International Academic Institute for Science and Technology

International Academic Journal of Economics
Vol. 1, No. 2, 2014, pp. 80-89.

ISSN 2454-2474

International Academic Journal of Economics

www.iaiest.com

Gaps between Efficiency-Driven and Innovation-Driven Economies: Entrepreneurial intention among students

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Abstract

This research aimed to uncover the differences between Entrepreneurship Intention (EI) of an efficiency-driven economy – Malaysia and innovation-driven economies (United Kingdom, Australia and Singapore) and analyze the relationship between EI and the antecedents based on the Theory of Planned Behavior (TPB); attitudes (AT), subjective norms (SN), and perceived behavior control (PBC). Multi-stage sampling was used to obtain one hundred and fifty-three responses from online questionnaires for developed countries' respondents, and face-to-face surveys for Malaysian respondents. There are significant differences in the TPB's antecedents between respondents from efficiency-driven and innovation-driven countries. There are significant differences in EI between respondents of different genders, and from different economy types, as well as significant interaction effect between the two variables gender and economy type. In conclusion, while governments from developing countries ought to nurture aspiring entrepreneurs, developed countries should devise policies that increase entrepreneurial intention among youths.

Keywords: Efficiency-driven economy, Innovation-driven economy, Entrepreneurial Intention, Theory of Planned Behavior, University students.

Acknowledgement: The authors wish to thank Ho Su Jing and Foong Kam Fai for their assistance on data collection.

1. Introduction

Creation of new business ventures are deemed to be an important part to the economic development of any country. Such new ventures have been the backbone of a country's economic drive creating jobs, bringing new innovations to market and providing growth to the country. In particular, the entrepreneurs fulfills an important role to society by providing innovative solutions and delivering such value added product or services to the market. In the latest Global Entrepreneurship Monitor (GEM) report, it was cited that Malaysians' intention to start a business within three years is at a low 4.9% of the total population. This figure represents one of the lowest among the world with the regional average (Asia and Oceania) to be 24.3% (GEM Global Report, 2016). In an effort to improve Malaysian's entrepreneurial rate, the Malaysian government has taken various initiatives and directives to help boost the interest and awareness among the younger generation of university students on entrepreneurship.

Past studies conducted on entrepreneurial intention were mostly conducted in a non-Malaysian setting (Liñán & Chen, 2009; Iakovleva et al., 2011; Fayolle & Gailly, 2015) while others concentrated on personality and demographic traits (Ismail et al., 2009; Wang et al., 2016). Currently, only few studies attempted to investigate other variables beyond personality.

This limits the understanding on the influences of other variables particularly the behavioral motives and the environmental background of the individual on entrepreneurial intention. To obtain better understanding of entrepreneurial intention for Malaysia as a developing nation, research into entrepreneurial intention of developed countries' for contrast is required. University students forms the basis of this study as they are regarded as the nation's future builders and clear understanding of their intentions is important for policy makers and industry leaders as well as the research community.

To bridge the gap of our understanding in this area, the present study examines the entrepreneurial intentions of university students in four different countries (Malaysia, Singapore, Australia and United Kingdom), the first of which is an efficiency-driven economy and the last three are innovation-driven economies. This study attempts to further our understanding of the entrepreneurial motivations particularly of students from different economic development stages. Entrepreneurial intentions similarities and differences are explored by applying the Theory of Planned Behavior (TPB) which suggests that entrepreneurial intentions are determined by attitudes, subjective norms and perceived behavioral control.

2. Literature review and hypothesis

The economic development level used in this study is a classification adapted from World Economic Forum (WEF). The benchmarking tool comparing different countries on their pace of development has been used widely to classify countries according to a defined set of policies, institutions and factors determining level of productivity (Porter and Schwab, 2008). Countries classified as efficiency-driven are more competitive with efficient production processes and higher product quality compared to economies that depend on unskilled labor. As the economies move further upstream, industrial activities gave way to the service sector with higher education and training driving the competitiveness of the economy. This is also coupled with emphasis on research and development as well as the increase in the stock of knowledge, which enables entrepreneurs to make break through innovations and engage in opportunity-seeking entrepreneurial activities rather than necessity-driven. The innovation-driven level is the most advanced level characterized by businesses which more knowledge-intensive and expands into

the service sector. This form of economy is characterized with higher wages and standard of living. In this economy, companies wishing to maintain their competitiveness compete through innovation, producing new products or adopting sophisticated production processes. This study have adopted the classification as set out by WEF where Malaysia is classified as efficiency-driven and Singapore, Australia and United Kingdom as innovation-driven economy.

In the recent findings of GEM report (2016), it shows that the Total Early-stage Entrepreneurial Activity (TEA) is generally higher in efficiency-driven economies than innovation-driven economies. The proportion of the population involved in TEA in efficiency-driven economy is 14.2% on average while the proportion of population in TEA stage for innovation-driven economy is only 9.1% in comparison. Other than the TEA index, an interesting index to note is the Employee Entrepreneurial Activity (EEA) which measures the level of employees' involvement in entrepreneurial activities such as developing and launching of new products. This index indicates that innovation-driven economies have a higher percentage of population who are employees engaging in entrepreneurial activities (5.1%) compared to efficiency-driven economies, which are at 2.3%. The decision to become an entrepreneur is a conscious thought in the mind of the individual and it followed by an intentional behavior towards the aim (Krueger et al., 2000). The decision process of arriving to the conclusion of a commencing a new venture creation is preceded with entrepreneurial intention which is the best predictor of actual behavior. The study of intention is vital especially when the behavior that is to be observed is unpredictable in nature and involves a long period of time lapse.

To predict the behavior of potential entrepreneurs, this study employed the Theory of Planned Behavior (TPB) developed by Azjen (1991). TPB is suitable for this study as it is the most established, and is shown to be able to predict intentions most consistently (Autio et al., 2001; Moriano et al., 2012), and is thus widely supported. Contrasting to other theories, TPB not only accounts for personal factors, but also includes social factors as well (Krueger etal.,2000).

In TPB, the theory suggests that a behavioral intention is determined by three factors: -attitudes (AT), subjective norms (SN) and perceived behavioral control (PBC). The attitude component in the TPB refers to the degree which an individual have either favors or do not favor being an entrepreneur. Attitudes are influenced by a set of behavioral beliefs that connects behavior to various outcomes and other attributes. Contained in attitude is the affective as well as evaluative consideration (Liñán and Chen, 2009). As an individual develops a certain belief towards an object or situation, the individual will certainly acquire a particular attitude towards it. Certain known personality traits that influence an individual's attitude towards entrepreneurial intention includes risk taking, locus of control and need for independence (Krueger et al., 2000). An entrepreneur would display a strong desire to control or possess a sense of autonomy in making decision and thus a strong sense of independence, which leads to higher possibility of business start-ups.

The second component of TPB is subjective norms, which is determined by perceived social pressure to perform entrepreneurial behaviors. This can be further explained by a combination of two components: normative beliefs and motivation to comply. Normative beliefs refers to the perceived probability that important referent of individuals or groups will approve or disapprove a behavior. The referent sets the standard or norm of how one should behave. The second component which is the motivation to comply is reflections of a person's willingness to comply or conform to the norms set by referents. That is, would they be willing to behave according to an expected set of behavior? The subjective norm to which the entrepreneur operates in acts as a strong driving force in either encouraging the behavior or is a barrier towards it. A strong social-culture where entrepreneurs are highly looked upon as a cultural hero would be more likely to encourage potential entrepreneurs in embarking the entrepreneurial journey.
The third component of TPB is perceived behavioral control (PBC). PBC is concerned about the individual's control beliefs about the behavior such as the individual's perception on the difficulties or ease of being an entrepreneur. The PBC component is similar in concept to Bandura's (1977) self-efficacy. This construct deals not only with the beliefs of feelings about it but also the belief of the individual's capability in controlling the behavior (Ajzen, 2002). The common dimensions of measurement for PBC are self-efficacy and locus of control. In this study, self-efficacy is employed as an internal factor to measure PBC. A high level of self-efficacy helps to reinforce a constant effect to achieve the objectives set even when faced with failures and stress. During the early stages of a business start-up, entrepreneurs are faced with high level of stress and the high level of self-efficacy is necessary to bolster the entrepreneur towards his goals. Previous studies have found successful entrepreneurs to display strong willpower and commitment towards achieving their goals. Therefore, it is expected that particular individuals with high self-efficacy would naturally lead to stronger entrepreneurial intention.

H_1: There is significant difference in entrepreneurial intention (EI), attitude (AT),subjective norms (SN) and perceived behavior control (PBC) between respondents from efficiency economies and respondents from innovation-driven economies innovation-driven.
H_3: There is significant difference in entrepreneurial intention (EI) between respondents from efficiency-driven and from innovation-driven Economy Types.

Across different countries, entrepreneurial activity differs according to differences in culture and customs of the land. However, data have consistently showed that men are more likely to be involved in entrepreneurial activity and hence have higher entrepreneurial intention when compared to their female counterparts. Regardless of economy development level of the individual's country, males usually outnumbered the females in embarking the entrepreneurial journey. An interesting point to note from the studies is the rate of females to males across different economic development stages. Based on previous GEM studies, an emerging pattern is that the proportion of female entrepreneurs to male entrepreneurs is highest in the factor-driven economies (economies which are dominated by agriculture and extraction businesses with heavy reliance on unskilled labor and natural resources) followed by efficiency-driven economies, and the lowest in the innovation-driven economies. The main reason for this phenomena can be due to the fact that entrepreneurs of both genders engage in entrepreneurial activities as there is a lack

of better work options or opportunities, compared to the innovation-driven economies. Therefore, this study posits:

H_2: There is significant difference in entrepreneurial intention (EI) between respondents' genders.
H_4: There is significant interaction between Gender and Economy Type in predicting entrepreneurial intention (EI).

Past empirical studies have confirmed the prediction power of the TPB model. Many of the studies have established a relationship between attitudes, subjective norms and PBC towards the intention to be an entrepreneur (Luthje & Frank, 2003; Souitaris et al., 2003). However, there are past studies using TPB that has shown contradictory results, especially on the relative importance of the three constructs. In particular, the subjective norms construct was found to have significant impact on entrepreneurial intention (Kolvereid, 1996; Kolvereid & Isaken, 2006), and was proven to be insignificant in other studies (Autio et al., 2001; Kreuger et al., 2000). The differences in the results was suggested by Liñán and Chen (2009) to be the differences in measurements of the construct across the studies. It was established that subjective norms has a direct effect on entrepreneurial intention. However, there has been some researchers who propose that the existence of an indirect effect of subjective norms working through attitude or PBC on entrepreneurial intention.
The relationships among the three constructs and how they are inter-related has always been discussed and proven in research (Iakovleva & Kickul, 2011). Thus, there exist an anomaly of findings on the predictive power of the entrepreneurial intention's antecedents especially when comparing across different countries.

3. Methodology

The total respondents in this study is 153 university students with 74 respondents from efficiency-driven economy and 79 from innovation-driven economy countries. The samples in this study comprises of university students from four different countries divided into efficiency-driven economy (Malaysia) and innovation-driven (Singapore, Australia and United Kingdom). The collection of data was made through online questionnaire by way of snowballing, and the respondents were required to anonymously complete the survey. The 153 student samples collected were nearly equal in proportion with males (59.5%) and females (40.5%). The majority of the university students are between the ages of 21-23 years which represents 45.8% of total respondents.
Most of the instruments used in this study were based on previously published studies. A total of 23 items were used to measure the various variables. Most of the constructs were measured through a 5 point Likert scale where 1= "Strongly disagree" and 5= "Strongly agree". The entrepreneurial intention measurement was adopted from the study of Liñán and Chen (2009) and Kolvereid (1996). The attitude construct were based on Liñán and Chen (2009) as well as Kickul and Krueger (2004). The subjective norm measurements were adopted mostly from Iakovleva and Kolvereid (2009) while the PBS items are adopted from Tkachev and Kolvereid (1999).
Data analysis was done through independent samples *t*-test to test hypothesis $H_1$and Analysis of Variance (ANOVA) for hypotheses H_2 to H_4 using Statistical Package for Social Science (SPSS) software.

4. Results and Analysis

The variables Entrepreneurial Intention (EI), Attitude (AT), Subjective Norms (SN), and Perceived Behavioral Control (PBC) was tested to determine whether a country's economy type:- Efficiency-driven or Innovation-driven, had a significant impact on the means of all the variables between both groups. The results are shown in Table 1 below.

For all variables, the Levene's test statistics are significant. Therefore, the assumption of homogeneity of variance for all variables have been violated, and the variances for each variable for both groups are significantly different. This result is bolstered by the independent sample *t*-test results. On average, respondents from efficiency-driven economy has higher EI mean (M = 13.77, SE = 3.56) than respondents from innovation-driven economies (M = 10.91, SE = 5.28).

Table 1: Levene's and t-test for Variables by Efficiency-driven Versus Innovation-driven Economies

Variables	Levene's Test for Equality of Variances		M (SD): Efficiency-driven Economies	M (SD): Innovation-driven Economies	t-value (Equality of Variances not Assumed)
	F	Sig	*(n=74)*	*(n-79)*	
EI	18.00	.000	13.77 (3.56)	10.91 (5.28)	3.95**
AT	21.16	.000	25.35 (5.95)	20.17 (8.85)	4.27**
SN	4.621	.033	22.82 (5.62)	17.47 (6.83)	5.31**
PB	26.92	.000	19.41 (3.95)	15.47 (6.40)	4.61**

Note: M = Mean, SD = Standard Deviation, n = Number of Respondents
* $p < .05$. ** $p < .01$

This difference was significant $t(137.37) = 3.945$, $p < .05$.Next, respondents from efficiency-driven economy has higher AT mean (M = 25.35, SE = 5.62) than respondents from innovation-driven economies (M = 20.17, SE = 8.85). This difference was significant $t(148.62) = 5.31$, $p < .05$. Lastly, respondents from efficiency-driven economy has higher PBC mean (M = 19.41, SE = 3.95) than respondents from innovation-driven economies (M = 15.47, SE = 6.4). This difference was significant $t(131) = 4.61$, $p < .05$. Therefore, there are significant differences in AT, SN, and PBC between respondents from efficiency economy and those from innovation-driven economy (H_1).

Respondents from efficiency-driven economy have significantly higher attitudes, subjective norms, perceived behavioral control and entrepreneurial intention then students from the innovation-driven economies.

ANOVA results in Table 2 show that Entrepreneurial Intention (EI) differs by both respondent's gender, F (1, 149) = 18.66, $p < .05$ and economy type,(F (1, 149) = 23.50, $p < .05$) main effects. Males demonstrated greater EI (M=13.42, SD=3.54) than females (M=10.65, SD=4.6). Respondents from efficiency-driven economy have higher EI (M=13.77, SD=3.56) than respondents from innovation-driven economies (M=10.91, SD=5.28).There was also significant interaction effect between Gender and Economy Type, F (1, 149) = 5.08, $p < .05$.

Therefore, alternative hypotheses H_2 to H_4 are proven. Males' EI are observed to be higher for efficiency-driven economy type (M=14.41) than for males from innovation-driven economy (M=12.6). Likewise, females' EI are observed to be higher for efficiency-driven economy (M=12.897) than for females from innovation-driven economy (M=8.0). The lowest EI scores belongs to females from innovation-driven economy.

Table 2: ANOVA Results and Descriptive Statistics for Entrepreneurial Intention by Gender and Economy Type

Variable	Mean	SD	N	
Male	13.42	3.54	91	
EDE	14.41	3.48	41	
IDE	12.6	5.11	50	
Female	10.65	4.6	62	
EDE	12.97	3.54	33	
IDE	8.0	4.26	29	
EDE	13.77	3.56	74	
IDE	10.91	5.28	79	
Source	SS	Df	MS	F
Gender	334.7	1	344.7	18.66*
Economy Type	421.59	1	421.59	23.50*
Gender * Economy Type	91.18	1	91.18	5.08*
Error	2672.921	149	17.94	

Note: R^2=.22, adj. R^2=.20, EDE = Efficiency-driven Economy, IDE = Innovation-driven Economy.
* p< .05

5. Discussion

This research has found that entrepreneurial intention (EI), attitude (AT), subjective norms (SN), and perceived behavior control (PBC) means do differ between respondents from efficiency-driven economies, and innovation-driven economies, with higher means found for the former. The differences between the two different economic types are observed to support hypothesis H_1. This is consistent with previous studies that have examined the entrepreneurial intention across different countries (Iakovleva et al., 2011; Autio et al.,2001). Results indicated the students from the efficiency-driven economy report significantly higher attitudes, subjective norms, perceived behavioral control and entrepreneurial intention then students from the innovation-driven economies. In efficiency-driven economy, job opportunities may be limited or restricted to some. The society within such economy would also often view entrepreneurship as a means to increase an individual's economic and social standing. Hence, entrepreneurial intention would be higher in efficiency-driven economy compared to innovation-driven

economies. The results reaffirms the TPB model as being able to be replicated across different countries as well as its predictive power.

In addition, there is significant difference in EI in terms of gender and economy type (efficiency-driven versus innovation-driven). Moreover, there is significant interaction between the two variables, which supports hypotheses H_2 to H_4. The lowest EI score belongs to females from innovation-driven economy.

The female entrepreneurs from the factor-driven and efficiency-driven economies to some extend suffers from gender stereotyping which places huge responsibilities on the women's' shoulder in maintaining the household. To make ends meet, the women are much more compelled to embark on entrepreneurial activities to supplement household income while allowing the womenfolk flexibility in terms of time to care for the family. Thus, although the entrepreneurial intention rate among the females are lower than that of the male entrepreneurs, the proportion of female against male entrepreneurs are higher in economies which are less developed.

Another plausible explanation for lower female entrepreneur activity in comparison with male entrepreneur is the issue of access to capital. Especially in economies where women do not have access to equal education rights, they suffer from lack of knowledge about the financial alternatives to funding and have low self-confidence on their ability, and also are sometimes restricted by law or customs to obtain financing through formal financial institutions. Due to law and customs too, women may not be able to own assets that can be used as collateral to obtain financing. Women also generally have tighter social network and would have less access to wide business connections or have role models as a guide. Hence, it is imperative for public and private sectors to recognize the issues and provide more women-centered programs and support structure to coach and guide them through their entrepreneurial journey.

6. Conclusion, Limitation and Future Research

From the results of this study as well as past studies, it is clear that entrepreneurial intention is an important area worthy of study. However, most studies on intention have concentrated around the innovation-driven economies where the motivation for entrepreneurial activities are driven by the innovation motive rather than the necessity motive. More studies on efficiency-driven as well as factor-driven economies are needed to increase our understanding of the subject.

Policy makers in Malaysia have attempted to boost the entrepreneurial activity rate through various programs and initiatives. Based on the findings of this study and past studies, it should be emphasized that such initiatives should be targeted towards improving all three antecedents of entrepreneurial intention. In particular, for the efficiency-driven economy, attitude is found to have the strongest impact. Imparting the right entrepreneurial attitude and traits to the next generation is vital to encouraging strong entrepreneurial activities. Students should be encouraged to dare to take risks and to possess a stronger sense of autonomy on their actions.

In more turbulent economic conditions such as that experienced by efficiency-driven economies; characterized by uncertainty of the future even with salaried jobs, the younger generation may be encouraged to engage into entrepreneurial activities. This study examines the attitudes and intention of the university students. It does not address the actual behavior of the students and hence it does not imply the certainty of the behavior. It is only the intention which were observed.

In addition, this study employs self-reporting method which is susceptible to biases particularly on the perceived behavior control construct as there may be a tendency for respondent to overstate their abilities. Due to these limitations, further studies are to be conducted to include more countries and the general population.

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