ENTREPRENEURIAL INTENTION TO BUSINESS START-UP: EVIDENCE FROM ASIA

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ABSTRACT

The purpose of the study is to explore the relationships between perceptual variables and entrepreneurial intention among 13 Asian economies, and to depict the differences in the relationships among three types of Asian economies (factor-driven, efficiency-driven, and innovation-driven). Data were drawn from the 2015 Global Entrepreneurship Monitor Adult Population Survey (GEM APS) data set. Based on the cognitive theory, relevant research questions were developed, and the data were analysed through the logistic regression model. For the case of 13 Asian countries (full sample), except social status and respect, all perceptual variables are significantly related to entrepreneurial intention, and fear of fail found a negative and significant relationship. In sub-sample analysis, we have observed that regarding risk-taking, career choice, and social status, there are some significant differences among the three types of economies. The study contributes as the first attempt on Asian samples (full) from the GEM dataset and it is also the first attempt where three types of Asian economies were analysed.

Keywords: Intention, cognitive theory, entrepreneurship, GEM data, behaviour.

1. INTRODUCTION

One of the potential contributions of entrepreneurship on economic development has been observed from the impact of start-ups through innovation and continuous development. Start-up is an individuals' choice (Arenius & Minniti, 2005), and the practice of entrepreneurship begins when an individual sets up his mind to be an entrepreneur (Meoli et al., 2020; Ahmad et al., 2014). Arenius and Minniti (2005) mentioned that some socio-demographic factors, some perceptual and judgment-based variables are highly correlated with the start-up. Thus, understanding the

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perceptual factors that nurture entrepreneurship is essential for academicians and policymakers (Arafat & Saleem, 2017).

In the last few years, the world has observed a positive trend of the start-up and ripping the fruit of economic growth (Shaikh, 2019). Consequently, in entrepreneurial research, we have observed many global and inter-regional studies focusing on Africa, Europe, Latin America, North America (Liñán & Chen, 2009; Pruett et al., 2009; Gasse & Tremblay, 2011; Mueller & Dato-on, 2013). Unfortunately, studies on many Asian economies together are rare, although, based on the Start-up Ranking Report 2019 (https://www.startupranking.com/countries), India holds the 2nd position after the US and Indonesia is in the 5th position. Thus, this study intends to fulfil the gap by investigating the relationship between entrepreneurial perceptions and entrepreneurial intention in 13 Asian economies specified in the Global Entrepreneurship Monitor (GEM) Database 2015.

Global Competitiveness Report 2012-2013 defined economic development in three stages- factor-driven, efficiency-driven, and innovation-driven. Acs et al. (2008) mentioned that countries in the factor-driven stage go through low-cost efficiencies in the production and market low value-added products, focused on agriculture and small entrepreneurial effort, self-employment, and the economies are heavily reliant on (unskilled) labour and natural resources. To move into the efficiency-driven economies, countries increase goods market efficiency and their production efficiency, need to educate the workforce with technological adoption, and strong investment legislation (Acs et al., 2008). The third stage, the innovation-driven economy, is marked by continuous research and development, service sector expansion, continuous innovation (Acs et al., 2008). As countries develop economically, they tend to shift from one stage to another stage. Bosma and Schutjens (2009) mentioned that the perception of a start-up is related to entrepreneurial intention differently because of different economic stages. To this day, there is no study solely focusing on Asian economies specifying factor-driven, efficiency-driven, and innovation-driven countries separately. Hence, this study would like to investigate the overall sample on Asian economies, and the three types of Asian economies to find out more about the differences in the relationships.

Several pieces of research on entrepreneurship have focused on cognitive theory to understand the relationship between perceptual variables and entrepreneurial intention (Fernández-Pérez et al., 2019; Ahmad et al., 2014). Though the applied value of utilizing cognitive theory in measuring the relationship between perception and entrepreneurial intention is well documented in intention-based studies, inconclusive results are also evident in many cases (Ahmad et al., 2014). Because of the different cognitive biases, a different outcome may incur. That is why judgment from multiple perceptions to check the tendency of entrepreneurial intention is necessary. Thus, the study intends to make it clear how cognitive and mental theories of human behaviour are related to entrepreneurial intention in a specific set of Asian countries.

On the basis of the discussion above, we believe that the present study contributes as the first attempt on Asian samples (full) from the GEM dataset through the lens of the cognitive theory and it is also the first attempt where three types of Asian economies were analysed.

2.   LITERATURE REVIEW

2.1. Theoretical background

Start-up intention compiles with a complex set of human cognition, which demands a research-based theoretical assumption (Krueger & Carsrud, 1993). Mitchell et al. (2007) stated that entrepreneurial cognition is the knowledge structure that helps in assessment, judgment, and decision-making regarding opportunity evaluation and start-up. The cognitive approach supports opportunity recognition and conceptualization of entrepreneurial intention. A significant number of studies have used a cognitive approach to measure the perception of individuals regarding new venture creation, but the results of several studies were also found inconclusive (Ahmad et al., 2014). Cognitive factors play a critical role in venture creation perception, and several studies were focused on the 'intention-based' model under cognitive theory for describing the development of entrepreneurial intention (Edelman & Yli–Renko, 2010). The cognitive approach offers many dimensionalities regarding theoretical and empirical investigations, which helps in building a deeper understanding of the relationship between entrepreneurial intention and perceptual differences. The entrepreneurial intention could generate from the entrepreneur's perception, social legitimacy perception, and social capital perception (Arenius & Minniti, 2005; Ahmad et al., 2014; Krueger et al., 2000), as mentioned below.

2.2.   Entrepreneurs perception
2.2.1. Perception of opportunity

Entrepreneurial activities begin with entrepreneurial opportunity perception (ul Haq et al., 2014). Entrepreneurs' opportunity-seeking perception changes the behaviour through the cognitive process and stimulates start-up action (Urbano et al., 2019; Liñán et al., 2011c). However, the empirical results on the relationship between opportunity perception and entrepreneurial intention are not conclusive at all. For example, Renko et al. (2012) specified that opportunity perception is a cognitive process, and perception relies on the cognitive schema. ul Haq et al. (2014) mentioned that perception and cognition have a critical place in recognizing opportunity. Noguera et al. (2013) did not find any significant relationship between opportunity perception and entrepreneurial intention. To find more evidence on this relationship, the following research question is postulated:
  RQ1: There is a positive relationship between opportunity perception and intention to start-up.

2.2.2. Perceived fear of fail

Fear of failure is a psychological factor which incurs both negative and positive attitude towards entrepreneurship (Cacciotti et al., 2016). In several entrepreneurship studies, it was evident that fear of fail is negatively correlated with entrepreneurial start-ups (Arenius & Minniti, 2005). Researchers mentioned that entrepreneurs having risk aversion intention are a negative emotion, and that is detrimental in starting a business (Arafat et al., 2020; Arafat & Saleem, 2017; Welpe et al., 2012). On the other hand, some researchers mentioned that a risk-taking attitude could be a motivational and an exhilarating factor of initiating a venture (Cacciotti & Hayton, 2015). Welpe et al. (2012) showed a positive relationship between fear of failure and entrepreneurial intention. Thus, the following research question is proposed:

  RQ2: There is a negative relationship between fear of failure and intention to start-up.

2.2.3. Self-confidence or self-efficacy

Entrepreneurial self-efficacy has a significant relationship with start-up intention (Austin & Nauta, 2016). On the other hand, Oosterbeek et al. (2010) found an insignificant relationship between entrepreneurial self-efficacy and entrepreneurial intention. Self-efficacy is an important factor for entrepreneurial intention; if self-efficacy is low, an individual will not show their intention to start-up (Mueller & Dato-on, 2013). Shinnar et al. (2014) mentioned that social cognitive theory suggests that self-efficacy leads to behaviour. However, based on the previous literature, the following research question is developed:

RQ3: There is a positive relationship between self-efficacy and intention to start-up.

2.3. Social legitimacy perception
2.3.1. Career choice

Based on social perception, people like to believe that being an entrepreneur is an attractive profession to their peer group (Ramos-Rodríguez et al., 2012). Social perception of entrepreneurship influences an individual to entrepreneurial intention through the cognitive mechanism. Ahmad et al. (2014) empirically found that there is a positive relationship between entrepreneurship as a good career choice perceived in society and entrepreneurial intention. Entrepreneurship, as a career, depends on the situation as well as comparison with other career options (Burton et al., 2016). Besides the own perceptions as mentioned above, the psychological understanding of choosing entrepreneurship as a career still generates interest to the researchers (Asante & Affum-Osei, 2019). To find more on this issue, we could propose the following research question:

RQ4: There is a positive relationship between career choice and intention to start-up

2.3.2. Social status

People having a strong sense of social status would like to prefer entrepreneurship as their career (Begley & Tan, 2001). In some societies, entrepreneurial activities are regarded as economic and social identity, and the social status related to entrepreneurship is high (Kalden et al., 2017). The honor gained from entrepreneurial activity enhances the affection of entrepreneurial intention into society (Kalden et al., 2017). Cultural and social recognition of entrepreneurship strengthens the intention towards entrepreneurship (Liñán & Chen, 2009). Hindle and Klyver (2007) and mentioned that social status is positively related to entrepreneurial intention. On the other hand, Hyder et al. (2011) found an insignificant relationship between social status and entrepreneurial intention. Thus, the following research question could be proposed:

RQ5: There is a positive relationship between social status and intention to start-up

2.3.3. Public media

The social cognitive theory specifies that public media, as a mass communication platform, have an impact on social attitude and behavioural intentions (Bandura, 2010). Levie et al. (2010) mentioned that the frequent exposure of entrepreneurs and entrepreneurship in public media

increases the rate of entrepreneurship intention in the UK. On the other hand, a study conducted by Borozan and Pfeifer (2014) compared Croatia with some of the European countries (Scandinavian, Anglo-Saxon, South-East, or Central-East European context) and found that media is a significant determinant for the entrepreneurial intention in some European countries but not in Croatia. The results of the study indicate that media coverage has a significant yet negative impact on the creation of entrepreneurship. They mentioned that initially, the media presents success stories about the entrepreneurial initiative, and later these successful people charged for their fraudulent activities. The debate on the impact of media on entrepreneurial intention is still unsolved because some studies were evident in the insignificant relationship (Achtenhagen, 2008). Ahmad et al. (2014) and Fernández et al. (2009) found a positive association between public media and entrepreneurial intention. On the other hand, several studies have found that media is not effective in creating entrepreneurial intention and entrepreneurial activity (Ali et al., 2012; Hindle & Klyver, 2007). So, we have observed inconclusive results in this relationship. Thus, the following research question can be postulated:

*RQ6: There is a positive relationship between public media and intention to start-up*

2.4.   Social capital perception
2.4.1. Role model

Several social science researchers have focused on the issue of knowing other entrepreneurs and entrepreneurial intention to start-up has a positive relationship (Arenius & Minniti, 2005; Abu Bakar et al., 2017; Urbano & Alvarez, 2014; Ramos-Rodríguez et al., 2012). An entrepreneurial role model can be deemed as social or human capital (Bosma et al., 2012). Social cognitive theory suggests that the influence of role models and interpersonal relationships helps in overcoming difficulties, anxiety, and deciding a critical point (Laviolette et al., 2012). Inspiration from the role model can generate emotional arousal that can lead to a favourable attitude. Laviolette et al. (2012) mentioned that 'cognitions are the antecedent of emotional arousal'. One counterargument from Borozan and Pfeifer (2014) is that it is not easy to find the appropriate role model that positively influences entrepreneurial intention, and an inappropriate role model might have a devastating effect on other entrepreneurial activities. However, along with the other studies, the following research question can be drawn-

RQ7: There is a positive relationship between a role model and intention to start-up

Therefore, based on the theoretical discussion on the perceptual variables and their relationship with entrepreneurial intention, the study illustrated Figure 1 describing the study's research model.

Figure 1 Theoretical framework
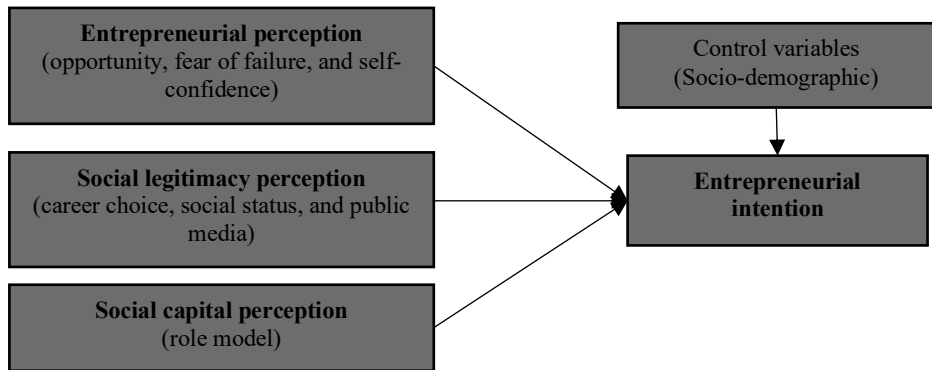
3. METHODOLOGY

3.1. Data

Data used in the study were obtained from the GEM database 2015. The study intends to test the research question using a sample of 35,850 from 13 Asian countries by utilizing Adult Population Survey (APS) data. In most countries where most of the population lives in households with landline phones, the surveys are completed by phone; the GEM interview module was generally a small part of a multi-client interview schedule. In most cases, landline phone numbers are generated at random and a phone call is placed to a household on a weekday night or during the day on a weekend (Reynolds et al., 2005). The respondents aged between 18 and 64 were asked questions about their entrepreneurial attitude. Based on World Economic Forum's Global Competitiveness Report 2014-15 in Asia we have four factor-driven economies (India, Iran, Philippine, and Vietnam), 6 efficiency-driven economies (China, Indonesia, Kazakhstan, Lebanon, Malaysia, and Thailand), and 3 innovation-driven economies (Israel, South Korea, and Taiwan). Based on the classification of three economies, the research questions were also analysed.

3.2. Measures
All the measures of the study have been adopted from the GEM database 2015.

I. *Dependent variable*
Entrepreneurial intention: Respondents were asked, "Are you alone or with others, expecting to start a new business, including any type of self-employment, within the next three years?" (Yes/No)

II. *Independent variable*
Entrepreneurial perception
a. Perception of opportunity*:* "In the next six months there will be good opportunities to start up new businesses in the area where you live" (Yes/No)
b. Fear of fail: "Fear of failure would prevent you from starting a business" (Yes/No)
c. Self-confidence or self-efficacy: "Do you believe to have the knowledge, skill, and experience required to start a business?" (Yes/No)

Social legitimacy perception
a. Career choice: "In your country, most people believe that starting up a business is a desirable career" (Yes/No)
b. Social status: "In your country, starting up a new business have gained high social status and prestige" (Yes/No)
c. Public media: "In your country, you often see stories in public media about successful new business" (Yes/No)

Social capital perception
a. Role model: "You knew someone personally who had started a business in the 24 months preceding the survey" (Yes/No)

III. Control Variables
a. Gender: Male; Female
b. Age: 18–24 years; 25–34 years; 35–44 years; 45–54 years; 55–64 years; 65–74 years
c. Education: No education; Some secondary school (including primary only); Secondary degree; Post-secondary degree; Grad expected
d. Household income: Lower 33%; Middle 33%; Upper 33%
e. Work status: Full/Full or part-time; Part-time only; Retired/disabled; Homemaker; Student; Not working

3.3 Data Analysis

The study adopts logistic regression model, as the dependent variable is dichotomous (Abu Bakar et al., 2017; Ramos-Rodríguez et al., 2012; Arafat & Saleem, 2017).

4. RESULTS AND DISCUSSION

4.1. Descriptive Statistics

Table 1 illustrates the descriptive statistics of the sample.

Table 1: Profile of respondents

Variable	Observations	Mean	Std. Dev.	Min	Max
Intention to start-up (within 1 year)	35,606	.18	.385	0	1
Entrepreneurial Perception					
Perception of opportunity	31,847	.41	.493	0	1
Fear of fail	34,079	.44	.496	0	1
Self-confidence or self-efficacy	34,465	.48	.499	0	1
Social legitimacy perception					
Attractive career choice	31,311	.63	.481	0	1
Status and respect	31,527	.71	.449	0	1
Public media	31,072	.69	.460	0	1
Social capital perception					
Role model	35,176	.50	.499	0	1
Socio-demographic Variables					
Gender (1=Male, 2= Female)	35,850	1.50	.499	1	2
Age (18-64)	20,416	3.91	1.291	2	6

Education (No education -grad exp.)	35,563	954.50	548.112	0	5
Household income (lower-upper)	33,224	21505.79	30307.87	1	3

4.2. Correlation Matrix

Among the seven predictor variables, six showed a significant positive correlation, while fear of failure showed a significant negative correlation with business start-up intention (Table 2). The multicollinearity test was satisfactory since the study has found highest VIF was 1.14 and the highest condition index was 19.95 which was nearly equal to the threshold suggested by Belsley (1980) and a condition index greater than 30 suggests a severe problem with collinearity (Abu Bakar et al., 2017).

Table 2: Correlation

	Intention to start-up	Opportunity	Fear of fail	Self-confidence	Career choice	Status and respect	Public media
Intention to start-up	1						
Opportunity	0.226***	1					
Fear of fail	-0.042***	-0.046***	1				
Self-confidence	0.270***	0.316***	-0.063***	1			
Career choice	0.090***	0.156***	0.069***	0.172***	1		
Status & respect	0.078***	0.126***	0.116***	0.155***	0.278***	1	
Public media	0.099***	0.114***	0.076***	0.124***	0.210***	0.241***	1
Role model	0.212***	0.290***	0.016**	0.301***	0.126***	0.133***	0.116 ***
Gender	-0.045***	-0.024***	0.048***	-0.076***	-0.005	0.000	0.009***
Age	-0.035***	-0.062***	0.009	-0.053***	-0.016	0.001	-0.041***
Education	0.038***	0.081***	0.000	0.072***	0.006	0.011	0.075***
Work status	-0.153***	-0.115***	0.006	-0.161***	-0.055***	-0.045***	-0.078***
Household income	0.065***	0.107***	-0.039***	0.076***	0.004	0.001	0.027***

Table 2: Continued

	Role model	Gender	Age	Education	Work status	Household income
Intention to start-up						
Opportunity						
Fear of fail						
Self-confidence						
Career choice						
Status & respect						
Public media						
Role model	1					
Gender	-0.074	1				
Age	-0.057***	0.014	1			
Education	0.080***	-0.049***	-0.271***	1		
Work status	-0.178***	0.231***	-0.065***	-0.043***	1	
Household income	0.118***	-0.046***	-0.023***	0.221***	-0.109***	1

*** *Correlation is significant at the 0.001 level (2-tailed), **Correlation is significant at the 0.01 level (2-tailed)*

4.3.   Logistic Regression Model (Full sample)

To investigate the research questions, a logistic regression model was run to identify the predictors of entrepreneurial intention. Table 3 represents the result of the analysis.

Table 3: Logistic Regression (Full sample)   *observations = 24,029*

	Coef.	Odds Ratio	Std. Err.	Wald	P>z
Entrepreneurial perception					
Opportunity perception	.627	1.872	.038	16.31	0.000
Fear of fail	-.102	.902	.036	-2.79	0.005
Self-confidence or skill	1.007	2.738	.041	24.04	0.000
Social legitimacy perception					
Career choice	.134	1.143	.041	3.25	0.001
Status and respect	.070	1.072	.043	1.60	0.109
News in public media	.358	1.430	.044	8.08	0.000
Social capital perception					
Role model	.545	1.725	.040	13.60	0.000
Socio-demographic variables					
*Gender (*Male=1, Female=2)					
Gender	.073	1.076	.037	1.97	0.049
Age **(Age 25-34: reference category)**					
Age 1 (18-24)	-.327	.720	.070	-4.66	0.000
Age 3 (35-44)	-.379	.684	.052	-7.20	0.000
Age 4 (45-54)	-.506	.602	.061	-8.28	0.000
Age 5 (55-64)	-.496	.608	.080	-6.20	0.000
Education **(No education: reference category)**					
Some secondary	.056	1.057	.077	0.72	0.470
Secondary	.048	1.049	.070	0.69	0.492
Post-secondary	-.032	.968	.072	-0.44	0.658
Graduation expected	.027	1.027	.121	0.22	0.824
Work status **(full time or part-time include self-employment and part-time work: reference category)**					
Retired	-1.390	.249	.160	-8.66	0.000
Homemaker	-1.001	.367	.075	-13.18	0.000
Student	-1.189	.304	.122	-9.67	0.000
Not working	-.230	.793	.074	-3.09	0.002
Household income level **(middle income: reference category)**					
Lower income	.119	1.127	.045	2.63	0.008
Upper income	.222	1.249	.043	5.12	0.000
Constant	-2.977	.050	.1056	-28.19	0.000

[***]*Correlation is significant at the 0.001 level,* [**]*Correlation is significant at the 0.01 level*

Table 3 illustrates the score of the binary logistic regression model with a large number of observations (n= 24,029). In entrepreneurial perception criteria, for *RQ1*, opportunity perception has a positive and significant correlation with entrepreneurial intention *(β =.627, p<0.001)*. The odds ratio indicates that those who perceive entrepreneurial opportunities are 1.8 times more likely to become entrepreneurs than those who do not. For *RQ2*, fear of failure has a negative and significant correlation with start-up intention *(β = -.102, p<0.01)*. The odds ratio indicates that those who are sensitive to fear of fail are 0.9 times more likely to start a business. For *RQ3*, self-confidence has a positive and significant relationship with entrepreneurial intention *(β =1.007, p<0.001)*. The odds ratio indicates that those who have self-confidence are 2.7 times more likely to start a business.

Based on the social legitimacy perception for *RQ4*, entrepreneurship as a good career choice in society has a positive and significant relationship with the intention to start a business *(β =.134, p<0.001)*. The odds ratio indicates that those who perceive entrepreneurship as a good career choice in society are 1.14 times more likely to start a business. For *RQ5*, entrepreneurship as an attractive profession having social status and respect has a positive and non-significant relationship with the intention to start a business *(β =.070, p>0.05)*. For *RQ6*, the exposure to success stories in public media has a positive and significant relationship with start-up intention *(β =.358, p<0.001)*. The odds ratio indicates that those who watch success stories in public media are 1.43 times more likely to start a business

Lastly, based on the social capital perception for *RQ7*, knowing other entrepreneurs (role model) has a positive and significant relationship with entrepreneurial intention *(β =.545, p<0.001)*. The odds ratio indicates that individuals knowing other entrepreneurs are 1.73 times more likely to start a business.

We have accessed goodness-of-fit of the binary logistic regression model using different fit indexes (Table 4); goodness-of-fit by utilizing the Omnibus test (sig. level), *Cox and Snell Pseudo R-square*, *Negelkerke Pseudo R^2*, Hosmer-Lemeshow test (sig. level) and the rate of correct classification. The findings depicted that the Omnibus test is significant (p<0.001), denoting the acceptance of the research question that *β* coefficients are different from zero. The test gives an overall indication that the model is performing well. Moreover, the Hosmer-Lemeshow (HL) test is commonly conducted to check the fitness of the model. A value >0.05 shows a poor fit of the model. There is some contradiction regarding the HL test. As we know, the statistical test produces a more significant result with an increase of sample size, but if the data set contains a big sample size, the HL test produces a lower fit of the model (Paul et al., 2013; Osman & Ismail, 2007). Moreover, Allison (2013) criticized using the HL test for the logistic regression model. Another two post-estimation, *Cox and Snell pseudo-R^2,* and *Negelkerke pseudo-R^2* provides the value that indicates the amount of variation in the independent variables explained by the model. These are commonly known as *Pseudo-R^2* statistics. In the aggregated model of this analysis, it explains 13 percent and 21 percent variability by the independent variables, respectively. On the other hand, the percent of the correctly classified case is highly satisfactory, which shows 81.36 percent of the overall model (Fernández et al., 2009).

Table 4: Goodness-of-fit statistics

Test	Overall Model
Omnibus test (sig. level)	0.000
Cox and Snell pseudo-R^2	0.130
Negelkerke pseudo-R^2	0.211
Hosmer-Lemeshow test (sig. level)	0.000
% Correct	81.36%

In this study, the number of total cases is 35,850, and after deducting the missing cases, it comes to 24,029, which is almost 67 percent of the total population.

4.4. *Subgroup analysis in entrepreneurial intention*

The final logistic regression model analysis is conducted by the subgroup, as depicted in Table 5, where the differences in the results are shown based on factor-driven, efficiency-driven, and innovation-driven economies.

For *RQ1*, we found a marginal effect for opportunity perception is positive and significant at $p<0.001$ level for all economies. The odds ratio indicates that an individual's opportunity perception is 1.83 times (factor-driven), 1.82 times (efficiency-driven), and 2.00 times (innovation-driven) more likely to start a business. Regarding fear of failure mentioned in the *RQ2*, the marginal effect for the variable is negative and significant at $p<0.001$ level for factor-driven and innovation-driven economies but not significant for efficiency-driven economies. The odds ratio indicates that those who perceive fear of fail matters are less likely to start a business for factor-driven and innovation-driven economies. For *RQ3*, the marginal effect for the variable is positive and significant at $p<0.001$ level. The odds ratio indicates that those who have self-confidence are 2.7 times (factor-driven), 2.3 times (efficiency-driven), and 3.32 times (innovation-driven), more likely to start a business.

For *RQ4*, the marginal effect for career choice is positive but insignificant for factor-driven and innovation-driven economies. However, the marginal effect for the variable is positive and significant at $p<0.001$ level for efficiency-driven economies. Thus, the study provides partial support for *RQ4*. In *RQ5*, the marginal effect for social status is positive and significant at $p<0.001$ level only for the efficiency-driven countries. The odds ratio for efficiency-driven economies indicates that individuals' perception of entrepreneurship as status and respect is 1.15 times higher than others. In our study, the research question is partially supported.

Table 5: Regional Logistic Regression

	Model 1 Factor-driven (n= 8,420)		Model 2 Efficiency-driven (n= 12,108)		Model 3 Innovation-driven (n= 3,501)	
	Coef.	Odds Ratio	Coef.	Odds Ratio	Coef.	Odds Ratio
Entrepreneurial perception						
Opportunity perception	.605***	1.831	.601***	1.824	.716***	2.046
Fear of fail	-.137**	.871	.041	1.042	-.299**	.741
Self-confidence or skill	1.010***	2.746	.847***	2.333	1.200***	3.320
Social legitimacy perception						
Career choice	.095	1.100	.273***	1.314	.089	1.094
Status and respect	-.035	.964	.147**	1.158	.065	1.067
News in public media	.333***	1.395	.538***	1.713	.383***	1.467
Social capital perception						
Role model	.496***	1.643	.573***	1.775	1.073***	2.925
Socio-*demographic variables*						
Gender (Female=1, Male=2)						
gender	.086	1.090	.169**	1.184	-.371***	.689
Age (Age 25-34: reference category)						
Age 1 (18-24)	-.112	.893	.091	1.095	.325	1.385
Age 3 (35-44)	.758**	2.135	-.040	.960	.091	1.095
Age 4 (45-54)	.055	1.057	-.050	.951	-.380**	.683

	India, Iran, Philippines, Vietnam		China, Indonesia, Kazakhstan, Lebanon, Malaysia, Thailand		Israel, South Korea, Taiwan	
Age 5 (55-64)	-1.433	.238	.013	1.013	-.264	.767
Education (No education: reference category)						
Some secondary	-.203	.815	.378***	1.459	-.458	.632
Secondary	.044	1.045	.165	1.180	-.363	.695
Post-secondary	-.118	.888	.152	1.165	-.394	.673
Graduation expected	-.003	.996	.510**	1.666	-.692	.500
Work status (full time and part-time: reference category)						
Retired	-1.198***	.301	-1.739***	.175	-1.701***	.182
Homemaker	-.663***	.515	-2.037***	.130	-1.452***	.233
Student	-.911***	.401	-2.079***	.124	-.980**	.375
Notworking	-.166	.846	-.831***	.435	.198	1.219
Household income (middle income: reference category)						
Lower income	.138**	1.148	.033	1.034	.010	1.010
Upper income	.085	1.089	.350***	1.420	-.011	.988
Constant	-2.571	.076	-3.897	.020	-2.672	.069

*** *Correlation is significant at the 0.001 level,* ** *Correlation is significant at the 0.01 level*

In *RQ6*, that the marginal effect for the exposure in public media is positive and significant at $p<0.001$ level. The odds ratio indicates that a successful entrepreneur's frequent exposure in public media is 1.39 times (factor-driven), 1.71 times (efficiency-driven), and 1.46 times (innovation-driven) more likely to start a business.

In *RQ7*, the marginal effect for the variable is positive and significant at the 0.001 level. The odds ratio indicates that individuals knowing other entrepreneurs are 1.64 times (factor-driven), 1.77 times (efficiency-driven), and 2.92 times (innovation-driven) more likely to intend to start a business.

We have also conducted a post-estimation (goodness-of-fit) statistics in Table 6 for three economies. We have found that the Omnibus test is significant (p<0.001), denoting the acceptance of the research question that β coefficients are different from zero for all the economies. The test gives an overall indication that the model is performing well. Furthermore, the HL test is also checked for the model. We have observed that factor-driven and efficiency-driven economies have insignificant results; on the other hand, innovation-driven economies have a significant outcome for HL. Earlier in this study, we have described the issue more vividly than if the sample size becomes lower, the model could generate a good fit for the analysis (Osman & Ismail, 2007; Allison, 2013). The other two post-estimations are *Cox and Snell pseudo-R²* and *Negelkerke pseudo-R²,* which provide the values that indicate the amount of variation in the independent variable explained by the model. These are mostly known as *Pseudo-R²* statistics. *Cox and Snell pseudo-R²* for the case of three types of economies (factor-driven, efficiency-driven, and innovation-driven) show 12 percent, 13 percent, and 12 percent variability. *Negelkerke pseudo-R²* for three economies is 18 percent, 23 percent, and 24 percent, respectively. Finally, the percent of correctly classified case is highly satisfactory for all the economies (Fernández et al., 2009).

Table 6: Goodness-of-fit statistics for three economies

Test	Overall Model	Factor driven	Efficiency driven	Innovation-driven
Omnibus test (sig.level)	0.0000	0.0000	0.000	0.000
Cox and Snell pseudo-R2	0.130	0.124	0.139	0.126
Negelkerke pseudo-R2	0.211	0.185	0.234	0.249
Hosmer-Lemeshow test (sig.level)	0.0000	0.0013	0.0138	0.5078
% Correct	81.36%	75.74%	83.47%	88.75%

4.5.   Discussion

For the full sample analysis, we obtained the expected results mostly, which means our sample of Asian countries is not different from the rest of the world in terms of the antecedents of entrepreneurial intention. The exception was the perceived social status of entrepreneurs. Based on social legitimacy perception, Begley and Tan (2001) mentioned that social status is an important predictor of entrepreneurial intention. Stevenson et al. (2010) represented a GEM database study focusing on the Middle East and North African countries and found that a significant proportion of the adult population agreed that start-up is a source of status and respect mostly. In Australia, induval perception of high status to entrepreneurship and the entrepreneurial intention is significantly related (GEM Report, 2015). However, in our study, the relationship between social status and entrepreneurial intention is insignificant. The only supporting evidence is Urbano and Alvarez (2014). They found that in the EU and USA, status and respect have an insignificant relationship with entrepreneurial intention.

The present study extends its contribution through sub-group analysis. First of all, let us discuss from the perspective of entrepreneurial perception. More specifically, we have found that innovation-driven countries individuals perceive more entrepreneurial opportunities compared to factor-driven and efficiency-driven countries. Next, we have observed a significant change for the result of 'fear of fail matters', an insignificant result for efficiency-driven countries and significantly positive results for factor-driven and innovation-driven countries. In the Asian efficiency driven-economy, countries have high GDP growth comparing the other two-categories. Nabi et al. (2011) defined the efficiency-driven economies as an investment-driven economy. In this transitional economic situation, countries are likely to have informal investors, especially connected with the foreign financial market, and put more emphasis on 'risky' entrepreneurial ventures (Bosma & Levie, 2010). Acs and Amorós (2008) termed Asian transitional countries as the 'East-Asia miracle.' Due to the spillover knowledge, increased competition among big firms, flexibility in investment helps in taking an entrepreneurial risk, which reduces the perceived risk and subsequently even 'fear of fail' sensitive individuals has a similar level of entrepreneurial intention as the insensitive ones.

From the social legitimacy perspective, we have found that the perception of entrepreneurship as a good career choice is positive and significant for efficiency-driven economies. The study does not find any significant relationship between 'a good career choice' and entrepreneurial intention for factor-driven and innovation-driven economies. In Asia, factors that help efficiency-driven economies to take entrepreneurship as a career are the perceptions that they have the knowledge, strong legislation, government support, skills, and experience required (gained from the factor-driven condition); followed by a perception that there are good opportunities, low fear of failure,

and belief on themselves (Erkut, 2016; Ahmad et al., 2014). Erkut (2016) mentioned that for innovation-driven economies, entrepreneurship as a career is negatively related to entrepreneurial intention, and they have mentioned that people consider another profession like being an engineer or scientist for the industry as a desirable career. The GEM report 2015 (p.7) introduced that in Indonesia (efficiency-driven) and the Philippines (transitional from factor-driven to efficiency-driven), when people perceive entrepreneurship as a good career choice, they tend to take entrepreneurial intention. In the case of innovation-driven, they found an insignificant relationship. A similar result was also evident in the case of Malaysia (Ahmad et al., 2014).

Regarding social status, entrepreneurship as social status is positive and significant for efficiency-driven economies. The study does not find any significant relationship between social status and entrepreneurial intention for factor-driven and innovation-driven economies. For the factor-driven economies, basic requirements are more important than status and respect (Erkut, 2016). Laužikas and Dailydaitė (2015) mentioned that Asian people belonging to efficiency-driven economies are highly ambitious, and they found that the relationship between social status and entrepreneurial intention is positive and significant.

Based on the results by the three types of economies respectively, we can imply effectiveness of some policies, although it should be only argued as potential, because our analysis is not experimental or quasi-experimental, as mentioned in 5.1 Limitations of the study. For the whole sample economies, measures should be taken to help people recognize opportunities and develop knowledge/skills, show successful new business cases in public media and enhance social networking for knowing entrepreneurs. For the remaining variables, we found the efficiency-driven economies are different from the two others, which leads to different recommendations. More specifically, regarding 'fear of fail' should be carefully mitigated in the case of the factor- and innovation-driven economies while the attention does not have to be made in the efficiency-driven economies. On the other, entrepreneurs as a desirable career and with social status should be maintained only in the efficiency-driven economies while those are not necessary in the two others.

5.   CONCLUSION

As mentioned earlier cognitive theory of entrepreneurship shapes to develop perception at the individual and aggregated level. In this study, we have classified different entrepreneurial perceptions into three domains namely, entrepreneurial perception, social legitimacy perception, and social capital perception. Based on the cognitive theory, the relationship between perceptual variables and entrepreneurial intentions of Asian individuals is broadly analysed in this study. Moreover, the relationship is investigated in three types of economies (factor-driven, efficiency-driven, and innovation-driven) respectively. For the full sample, except social status and respect, all perceptual variables are significantly related to entrepreneurial intention expectedly. In sub-sample analysis, regarding risk-taking, career choice, and social status, there are some significant differences among the three types of economies in terms of entrepreneurial intention. On the other hand, opportunity perception, self-efficacy, media attention, and role model have a significant positive relationship for all types of economies.

5.1.   Limitation of the study

First, the study uses a cross-sectional design so that the results must be interpreted as correlative rather than causal (Arenius & Minniti, 2005; Bergmann et al., 2014). It is obvious that the study of association or correlation will assume some positive or negative association between the perceptual variables and start-up intention. Even being an entrepreneur, one can develop their different perception. So, a reciprocal relationship between perceptual variables and intention might happen, which is contradictory to causality (Bergmann et al., 2014). Moreover, there are many other things as confounders that might have a relationship or might affect the relationship between perception and intention that we cannot ignore. It is difficult to infer the direct effect of perceptual variables on the entrepreneurial intention from a cross-sectional data set. Though there are several studies where the researchers have hypothesized that perceptual variables have the positive effect/ impact/ influence/ more or less influence on start-up intention (e.g., Arafat & Sleem, 2017; Ahmad et al., 2014), finding the causal relationship by utilizing GEM cross-sectional data is impossible without relevant sample matching methods. Thus, the problem of cross-section data cannot be ignored.

Second, we have also utilized single-item measurement for each perceptual variable (Cacciotti et al., 2016). Measurement scales are a vital part of behavioural science, and psychologists usually discourage using a single-item measurement scale because multiple-items could yield more reliable and valid results (Bergmann et al., 2014). Third, the study has only focused on Asian countries, and the result cannot be generalized for other continents because the economic condition is not the same for all (Acs et al., 2008). Forth, it is expected that individuals having entrepreneurial intentions would remain consistent over time (Khan et al., 2019). Liñán et al. (2011a, 2011b, 2011c) mentioned that because of different socio-demographic issues, stability is lower than expected. The debate about stability cannot be solved through the cross-sectional study, and other long-time approaches could be the probable solution (Ahmad et al., 2014). Fifth, some researchers mentioned that an individual's perception is difficult to change, and it takes a longer process; drawing a causal conclusion is ambiguous (Arenius & Minniti, 2005; Khan et al., 2019; Liñán et al., 2011a).

5.2.   Future Research Avenue

The study would like to propose several future research avenues for the improvement of this field. First, researchers could deploy a longitudinal research approach at least partially and could solve the problem with causality and biasedness (Ahmad et al., 2014). Second, a closer look into the more potential predictors is necessary, and how these factors are relating to entrepreneurial decision making is important for determining effective policy (Arafat & Saleem, 2017). Third, the GEM data can be re-organized with any database by utilizing multiple-scale questionnaires to get more insight into the perception of human behaviour (Cacciotti et al., 2016; Fernández et al., 2009). Fourth, a new questionnaire can be developed to get more dimensions of entrepreneurial intention, e.g., alertness, effectuation, causation, etc. (Fernández et al., 2009). The fifth, future researcher could attempt to study different industries and can make a comparison between different countries and continents (Arafat & Saleem, 2017). Future researchers could focus on these specific areas to make the study more robust.

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