least Squares: Concepts, Methods and Applications* (pp.655-689). SpringerHandbooks of Computational Statistics, Springer-Verlag Berlin Heidelberg.
- Drucker, P. (1985) *Innovation and Entrepreneurship Principles and Practice*. Harper & Row, New York.
- Elert, N., Andersson, F. W., & Wennberg, K. (2015). The impact of entrepreneurship education in highschool on long-term entrepreneurial performance. *Journal of Economic Behavior & Organization*, 111, 209-223.
- Elnadi, M., & Gheith, M. H. (2021). Entrepreneurial ecosystem, entrepreneurial self-efficacy, and entrepreneurial intention in higher education: Evidence from Saudi Arabia. *The International Journal of Management Education*, 19(1), 100458.
- Fishbein, M., 2000. The role of theory in HIV prevention. *AIDS Care*, vol. 12 (3), pp. 273–278. [accessed: 2013-11-18]. <http://www.tandfonline.com/loi/caic20>.
- Fornell, C., & Larcker, D.F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39-50.
- Gielnik, M. M., Bledow, R., & Stark, M. S. (2020). A dynamic account of self-efficacy in entrepreneurship. *Journal of Applied Psychology*, 105(5), 487.
- Graduate Tracer Study (2020). Department of Statistics Malaysia. Retrieved from https://www.dosm.gov.my/v1/index.php?r=column/cthemByCat&cat=476&bul_id=U1ltVWpwNXRNRUR2NlhRSHZmenRMUT09&menu_id=Tm8zcnRjdVRNWWlpWjRlbmtlaDk1UT09.

- Gomes, S., Lopes, J. M., Oliveira, J., Oliveira, M., Santos, T., & Sousa, M. (2021). The impact of gender on entrepreneurial intention in a Peripheral Region of Europe: A multigroup analysis. *Social Sciences*, 10(11), 415.
- Gurel, E., Madanoglu, M., & Altinay, L. (2021). Gender, risk-taking and entrepreneurial intentions: assessing the impact of higher education longitudinally. *Education+ Training*.
- Gurool, Y., Atsan, N. (2006). Entrepreneurial characteristics amongst university students: Some insights for entrepreneurship education and training in Turkey. *Education and Training*, 48(1), 25-38.
- Hamiruzzaman, T. H., Ahmad, N., & Ayob, N. A. (2020). Entrepreneurial intentions among undergraduate students in Universiti Teknologi MARA (UiTM). *Journal of Administrative Science*, 17(1), 125-139.
- Hair, J. F. Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective*. 7th ed. Pearson Prentice Hall, New Jersey
- Henseler, J., Ringle, C.M., & Sarstedt, M. (2015). A New Criterion for Assessing Discriminant Validity In Variance-Based Structural Equation Modeling. *J. of the Acad. Mark. Sci*, 43, 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Jena, R. K. (2020). Measuring the impact of business management Student's attitude towards entrepreneurship education on entrepreneurial intention: A case study. *Computers in Human Behavior*, 107, 106275.
- Jones, C., & English, J. (2004). *A contemporary approach to entrepreneurship education*, Emerald Group Publishing Limited, 46, 416-423.
- Kamaruddin, H., Othman, N., Hassan, R., W Zaki, W. M. D., & Md Sum, S. (2017). The Government's Role in the Importance of Entrepreneurship Education Amongst University Students in Malaysia. In *Leadership, Innovation and Entrepreneurship as Driving Forces of the Global Economy* (pp. 579-587).
- Klapper, R. (2004). Government goals and entrepreneurship education – an investigation at GrandeEcole in France. *Education and Training*, 46(3), 127-137.
- Laouti, R., Haddoud, M. Y., Nakara, W. A., & Onjewu, A. K. E. (2022). A gender-based approach to the influence of personality traits on entrepreneurial intention. *Journal of Business Research*, 142, 819-829.
- Mahlaole, S. T. (2022). Effects of Gender on Students' Entrepreneurial Intentions: A Theory of Planned Behaviour Perspective. *Open Journal of Business and Management*, 10(1), 57-76.
- Mahmood, T. M. A. T., Al Mamun, A., Ahmad, G. B., & Ibrahim, M. D. (2019). Predicting entrepreneurial intentions and pre-start-up behaviour among Asnaf millennials. *Sustainability*, 11(18), 4939.
- Mantooth, R., Usher, E.L. & Love, A.M.A. Changing classrooms bring new questions: environmental influences, self-efficacy, and academic achievement. *Learning Environ Res* 24, 519–535 (2021). <https://doi.org/10.1007/s10984-020-09341-y>
- Miranda, F. J., Chamorro-Mera, A., Rubio, S., & Pérez-Mayo, J. (2017). Academic entrepreneurial intention: the role of gender. *International Journal of Gender and Entrepreneurship*.
- Roy, R., Akhtar, F., & Das, N. (2017). Entrepreneurial intention among science & technology students in India: extending the theory of planned behavior. *International Entrepreneurship and Management Journal*, 13(4), 1013-1041.
- Rudhumbu, N., Sivotwa, D., Munyanyiwa, T., & Mutsau, M. (2016). Attitudes of Students towards Entrepreneurship Education at Two Selected Higher Education Institutions in

- Botswana: A Critical Analysis and Reflection. *Academic Journal of Interdisciplinary Studies*, 5(2), 83- 94.
- Sánchez, B.V., Aranda, M. M., & González, B. J. (2022). The entrepreneurial intention of university students: An environmental perspective. *European Research on Management and Business Economics*, 28(2), 100184.
- Sanchez, A. M., & Bannikova, M. (2018). *Environmental factors that affect the entrepreneurial intention*, 1–60.
- Sani, R. (2018, Jan 10). Entrepreneurial ecosystems at the university. *New Straits Times*. <https://www.nst.com.my/education/2018/01/323599/entrepreneurial-ecosystems-university>
- Scherer, R.F., Brodzinski, J.D., & Wiebe, F. (1991), *Examining the relationship between personality and entrepreneurial career preference 1*, *Entrepreneurship and Regional Development*, 3(2), 195-206.
- Santos, F. J., Roomi, M. A., & Liñán, F. (2016). About gender differences and the social environment in the development of entrepreneurial intentions. *Journal of Small Business Management*, 54(1), 49-66.
- Schøtt, T, Kew, P., & Cheraghi, M. (2015). Future Potential A GEM perspective on youth entrepreneurship. <https://youtheconomicopportunities.org/sites/default/files/uploads/resource/gem-2015-youth-report-1436523546.pdf>
- Sekaran, U. (2016). *Research Methods for Business: A Skill-Building Approach*. John Wiley & Sons Ltd.
- Sharma, S., Goyal, D. P., & Singh, A. (2020). Systematic review on sustainable entrepreneurship education (SEE): a framework and analysis. *World Journal of Entrepreneurship, Management and Sustainable Development*.
- Tomy, S., & Pardede, E. (2020). An entrepreneurial intention model focusing on higher education. *International Journal of Entrepreneurial Behavior & Research*.
- Vamvaka, V., Stoforos, C., Palaskas, T., & Botsaris, C. (2020). Attitude toward entrepreneurship, perceived behavioral control, and entrepreneurial intention: dimensionality, structural relationships, and gender differences. *Journal of Innovation and Entrepreneurship*, 9(1), 1-26.
- Voorhees, C.M., Brady, M.K., Calantone, R. and Ramirez, E. (2016), Discriminant Validity Testing In Marketing: An Analysis, Causes For Concern, And Proposed Remedies, *Journal of the Academy of Marketing Science*, 44(1), 119-134.
- Wang, C., Kim, D.H.; Bai, R.; Hu, J. (2014). Psychometric properties of a self-efficacy scale for English language learners in China. *System*, 44, 24–33.
- Yukongdi, V., & Lopa, N. Z. (2017). Entrepreneurial intention: a study of individual, situational and gender differences. *Journal of Small Business and Enterprise Development*.