

# ENTREPRENEURIAL INTENTION AMONG MALAYSIAN ENGINEERING GRADUATES: MALE VERSUS FEMALE

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## ABSTRACT

*Engineering graduates are facing greater challenge to enter the limited job market in Malaysia and equipping graduates with entrepreneurial skills has been promoted as a potential solution to this issue. However, gender factor has been implicated in some studies to confound success of entrepreneurship courses. The purpose of this study is to test the hypothesis of no difference between genders on entrepreneurial intention; a factor deemed to be important to entrepreneurship success. The Theory of Planned Behaviour (TPB) was selected as the framework for understanding this phenomenon. Three hundred and twenty eight final year engineering students from one public technical university in Malaysia were selected for the study. The Entrepreneurial Intention Questionnaire (EIQ) was used to gather data on entrepreneurial intention among participants. Using a t-test to analyse data on differences, no statistical difference in entrepreneurial intention is found between males and females, while slight difference is found in the components of TPB (attitude towards behaviour, subjective norm, and perceived behavioural control). The study suggests that gender may not be a factor that needs to be dealt with in the implementation of entrepreneurship programmes among engineering students.*

**Keywords:** *Entrepreneurship, Gender, Planned Behavior, Entrepreneurial Intention Questionnaire, Business Career*

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## **1. INTRODUCTION**

The Ninth Malaysia Plan (2006-2010) gave serious attention to entrepreneurship studies in order to discover options for driving forward the national economy and to draft strategies for reducing unemployment among graduates (Mansor & Othman, 2011). In fact, institutions of higher learning have already taken many initiatives to expose their undergraduates to entrepreneurship so they can graduate with entrepreneurial attributes and skills. Interestingly, the initiatives focus on exposing not only business students to entrepreneurship but also engineering students. For instance, the Malaysian Ministry of Higher Education (MOHE) introduced in 2007 a basic course in entrepreneurial culture modules as a compulsory class for all undergraduate programs in all public and private learning institutions (Mohamad, 2009). MOHE (2010) regarded entrepreneurship as one of the most important soft skills to the Malaysian workforce, which is why it has required this basic course to be a core credit in all Malaysian curricula.

Although opportunities to engage in entrepreneurship have improved across the Malaysian tertiary level of education, graduates rarely seize these opportunities (Othman & Ishak, 2009; Wu & Wu, 2008). In fact, many graduates prefer to work at lower levels than their qualifications enable them, and still others pursue fields unrelated to their majors soon after graduation. As a part of their unwillingness to exploit their degrees, the vast majority of graduates will not pursue their own businesses. The MOHE indicated that of the 54.0% of polytechnic graduates who were employed, only 0.6% were self-employed, even though they had attended an entrepreneurship program at higher learning institutions (Hussain, 2011). This number is relatively small compared to other developing countries such as China. Of the total number of Chinese students engaged in entrepreneurial activity (13.7%), 2.0% to 6.0% are graduates (Wu & Wu, 2008).

Fayolle and Gailly (2004) suggested that attitude towards behavior, subjective norm, and perceived behavioral control hold strong correlations with entrepreneurial intention. Despite the large number of studies on entrepreneurial intention among tertiary students, researchers have yet to study the lack of entrepreneurial intention among technical graduates in Malaysia. According to Ismail (2010), entrepreneurship education in Malaysia is still at its preliminary stage for technical students so studies have yet to follow entrepreneurial intention in Malaysia. In addition, there is a speculation that entrepreneurial intention is lacking among female students (Pushkarskaya, 2008; Ismail, 2010). According to Shinnar, et.al (2012), culture and gender have a significant role in explaining entrepreneurial intention. It suggested that the degree of entrepreneurial intention among males and females are varying based on the countries' environment.

## **2. ENTREPRENEURIAL INTENTION IN GENDER**

Leroy and Meuleman (2009) determined the differences in entrepreneurial intention among males and females based on TPB antecedents; perceived behavioral control, personal attitude, and subjective norms. The study points out those significant differences that appear in the following two factors; perceived behavioral control and personal attitude, but not in the subjective norms. The study suggests that males are more dominant in achievement-oriented entrepreneurial value, while females are dominant into internal and external feelings of control.

Using gender as a moderating effect, Almobaireek and Manolova (2012) study the relationship of TPB to entrepreneurial intention in Saudi University. The finding showed that male has higher in personal attractiveness; while females are more influenced by subjective norms and perceived behavioral control. The study concluded that different social expectations in races and socialization result in make different perspectives of entrepreneurship among of males and females.

Lack of female involvement in entrepreneurship field is mainly due to family commitments such as needing time for parenting and family. Pushkarskaya (2008) explains the reasons females' involving in business as economic environments changing, lack of household income, internal family events, and a change in family structure changing like such as divorce or death. Thus, motivation and encouragement aspects based on gender factors need to be considered for entrepreneurship education and training in higher learning institutions (Ismail, 2010).

### 3. Theory of Planned Behavior

In comparing the entrepreneurial intention of male and female, this study is based on the components in the theory of planned behavior (TPB) by Azjen (2005). The TPB model explains that intention is a good predictor of behavior and there are three factors to consider: (a) personal evaluation of behavior (attitude towards behavior), (b) social pressure (subjective norm), and (c) perceived capability to perform behavior (perceived behavioral control). The personal factor is the individual's attitude towards the behavior, which refers to an individual's negative or positive evaluation to perform the particular behavior or interest. Subjective norm refers to perceived social pressures to perform or not to perform the given behavior. Perceived behavioral control refers to the perceived easiness or difficulty of an individual becoming an entrepreneur. It related to the individual perception or confidence in ability to perform the behavior.

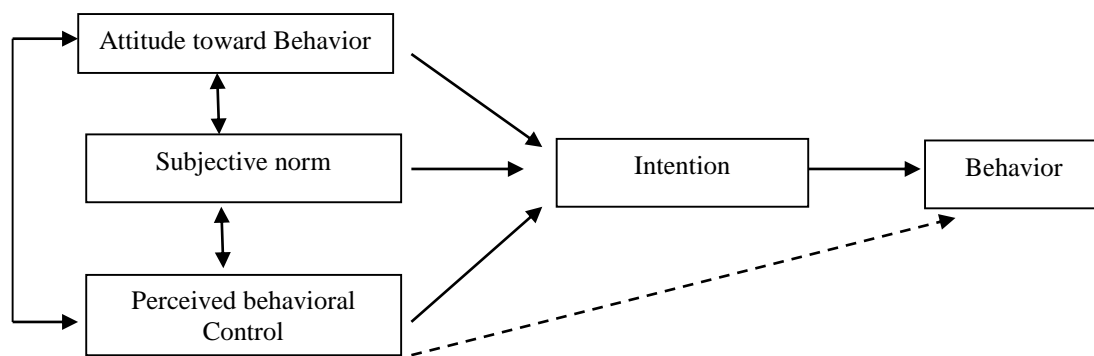


Figure 1.: The theory of planned behavior

### 4. METHODOLOGY

This study utilized EIQ that developed by Linan, Chen and Santos (Linan, 2008). It is the most robust instruments, which offers a Likert-type scale for measuring the level of a given individual's agreement or disagreement with the antecedents of entrepreneurial intentions (Linan, 2008). About 158 male and 170 female students were involved in the study. The students were in final year from three engineering faculties: the civil engineering faculty, the electrical faculty, and the mechanical faculty from technical university in Malaysia.

## 5. RESULT AND DISCUSSION

The mean score from 1.00 to 2.50 were determined as low entrepreneurial intention, 2.51 to 5.50 were determined moderate entrepreneurial intention, and 5.51 and above classified as high entrepreneurial intention. The t-test indicated that the difference between the mean score of male and female did not achieve significance at the 0.05 level, (Sig= 0.034; F = 4.53). This result explained that there is no significance difference between male and female in their entrepreneurial intention (Table 1).

However, male and female students had slight differences in the four variables examined, namely entrepreneurial intention, subjective norm, attitude toward behavior, and perceived behavioral control. This could be due to the enrollment of female students in engineering fields in Malaysia. The Malaysian Ministry of Higher Education. (2011) reported that the ratio of enrollment of male students to female students in technical and science fields was 48:52 in 2009 and 2010. The female population is higher than the male population in engineering fields. This scenario provides a challenge in job hunting. Because the availability of jobs is limited, female students tend to enter into entrepreneurship fields; the same goes for their male counterparts. In addition, another important factor that needs to be considered is the perspective of industrial management concerning female graduates in engineering fields (Ab. Rahman et al., 2010). In many engineering companies, the preference is skewed toward male engineers, not female engineers. Therefore, female students in engineering fields have to find other alternatives such as getting involved in business.

**Table 1: Comparison of Male and Female on Entrepreneurial intention, Subjective norms, Attitude toward behavior, and Perceived Behavioral Control (n=158 males and 170 females)**

Variable	Mean	SD	t	df	P
Subjective norm			-0.573	326	0.946
Male	3.19	1.010			
Female	3.26	0.965			
Attitude toward behavior			1.839	309.36	0.067
Male	3.47	0.822			
Female	3.31	0.699			
Perceived behavioral control			0.067	311.17	0.946
Male	3.83	0.726			
Female	3.82	0.627			

The results showed the slight differences in the two variables examined; entrepreneurial intention, and perceived behavioral control. Meanwhile, mean score for subjective norm were higher for female. This could be due to the enrollment of female students in engineering fields in Malaysia. The Malaysian Ministry Of Higher Education (2011) reported that the ratio of enrollment of male students to female students in technical and science fields was 48:52 in 2009 and 2010. The female population is higher than the male population in engineering fields. This scenario provides a challenge in job hunting. Because the availability of jobs is limited, female students tend to enter into entrepreneurship fields; the same goes for their male counterparts. In addition, another important factor that needs to be considered is the perspective of industrial management concerning female graduates in engineering fields (Ab. Rahman et al., 2010). In many engineering companies, the preference is skewed toward male engineers, not female engineers. Therefore, female students in engineering fields have to find other alternatives such as getting involved in business.

Moreover, the Malaysian government, in its Eighth Malaysia Plan strategies, has created many initiatives to encourage the involvement of female entrepreneurs in various sectors through government agencies such as the Department of Community Development and Department of Agriculture (Ismail, 2010). The initiatives consist of consultation, financial support, and training in business. These initiatives can motivate female graduates to get involved in business after graduation. In spite of the job issue, this finding also reflected that female students perceived their university provided them with the same necessary knowledge, exposure, and opportunity as their male counterparts at the university. The results also revealed that mean score of attitude toward behavior were higher for male. According to Leroy, et al (2009), males are more dominant in achievement-oriented entrepreneurial value, and females are dominant in internal and external feelings of control.

## 6. CONCLUSION

This study confirmed that the theory planned behavior is appropriate to compare entrepreneurial intention of male and female students at higher learning institution. The results pointed out that there is no difference of entrepreneurial intention in gender. However, the differences appear in subjective norms and perceived behavioral control. Subjective norm refers to perceived social pressures and perceived behavioral control refers to the perceived easiness or difficulty of an individual becoming an entrepreneur. Thus, this study suggests university should establish more networking with local and international entrepreneurs in conducting business on campus to influence the students' global outlooks.

The exposure to the entrepreneurship environment could help create favorable intention toward entrepreneurship. However, this comparative study focused only on engineering students at one public university in Malaysia. Therefore, the results of this study were limited to this population and generalization cannot be made to other public universities in Malaysia. For the purpose of generalizing the results, more studies that involve larger samples are needed.

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