

DETERMINANTS of STARTUP INTENTION AND MOTIVATION AFFECTING BRUNEIAN STUDENTS

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**Abstract**— Startups play a crucial role in creating employment and stimulate economic growth in Brunei Darussalam. As graduate unemployment is alarming in Brunei, startup can be one of the career options after they complete their study. Thus, the objective of the study is to examine the determinants affecting the startup intention of higher institution students and to investigate the government role for the development of startup in Brunei. A sample of 373 students of various majors from selected public and private institutions through online survey used to investigate the antecedents influencing startup intention of students. Correlation coefficient was employed to determine the relationship between variables and regression method to test the hypothesis. The main findings found there were positive relationship between attitude, entrepreneurial self-efficacy, perceived desirability of self-employment, intrinsic motivation and government support with startup intention. The government could formulate relevant policies and provide funding for the entrepreneurial activities.

**Index Terms**—Bruneian university students, Brunei, Entrepreneurship, Government support, Intention-based models, Moderator, Startup intentions

## 1 INTRODUCTION

BRUNEI Darussalam is dependent on its oil and gas sector as it is a major contributor to the Gross Domestic Product (GDP). According to ASEC (2017), Brunei has a population of approximately 423,000 people. A report by (Labour Force Survey, 2009) suggested that Brunei has a population which works for public at 47.7%. The country desires to reduce the dependence on oil and gas sector by looking on other sectors like entrepreneurship with a view to diversify the economy through Small, Medium Enterprises (SMEs). Much attention and concerns about entrepreneurship have been intensified through government agencies like Darussalam Enterprise (DARE) and private sectors such as Brunei Shell Petroleum (BSP) which provides special schemes to entrepreneurs. It is important to promote the development of entrepreneurship program with the supports from government and private sectors' incentives.

Economic structure in Brunei Darussalam is the smallest and the second highest-income country in ASEAN. Its wealth comes predominantly from crude oil and natural gas production, which generates more than 60% of GDP and around 90% of merchandise exports. Japan and South Korea are the principal importers of Bruneian mineral fuels, particularly liquefied natural gas, for which long-term supply contracts are in place.

In Brunei, the Micro, small and medium enterprise (MSMEs) are a crucial force in the country's economy, driving innovation, economic development and job creation. An article released by (Stephen; Urbano & Hemmen, 2005), more than 90 per cent of the world's businesses are MSMEs. It is an emerging market which can allocate 80 per cent of newly created jobs. In Brunei, the national vision, Wawasan Brunei 2035, the development of MSMEs are essential element in reaching the national vision, predicts a dynamic and sustainable economy with a per capita GDP amongst the top ten in the world. In addition, in order to spur the development of MSMEs and support entrepreneurship in the country especially the one involving innovative, diverse and competitive internationally. Brunei has embarked on ambitious reform agenda in ease of doing business and also establishment of a national body to

support local MSMEs.

Currently, Labour Force Survey in Brunei's 2019 report suggested the SMEs contribution to the GDP is Brunei scored an average of 72.03 and in the ranked 55 out of 190 economies. In the report added, Brunei ranked 16 for starting a business category and scored at 94.92 with improvement in areas such as starting a business, getting electricity and getting credit. In addition to that, the Bruneian government has put entrepreneurship as the main agenda in the country with the introduction of numerous entrepreneurial programmes that cater the development of entrepreneurship activity in Brunei.

Entrepreneurship has been long acknowledged as a major force for economic development (McDaniel, 2005). Most of the countries in Asia have a long history of entrepreneurship. Developed countries like Europe and United States are dependent on higher levels of entrepreneurship to achieve economic growth and innovation (Oosterbeek; Praag & Ijsselstein, 2010). Moreover, nurturing entrepreneurship has become an explicit policy priority for many governments (OECD, 2016). Hence, a developing country like Brunei is vital to regenerate and sustain its economic growth and boosting employment in the country. In order to promote entrepreneurship in Brunei, it is vital to study the factors which can influence the students' decision to become entrepreneurs. In addition, government support service in Brunei is unlikely to have an existing data source that include questions directly measure this concept.

### 1.1 Problem statement

Brunei is hugely relying on capital intensive production which leads to the requirement of employing less of skilled labour (Anwar, 2019). The high cost incurred on labour on most industry sectors also resulted in a constraint to the private sector development in Brunei. Thus, the economy of Brunei is unable to grow at a faster rate despite the Bruneian government's explicit support towards entrepreneurs. Moreover, Brunei is heavily dependent on oil and gas industry which the economy is highly susceptible to global oil price drops. In order to curb this issue, Brunei announced its 'Vision Brunei 2035' develop-

ment plan, an effort to build sectors outside of oil and gas industry to diversify its economy. Hence, there is an urgent need for Bruneian government to diversify the economy to other industries like entrepreneurship. However, little success has been achieved to date.

With the issue of unemployment in Brunei, it is useful to conduct a research on how young generation tackle this problem and what factors foster their intention towards business startup. Today, 1.8 billion people belong to young people category, being the largest generation of youth in history (UNFPA, 2020). It is recorded in the report, half of them live in the Asia-Pacific region. Many young people at this era are leading political, social and economic change in their communities and societies around the world. The young generation have diversity in talent and skills, they are not rigid as the previous generation. Therefore, in this innovation and digitalise era, to support and provide opportunities for youth to grow, develop skills required and exercise their talent is crucial in the country.

Challenges and stiff competitions for applying jobs in Brunei left graduates with lack of choices or sometime none to match their skills with the jobs. In these situations, mostly graduates have to accept any job opportunities available, but are often mismatched to their respective skills or face period of being unemployed. In addition, raising awareness on high institution students to have different mindset on career option is significant and not to expect too much on getting employed by government or private sectors after they finished their studies; but to create employment to contribute to the social and economic welfare (Ramos; Ales & Sierra, 2014). Not all graduates in Brunei have stable jobs and number of graduates will keep on increasing but Brunei still have limited job opportunities, and majority of the jobs available required experience minimum of a year, which is clearly not applicable to fresh graduates.

Although much effort has been done by the Bruneian government to encourage young generation to become entrepreneurs, however, the knowledge about their intentions towards business startup is still sketchy. Moy *et al.* emphasized that in order to foster the growth of entrepreneurs in a country, it is imperative to understand the whole process of establishing a business, specifically the 'why' and 'how' a business startup was established and operated. Moreover, a research with government role as moderator is still understudied in Brunei. Thus, this study aims to investigate the moderating effect of government role on the relationship between the factors affecting the startup intention and students' startup intentions. That being the case, and this chapter attempts to address this issue. In particular, this chapter intends to answer the following research questions:

1. What is the effect of attitude, social norms, self-efficacy, perceived desirability of self-employment, intrinsic motivation, innovativeness and risk-taking personality characteristics on students' startup intentions?
2. Does government support contribute a moderating effect on the relationship between the determinants and students' startup intention?

## 2. LITERATURE REVIEW

### 2.1 Startup intent of students

Startup can exploit a market niche with great potential and high risk of failure, but to be able to create something new and if it is a success, it can bring a country to its fortune (Bernardo, 2020). Startup has the ability to create innovative companies, offering more jobs, in more fields and enriches the economy of a country. Entrepreneurs are those who initiate or have the idea of starting a business. Awan & Ahmad (2017) believed, entrepreneurship plays an important role to cope with economic downturns to reduce cost and adopt technology according to what the business needs. An entrepreneur can actually be trained and sought; it is believed an entrepreneur is not necessarily born but can be developed (Stephen *et al.*, 2005).

Intention towards entrepreneurship plays an important role in the decision to venture into a business. Entrepreneurship can help a country to strengthen its economic position and to remain competitive in the era of globalisation. According to researchers such as (Basheer & Sulphrey, 2017; Sulphrey & Alkahtani, 2017) proves that by nurturing and encouraging entrepreneurship presents is a solution to the employment issues.

Ajzen's definition of intention as one's desire to perform a particular behaviour (Ajzen, 1991). Gelderen *et al.* (2008) emphasised, entrepreneurial/ startup intention is a desire to build a business in the future. Intention to startup as defined by (Neneh, 2014), usually derived from a planned decision, before business establishment is vital, as a starting point of new business venture. Entrepreneurial intentions specified by (Thompson, 2009) as "*self-acknowledged conviction by a person that they intend to set up a new business venture and consciously plan to do so at some point in the future*". Thus, it can be concluded, a start-up intention is an indicator of one's behaviour of conducting a business.

Van Gelderen *et al.* (2008) defined entrepreneurial/ startup intention as a desire to build a business in the future. Entrepreneurial intentions specified by (Neneh, 2014) as "*self-acknowledged conviction by a person that they intend to set up a new business venture and consciously plan to do so at some point in the future*". Thus, it can be concluded, a start-up intention is an indicator of one's behaviour of conducting a business. In

addition, Reynolds (2017) emphasised, entrepreneurial behaviours are dynamic and it evolve over time; normally a considerable time passes before an entrepreneur's actions culminate into the establishment of a business. An individual's entrepreneurial competence plays a significant role in the early stage of business startup (Garzon *et al.*, 2010).

In addition, Reynolds (2007) emphasised, entrepreneurial behaviours are dynamic and it evolve over time; normally a considerable time passes before an entrepreneur's actions culminate into the establishment of a business. Another research by (Erich & Schwarz, 2006) on students in Austria, proved that the key factors which has positive significant on student's intent towards startup. The research investigated the effect of entrepreneurial attitude and also towards self-employment as career choice. The most relevant predictor of entrepreneurial intention among students in Austria is attitude in general and attitude towards money have a strong positive effect on their intention. In addition, the support from university also foster the aspiration to business startup and it influences their willingness to become an entrepreneur.

Another example from Omani, investigated by (Bakheet, 2018), the factors such as access to credit, fear of failure, risk and exposure were touch in their research to study on students' entrepreneurial intention. The study emphasised that entrepreneurial culture is important like developing programs in the government and private sector. This is in order to find out whether entrepreneurial culture in Omani is developing suitable attitudes among the youth. Furthermore, it also helps to construct relevant enterprise policies which might assist to enhance entrepreneurial activity in the country.

Accordingly, (Krueger, 1994) tested the attitude-intentions of students and found, attitude has a significant influence toward intention. In addition, (Raposo & Paco, 2011; Schwarz *et al.*, 2009) agreed, attitude plays an important role and is one of the good predictors of entrepreneurial intention. A research by (Kabir, Haque & Sarwar, 2017) confirms the relationship between attitude and entrepreneurial intention is statistically significant. This proves studies which claims, human attitude has a strong and direct influence on intention is true. Hence, the following hypotheses is developed:

**H1a: Attitude has a positive significant influence on startup intention.**

A study by Ibrahim & Afifi (2018) believes that social norms is a strong predictor of entrepreneurial intention. Ferri *et al.* (2018) also found social norms is the strongest predictor of entrepreneurial intention. However, Kabir *et al.* (2017) agreed with researchers like (Farashah, 2013; Keat *et al.*, 2011) who found social norms has no significant relationship towards entrepreneurial intention. These contradicting results made this variable obliges further investigation. So, the following hypothesis is proposed:

**H1b: Social norm has a positive significant influence on startup intention.**

People's behaviour is strongly influenced by the confidence in their skills and ability to perform the behaviour in question (Ajzen, 1991). The concept of self-efficacy was developed by Bandura in 1997. Entrepreneurial intention is influenced by Perceived Behavioral Control (PBC) in Theory of Planned Behaviour (Krueger & Carsrud, 1993). Self-efficacy influences both the formation of individual's entrepreneurial intentions and the possibility of starting up a business in the future (Boyd & Vozikis, 1994). Indarti & Krinstiansen (2003) found self-efficacy influence entrepreneurial intention and many researchers such as (Shook & Bratianu, 2010; Moriano *et al.*, 2011) referred PBC to self-efficacy. Thus, the hypothesis below is proposed:

**H1c: Self-efficacy has a positive significant influence on startup intention.**

Ozaralli & Rivenburgh (2016) found that families with entrepreneurial career gives the opportunity to obtain business skills, confidence and experience which contribute to the intention for starting up a business. The students whose mothers are entrepreneurs has significantly more intentions to start a business. Previous researchers such as (Peterman & Kennedy, 2003; Shapero, 1984) believed family background significantly influence the entrepreneurial intention. Chen *et al.*, (1998) found empirical evidence that entrepreneurial self-efficacy was positively related to students' intention towards startup. But, Nguyen (2018) in her recent research proven otherwise - do not have significant influence. This obliges further investigation on these opposing results. Therefore, the following hypotheses is developed:

**H1d: Perceived desirability of self-employment has a positive significant influence on startup intention.**

Past study found that motivational factors have a significant influence on entrepreneurial intention (Choudhary, 2017). Motivation play an important role for a person to have high desire towards starting up a new venture (Moy *et al.*, 2001). Motivational factors can also be an initial push for self-employment, security, wealth as suggested by Zhuplev *et al.* (1998). Factors like intrinsic and extrinsic motivation drives a person to have the passion to start a business (Simola, 2011). It is also stated; the intrinsic motivation has stronger effect rather than extrinsic motivation. As argued by (Bagozzi & Baumgartner & Yi, 1989), the Theory of Planned Behavior and Entrepreneurial Event Theory ignored the motivational factor as an antecedent of intention. So, the following hypotheses is proposed:

**H2: Intrinsic motivations have positive significant influence on startup intention.**

The role of personality characteristics; need for achievement, innovativeness, locus of control and risk taking in entrepreneurial behavior and a business startup is an element that can be ignored (Zhuplev *et al.*, 1998). Moreover, a study by (Pilis *et al.*, 2007), believed that personality characteristics possess great influence on entrepreneurial intention to starting up a



new business and towards being successful in running a business. Firstly, 'need for achievement' is the drive of a person to succeed. As explained by (Siti, 2009), need for achievement will determine a person's desire to do things better than others. Secondly, 'Innovativeness' as claimed by (Rotter, 1966) in previous research, entrepreneurs were more innovative than non-entrepreneurs. Thirdly, a 'locus of control' refers to an individual's general belief about whether or not the course of events depends on his or her behaviour (Rotter, 1966). Lastly, 'risk-taking' is how a person handling risk and uncertainty and be ready to bear them.

In order to be successful in business, (Colquitt *et al.*, 2007) believed, entrepreneurs must have risk-taking characteristics in them to handle challenges and tough competition to strive a success. Gatewood *et al.* (1995) believed entrepreneurs with strong achievement orientation, strong individual control and willingness to take risks, endurance and intelligence, who prefer to startup own business and become the boss of their own business rather than being controlled by others. However, Gartner (1985) believed otherwise, those with personality characteristics are not an effective indicator for their choice towards business startup. Therefore, the following hypotheses is proposed:

**H3a: Innovativeness personality characteristic has a positive significant influence on startup intentions.**

**H3b: Risk-taking personality characteristic has a positive significant influence on startup intentions.**

Social factor is an adjusting variable that influences individual's entrepreneurial intentions by the interaction with individual's attitudes (Shapero, 1982). According to GEM (2107), government play an important role in supporting startup ecosystem which can foster the intention and be motivated to venture on business startup. This includes the availability of debt funding, government policies and support for startup, and governmental programs such as assistance in terms of mentoring programs, business incubators and other relevant entrepreneurial activities.

This study aims to find out the government role in influencing students' startup intention in relation to the level of intrinsic motivation of the students. As suggested by (Wagaman & Segal, 2014; Onwukwe & Ifeanacho, 2011; Eniola & Entebang, 2015) government support can be in terms of government-initiated programs and other efforts made by the government in order to encourage the growth, survival and full participation on startup. Following the research of (Eniola & Entebang, 2015) whom used government support as a potential moderation for the relationships between performance outcomes and their predictors. This calls for additional empirical work on the moderating role of government support so as to see if this construct plays a significant role in strengthening or reducing the relationship between intrinsic motivation and startup intention. As suggested by Mason & Harrison (2015),

examining government support as a moderator could increase researchers' theoretic understanding and can provide empirical evidence on how government can be a potential moderator.

The social environment factor like government support is a crucial factor influencing individual's entrepreneurship (Stephen *et al.*, 2005). The government and private sectors support in terms of funding helps to contribute to the growth of business startup (Turker & Selcuk, 2009). It was found in their research that public, private and non-government bodies have an important influence to engage people in entrepreneurial activities. Ekpe & Mat (2012) found there is positive effect of government support on the relationship between entrepreneurial intentions of students and entrepreneurial orientation. Denanyoh *et al.* (2015) supported the same idea, in Ghana, the study found positive relationship between supports from government and entrepreneurial intention. However, government support can be both supporting and hindering factor (Luthje & Franke, 2003). Hence, the hypotheses below are developed:

**H4: Government support moderates the relationship between intrinsic motivations and startup intentions.**

## 2 THE STUDY

Fig. 1: Hypotheses

Description	
Attitude has a positive significant influence on startup intention.	ATT → SI
Social norm has a positive significant influence on startup intention.	SN → SI
Entrepreneurial self-efficacy has a positive significant influence on startup intention.	ESE → SI
Perceived desirability of self-employment has a positive significant influence on startup intention.	PDSE → SI
Intrinsic motivation has a positive significant influence on startup intention.	IM → SI
Innovativeness personality characteristic has a positive significant influence on	INNO → SI

startup intention.	
Risk-taking personality characteristic has a positive significant influence on startup intention.	RT → SI
With the moderation of government support, the relationship between intrinsic motivation and startup intention increases.	IM → SI+ (with moderation of government support)

### 3 METHODOLOGY

#### 3.1 Measures

Many past studies have applied a Likert Type scale (Keat *et al.*, 2011; Beal & Dawson, 2007; Linan & Chen, 2009; Asree *et al.*, 2010; Maeda, 2015). Hence, this study adopts the same method to use Likert Type rating scale in the online survey. A Likert scale is commonly used to gather data which relates to their opinion or agreement on a certain subject (Beal & Dawson, 2007). Weijters (2010) specifically picked a 5-point Likert scale to be the most appropriate to use in comparison to the 7-point Likert scale. Past scholars like (Krueger, 1994; Chen *et al.*, 1998) used a 5-point Likert scale with “Strongly Disagree” to “Strongly Agree” to measure constructs in their research study. The scale in the online survey is categorized as 1 being “Strongly Disagree”, 2 being “Disagree”, 3 being “Undecided”, 4 being “Agree” and lastly 5 being “Strongly Agree”. The scale is used to measure constructs like entrepreneurial attitude, social norms, entrepreneurial self-efficacy, perceived desirability of self-employment, intrinsic motivation, innovativeness and risk-taking personality characteristics and government support. The measurement for startup intention used 5-Likert scale and multiple-choice questions.

The items in the survey questionnaires were mainly adapted from past work of (Choudhary, 2017; Linan & Chen, 2009; Athayde, 2009; Asimakopoulos *et al.*, 2019; Lonsdale *et al.*, 2011; GEM, 2017; Hurt *et al.*, 2013; Matlay *et al.*, 2013; Boot & Thakor, 1994). Some of the indicators were re-worded according to the research on startup intention and motivation of Bruneian students.

The dependent variable of this research is startup intention. In order to measure startup intention, the validated scale by (Linan & Chen, 2009) was applied. The four scale items used to measure startup intention of students for this research. The measurement of the items in the survey questionnaire was based on 5-point scale ranging from 1 demonstrating ‘Strongly Disagree’ up to 5 as ‘Strongly Agree’.

The moderating factor of startup intentions; government sup-

port. The government support in terms of debt funding, government subsidies, policies, assistance, business incubators and effective government programs. Eight individual items were used to assess government support by using a 5-point scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Furthermore, all items were adapted from adapted from (GEM, 2017). The eight scale items used to measure government support. The questions were slightly re-worded to match the influence of government support on startup intention in the context of Bruneian public and private institutions.

Fig. 2: Constructs’ Cronbach Alpha

	Cronbach’s Alpha
Startup intention	.763
Attitude	.661
Social norms	.694
Entrepreneurial self-efficacy	.735
Perceived desirability of self-employment	.671
Intrinsic motivation	.717
Innovativeness personality characteristics	.700
Risk-taking personality characteristics	.730
Government support	.898

All of the scales have good reliability scores within the past studies. According to (Heo *et al.*, 2015; Mathieu & Jean, 2013), Cronbach alpha values which recorded more than .70 indicates good internal consistency in the questions. Only three constructs namely; attitude, social norms and perceived desirability of self-employment have a general accepted rule with Cronbach’s alphas of between .60 and .70 which indicates an acceptable level of reliability (Benson & Clark, 1982).

#### 3.2 Sample

Data are collected from a sample of 373 university students. Using a student sample is in line with past studies, the study focuses on students’ startup intention of potential entrepreneurs. University students were chosen because more research on younger generation is needed as they are the new entrants in the labour force and will be working with other generations.

Online survey questionnaires were delivered through email of university students in Brunei. The study was conducted between February 2020 to April 2020 using a simple random sampling technique to select 373 respondents. Online surveys are time and cost efficient for populations larger than 300 (Uhlig *et al.*, 2014). The respondents can be easily emailed and distributed through an online survey (Andrews *et al.*, 2003). The survey was self-constructed with the use of online Google

Form site. The questions will mostly be a closed ended question, with the use of Likert scale questions where the respondent is required to complete the survey which needs them to indicate the extent to which they agree or disagree. The respondents were emailed with brief information on the research's objectives and a link to the online survey.

### 3.3 ANALYSIS

Hypotheses are tested by means of hierarchical multiple regression analysis using IBM SPSS version 20. Coefficients are estimated and to test the moderator effect of government support, significance values of the interaction term is assessed. Correlation values for the model are presented in the Fig. 3. Correlations between the constructs are all statistically significant at the .01 level. All of the correlation values between independent variables are ranging between none of the correlation coefficient values achieved values of more than .91. Hence, this study has no high correlations between the constructs and no common method bias which could potentially affect the results. In addition, the Variance inflation factor (VIF), of which the VIF values should be below 10 and the best case would be below 5. All of the VIF values are below 5, which means the multicollinearity is not an issue in this study.

		SI	ATT	SN	ESE	PDSE	IM	INNO	RT	GS
SI	Pearson Correlation Sig. (2-tailed) N	1 .000 311	.550** .000 311	.273** .000 311	.312 .000 311	.452** .000 311	.411** .000 311	.323** .000 311	.307** .000 311	.204** .000 311
ATT	Pearson Correlation Sig. (2-tailed) N	.550** .000 311	1 .000 311	.290** .000 311	.262** .000 311	.410** .000 311	.508* .000 311	.343** .000 311	.355** .000 311	.315** .000 311
SN	Pearson Correlation Sig. (2-tailed) N	.273** .000 311	.290** .000 311	1 .000 311	.216** .000 311	.293** .000 311	.289** .000 311	.207** .000 311	.099 .000 311	.063 .000 311
ESE	Pearson Correlation Sig. (2-tailed) N	.312** .000 311	.262** .000 311	.216** .000 311	1 .000 311	.228** .000 311	.291** .000 311	.324** .000 311	.214** .000 311	.041 .000 311
PDSE	Pearson Correlation Sig. (2-tailed) N	.452** .000 311	.410** .000 311	.293** .000 311	.228** .000 311	1 .000 311	.574** .000 311	.236** .000 311	.256** .000 311	.190** .000 311
IM	Pearson Correlation Sig. (2-tailed) N	.411** .000 311	.508** .000 311	.289** .000 311	.291** .000 311	.574** .000 311	1 .000 311	.342** .000 311	.317** .000 311	.218** .000 311
INNO	Pearson Correlation Sig. (2-tailed) N	.323** .000 311	.343** .000 311	.207** .000 311	.324** .000 311	.236** .000 311	.342** .000 311	1 .000 311	.409** .000 311	.317** .000 311
RT	Pearson Correlation Sig. (2-tailed) N	.307** .000 311	.355** .000 311	.099 .000 311	.214** .000 311	.256** .000 311	.317** .000 311	.409** .000 311	1 .000 311	.317** .000 311
GS	Pearson Correlation Sig. (2-tailed) N	.204** .000 311	.315** .000 311	.063 .000 311	-0.41 .000 311	.190** .000 311	.218** .000 311	.317** .000 311	.317** .000 311	1 .000 311

\*\* Correlation is significant at the .01 level (2-tailed)

Fig. 3: Correlation results

Fig. 4: Regression results

	Beta/ Sig. (T value)	VIF
Attitude	.360 (6.630)	1.453
Social Norms	.037 (.610)	1.152
Entrepreneurial self-efficacy	.118 (2.069)	1.012
Perceived desirability of self-employment	.298 (4.684)	1.290
Intrinsic motivation	.162 (2.638)	1.185
Innovativeness	-.189 (-1.186)	4.572
Risk-taking	.033 (.660)	1.279
Government support	.303 (2.467)	4.558
Intrinsic motivation towards startup intention	.130 (4.165)	
government support		
R <sup>2</sup>	.414	
Adjusted R <sup>2</sup>	.399	
Standard error of the estimate	.54773	
Sig. F	.000	
Y = Startup intention		

There are two paths (INNO → SI and RT → SI) which were found to be not statistically significant whereas the paths of ATT → SI, ESE → SI, PDSE → SI, IM → SI and GS → SI were found to be significant. The coefficients value of SN → SI, INNO → SI and RT → SI were small and considered as not significant. The path coefficients of ATT → SI, ESE → SI, PDSE → SI, IM → SI and GS → SI were good and considered significant. All the paths were in a positive direction in accordance with the stipulated hypotheses except for the construct of Innovativeness personality characteristic with a negative direction.

In this study, the R<sup>2</sup> value is considered as moderate with value of .41. The research model of this study explains 41.4 per cent (R<sup>2</sup> = .414) variation in the startup intention construct which was accounted by the antecedent's constructs. For the startup intention: attitude, perceived desirability of self-employment, intrinsic motivation constructs contributed to the majority of its variation with β = .352, β = .234 and β = .126 respectively. The constructs were found significant at a 1 per cent level of confidence. The remaining constructs which were found insignificant were social norms, innovativeness and risk-taking personality characteristics. In addition, the Durbin-Watson for this study is 1.937 which portrays that there is no auto correlation among the respondents as the figure is in the arrangement of 1.5 or 2.5 (Lewis & Dassonneville, 2015).

#### 4 FINDINGS

No	Description	Decision
H1a	Attitude has a positive significant influence on startup intention.	Supported
H1b	Social norm has a positive significant influence on startup intention.	Rejected
H1c	Entrepreneurial self-efficacy has a positive significant influence on startup intention.	Supported
H1d	Perceived desirability of self-employment has a positive significant influence on startup intention.	Supported
H2	Intrinsic motivation has a positive significant influence on startup intention.	Supported
H3a	Innovativeness personality characteristic has a positive significant influence on startup intention.	Rejected
H3b	Risk-taking personality characteristic has a positive significant influence on startup intention.	Rejected
H4	Government support moderates the relationship between intrinsic motivation and startup intention.	Supported

##### 4.1 Research Question 1

What is the effect of attitude, social norms, self-efficacy, perceived desirability of self-employment, intrinsic motivation, innovativeness and risk-taking personality characteristics on students' startup intentions?

To answer the first research question, this study has developed seven hypotheses to measure the effects of determinants on startup intention. All eight hypotheses and the findings summary. As shown in the table, constructs of attitude (H1a), entrepreneurial self-efficacy (H1c), perceived desirability of self-employment (H1d), intrinsic motivation (H2) and government support (H4) were found to have positive influence and significantly linked with startup intention. Meanwhile, the constructs of social norms (H1b), innovativeness personality characteristics (H3a) and risk-taking personality characteristics (H3b) were found insignificant in relation to startup intention. In addition, for the construct of innovativeness personality characteristics (H3a) was identified as being negative insignificant towards startup intention.

##### 4.2 Determinants of startup intention

###### H1a: Attitude has a positive significant influence on startup intention (Supported).

Attitude has a positive relationship towards entrepreneurial intention (Ajzen, 2001). According to him, the more favorable the attitude towards entrepreneurship, the more likely an individual to develop his/ her intentions towards performing the behavior. Scholars (Yang, 2013; Schlegel & Koenig, 2014) believed that by having positive attitude will positively influence an individuals' intention towards entrepreneurship. This strong empirical for the association of attitude and entrepreneurial intention was supported by literature of (Krueger, 1994; Raposo & Paco, 2011; Schwarz *et al.*, 2009; Krueger & Carsrud, 1993). Recent study like Kabir *et al.*, (2017) also confirms the relationship between attitude and entrepreneurial intention is statistically significant.

In addition to that, (GERA, 2017)'s report also claimed 49.3 per cent of respondents believed there is strong relationship between attitude and the formation of entrepreneurial intention. This proves studies which claims, human attitude has a strong and direct influence on intention is true. In this study, the attitude was found to be a significant determinant of startup intention with a standardized coefficient of .352 (p < .001). Hence, Hypothesis H1a was supported and the findings were found to be consistent with attitude towards behavior as has been explained in earlier chapters.

###### H1b: Social norm has a positive significant influence on startup intention (Rejected).

Social norms can be referred as the perceived social pressure



to perform or not to perform a behavior (Ajzen, 1991). The social pressure referring to family, close relatives and friends which surrounds an individual. Past studies by (Ferri *et al.*, 2018; Kolvereid & Isaksen, 2006; Krueger & Kickul, 2006) found in their research that social norms is a strong predictor of entrepreneurial intention. However, scholars like (Kabir *et al.*, 2017; Farashah, 2013; Keat *et al.*, 2011; Linan & Chen, 2009; Elfving, 2009; Fitzsimmons & Douglas, 2011; Carsrud & Brannback, 2011) who found social norms has no significant relationship towards entrepreneurial intention. In addition, the findings by Linan & Chen (2009) claimed that there was indirect effect of social norms on entrepreneurial intention. Bagheri & Pihie (2014) emphasised that there might be a possibility of intervention of other factors which could potentially affect the entrepreneurial intentions of the students.

However, this study replicated the outcome of prior studies like (Elfving *et al.*, 2009; Fitzsimmons & Douglas, 2011) to have insignificant influence of social norms towards entrepreneurial intention. With the standardized coefficient value of .029. This also consistent with the previous argument in findings of (Elfving *et al.*, 2009) that social norms proved to perform questionable role as a predictor of entrepreneurial intention. The findings suggested that although family, colleagues and friends are influential determinants of intentions, in the Bruneian context, this study could not find any positive relationship, which possibly due to cultural differences.

#### **H1c: Entrepreneurial self-efficacy has a positive significant influence on startup intention (Supported).**

Self-efficacy influences both the formation of individual's entrepreneurial intentions and the possibility of starting up a business in the future (Boyd and Vozikis, 1994). Indarti & Krinstiansen (2003) found self-efficacy influence entrepreneurial intention and many researchers such as (Shook *et al.*, 2010; Moriano *et al.*, 2011) referred PBC to self-efficacy. Schwarz *et al.* (2009) emphasised that people's behaviour is strongly influenced by the confidence in their skills and ability to perform the behaviour in question. The concept of self-efficacy was developed by (Bandura, 1997). Entrepreneurial intention is influenced by Perceived Behavioral Control (PBC) in Theory of Planned Behaviour (TPB) as suggested by (Krueger & Carsrud, 1993).

Entrepreneurial self-efficacy has been discussed in terms of its similarities with Perceived Behavioral Control of Theory of Planned Behavior by (Ajzen, 1991). These two constructs aim to assess the perception of an individual on their own ability to perform the target behavior. Bandura (1997) argued that self-efficacy is a reliable construct so this thesis employed this construct and assessed the association between entrepreneurial self-efficacy and entrepreneurial intention of university students. It is believed that a student who believes his or her own capability to perform entrepreneurial tasks would most likely to exhibit entrepreneurial intentions.

This study found a result which supported the significant influence of entrepreneurial self-efficacy on the students' startup intention. The standardized coefficient was .092 ( $p < .05$ ).

This finding is consistent with past studies like (Shook *et al.*, 2010; Fitzsimmons & Douglas, 2011) which found a significant influence of entrepreneurial self-efficacy on entrepreneurial intentions. In addition, GERA (2017) found that more than half of the respondents with 52.3% to have direct association between entrepreneurial self-efficacy and entrepreneurial intentions. This confirmed that this construct is a significant indicator in framing startup intentions of students' startup intentions of Bruneian university students. This means that by increasing entrepreneurial self-efficacy could be utilised to enhance the entrepreneurial activity in the Bruneian economy. It is believed that self-efficacy can be improved by a supportive environment which individuals assess their capabilities with regard to the availability of resources and opportunities in the environment.

#### **H1d: Perceived desirability of self-employment has a positive significant influence on startup intention (Supported).**

According to Krueger & Carsrud (1993), "Perceived desirability" can be defined as the degree to which an individual finds the prospects to start a business is attractive. This suggests that the attractiveness of an individual towards entrepreneurship to be their career option. According to Shapero (1984) in their Entrepreneurial Event Theory, the perceived desirability of self-employment was depicted as a determinant of entrepreneurial intention. The impact of perceived desirability comes from family, education, social support and culture. Study by Chen *et al.*, (1998) found perceived desirability of self-employment to be a strong predictor of entrepreneurial intentions.

Past research by Ozaralli & Rivenburgh (2016) found that families with entrepreneurial career gives the opportunity to obtain business skills, confidence and experience which contribute to the intention for starting up a business. The students whose mothers are entrepreneurs has significantly more intentions to start a business. Previous researchers such as (Peterman & Kennedy, 2003; Shapero, 1984) found family background significantly influence the entrepreneurial intention. Chen *et al.*, (1998) found empirical evidence that entrepreneurial self-efficacy was positively related to students' intention towards startup.

This study found significant with a standardized coefficient of .0234 ( $p < .001$ ). This result strongly confirmed previous studies which found a positive relationship between perceived desirability of self-employment and startup intentions. In GERA's 2017 report stated there were 54.2% of the respondents claimed a positive relationship between this construct and entrepreneurial intention. Hence, this confirmed that perceived desirability is a significant influencer in framing startup intentions of university students in Brunei.

#### **H2: Intrinsic motivation has a positive significant influence on startup intention (Supported).**

Motivation is a label for the determinants of the choice to initiate effort on a certain task, to expend a certain amount of effort and the choice to persist in expending effort over a period



of time (Campbell & Pritchard, 1976). Scholars like (Schachter & Rich, 2011; Fayolle & Linan, 2014) defined motivation briefly as the purpose of psychological cause of an action. Studies categorise motivation into two types; intrinsic and extrinsic motivation. Al-Swidi *et al.*, (2012) suggests that intrinsic motivation refers to the driving force which comes from within and is in the form of awareness on the relevance of the work that an individual is performing. Intrinsic motivation comprises of three internal constructs of curiosity, involvement and preference for challenge. Whereas, extrinsic motivation refers to a driving force which emanates from outside, and is in the form of what made an individual to carry out the work to a higher level.

Motivational factors have a significant influence on entrepreneurial intention (Choudhary, 2017). Moy *et al.*, (2001) believed, motivation play an important role for a person to have high desire towards starting up a new venture. Motivational factors can also be an initial push for self-employment, security, wealth as suggested (Zhuravlev, 1998). Factors like intrinsic and extrinsic motivation drives a person to have the passion to start a business (Simola, 2011). Achchuthan & Kandaiya (2013) proposed in their research that motivational factors are an under studied determinant of entrepreneurial intentions and found in their research that motivation had a significant influence on entrepreneurial intention. It is also stated; the intrinsic motivation has stronger effect rather than extrinsic motivation. As argued by (Bagozzi *et al.*, 1989) in his research, the Theory of Planned Behavior and Entrepreneurial Event Theory ignored the motivational factor as an antecedent of intention. However, Carsrud & Brannback, (2011) emphasised in their study that the is link between motivation, intention and action.

This research is in line with past studies which the result was found that intrinsic motivation has significant positive relationship towards startup intention. The standardized coefficient was .126 ( $p < .01$ ). University students were motivated intrinsically such as being their own boss, high status and self-actualisation. Thus, this confirmed hypothesis H2 and is consistent with past studies as mentioned earlier.

**H3a: Innovativeness personality characteristic has a positive significant influence on startup intention (Rejected).**

**H3b: Risk-taking personality characteristic has a positive significant influence on startup intention (Rejected).**

The role of personality characteristics; need for achievement, innovativeness, locus of control and risk taking in entrepreneurial behavior and a business startup is an element that can be ignored (Zhao & Seibert, 2006). Pilis *et al.*, (2007) studied personality characteristics as predictors for entrepreneurial intention to starting up a new business and towards being successful in running a business. Innovativeness personality characteristic as claimed by (Mueller & Thomas, 2001) in previous research, entrepreneurs were more innovative than non-entrepreneurs. Risk-taking personality characteristic refers to

how a person handling risk and uncertainty and be ready to bear them. This supports the idea of (Gatewood *et al.*, 1995) who believed entrepreneurs should have strong willingness to take risks, endurance and intelligence, and have the ability to startup own business and become the boss of their own business rather than being controlled by others.

Moreover, entrepreneurs must have risk-taking characteristics in them in order to handle difficulties and tough competition to strive a success, especially in the business world. It is believed that the more innovative an individual, the more they were inclined towards entrepreneurship (Mueller & Thomas, 2001). Research by Sexton & Bowman-Upton, (1990) found that students who engaged in entrepreneurship courses were more innovative than students of business admin courses. Gartner (1985) believed otherwise, it is not an effective indicator for their choice towards business startup.

This research however is in line with Shapero's 1982 study, the result was insignificant and obtained a negative link between an innovativeness personality characteristic and startup intention of the students. The standardized of coefficient was -.112 between the innovative personality characteristic and startup intention of university students in Brunei. Same goes to the construct of risk-taking personality characteristics with standardized coefficient of .033, found to have insignificant link between risk-taking personality characteristic and startup intention of Bruneian university students. Hence, hypothesis H3a and H3b were rejected in this study.

#### 4.3 Research Question 2

Does government support contribute a moderating effect on the relationship between the determinants and the students' startup intention?

In order to answer the second research question, this study has developed one hypothesis to measure the moderation effect of government support on students' intrinsic motivation and students' startup intention.

**H4: Government support moderates the relationship between intrinsic motivations and startup intention (Supported).**

According to Shapero (1984), social factor is an adjusting variable that influences individual's entrepreneurial intentions by the interaction with individual's attitudes. In addition, GEM (2017) added, government play an important role in supporting startup ecosystem which can foster the intention and be motivated to venture on business startup. This includes the availability of debt funding, government policies and support for startup, and governmental programs such as assistance in terms of mentoring programs, business incubators and other relevant entrepreneurial activities.

This study aims to find out the government role in influencing students' startup intention in relation to the level of intrinsic motivation of the students. As suggested by (Wagaman &

Segal, 2014; Onwukwe & Ifeanchi, 2011; Eniola & Entebang, 2015) government support can be in terms of government-initiated programs and other efforts made by the government in order to encourage the growth, survival and full participation on startup. Following the research of Eniola & Entebang (2015) whom used government support as a potential moderation for the relationships between performance outcomes and their predictors. This calls for additional empirical work on the moderating role of government support so as to see if this construct plays a significant role in strengthening or reducing the relationship between intrinsic motivation and startup intention. As suggested by Mason & Harrison (2015) examining government support as a moderator could increase researchers' theoretical understanding and can provide empirical evidence on how government can be a potential moderator.

The social environment factor like government support is a crucial factor influencing individual's entrepreneurship (Stephen et al., 2005). The government and private sectors support in terms of funding helps to contribute to the growth of business startup (Turker & Selcuk, 2009). In addition, it was found on the same research that public, private and non-government bodies have an important influence to engage people in entrepreneurial activities. Ekpe & Mat (2012) found there is positive effect of government support on the relationship between entrepreneurial intentions of students and entrepreneurial orientation. In Ghana, the study found positive relationship between supports from government and entrepreneurial intention (Denanyoh et al., 2015). In addition, Luthje & Franke (2003) however emphasised that government support can be both supporting and hindering factor.

Followed by studies by (Assassi et al., 2010; Chen et al., 2011; Shamsuddin, 2014) put government interventions as a moderator in their research. Assassi et al., (2010) found that government does moderate the relationship between entrepreneurship and growth performance of SMEs in Cambodia. In Nigeria, a study by (Onwukwe & Ifeanchi, 2011) investigated the effect of government role on SMEs growth in the country. Moreover, past scholars (Eniola & Entebang, 2015; Durrenberger et al., 2009; Wright & Zahra, 2011) found that government play an important role towards the improvement to promote small business performance. In Brunei context, SMEs is not an uncommon word to the society, as the Bruneian government has been promoting local businesses and has been providing incentives and support for them.

This study found a significant relationship where government support as a moderator for the relationship between intrinsic motivation and startup intention. The standardized coefficient is .232 ( $p < .001$ ). Hence, this confirmed hypotheses H4 that government support plays a significant role in influencing the determinant; intrinsic motivation of Bruneian students towards the intention in starting up a business.

## 5 DISCUSSIONS

### 5.1 Body of knowledge contribution

The novelty of this research lies in its contribution to the entrepreneurial discipline by developing an integrated model. This research investigated the startup intention of Bruneian university students. The literature suggested the proven power of 'Theory Planned Behaviour' in predicting entrepreneurial intention. Equally important was the 'Entrepreneurial Event Theory', which was also used extensively in this field to predict entrepreneurial intentions. The proposed integrated conceptual model of this research combined the determinants of these two theories and intrinsic motivation was added as an additional determinant. Motivation proved a significant indicator of startup intention in this research study. Therefore, the integrated model of this research, which included intrinsic motivation as an additional determinant, is a contribution in the entrepreneurial discipline.

The empirical analysis demonstrated that all hypotheses relationships were significant with the exception of social norm, innovativeness and risk-taking personality characteristics. Moreover, all determinants of startup intention explain 41.4 per cent of the variation in startup intention, which is more than the 30-45% in previous studies of entrepreneurial intentions (Gelderen et al., 2008; Linan & Chen, 2009; Schlaegel & Koenig, 2014; Kolvereid & Isaksen, 2006). This holistic model provided additional explanatory power and a more comprehensive understanding of the process through which entrepreneurial intentions develop. Therefore, a major contribution of this thesis is to show that a holistic integrated model could be further examined in different cultural and economic environments.

Additionally, the findings also explained innovativeness and risk-taking personality characteristics. However, the relationship between entrepreneurial personality characteristics and entrepreneurial intention in the intention-behaviour model was found to be insignificant contribution in the entrepreneurship discipline.

As a conclusion, this study assisted to facilitate a more inclusive understanding on the determinants of startup intention. More importantly, this study found a beneficial starting point in examining startup intention in developing country; Brunei Darussalam because most of the previous studies were empirically conducted in neighboring countries like Malaysia and Indonesia and other developed countries. Therefore, this study helped to add a new valuable knowledge to the literature of startup intention.

### 5.2 Practical contribution

The findings of this study reveal important implications for policymakers and startup founders. The findings indicate that startup founders/ entrepreneurs in Brunei can evaluate the

significant determinants that influence the intention towards startup, namely attitude, entrepreneurial self-efficacy, perceived desirability of self-employment, intrinsic motivation and government support. These were confirmed as determinants of startup intention among university students in Brunei context.

The findings highlighted that the importance of university students having the abovementioned factors which could influence their decision if they wish to go for business startup. Hence, it might be useful for relevant government bodies and private sector to formulate suitable training, programs, workshops and business courses to develop the specific characteristics for startup founders or potential startup founders in Brunei.

In addition, this study also supports the idea that social pressure did not influence their perception and motivation. Moreover, findings suggested that Bruneian students with previous entrepreneurial work experience had the required attitude, desirability and entrepreneurial self-efficacy, which could be enhanced by further opening avenues in this direction, for instance, by providing entrepreneurship training which could develop relevant skills for business startups. Learning by experience, consequently, will reflect a greater confidence in prospective entrepreneurs to start their own business (Kolvereid & Isaksen, 2006).

With positive influence of predictors such as attitude, entrepreneurial self-efficacy, perceived desirability of self-employment, intrinsic motivation and government support on students' startup intention. Practically, detail suggestions to increase these indicators on startup intention may be channeled to the policymakers as well as to the students' families and friends. These following actions might be useful for policymakers to work together with other related government bodies: (1) To convince students that having their own business is the other option for their career; (2) To convince students that career as entrepreneur is also attractive; (3) To convince students to go for startup if they have the opportunity; (4) To convince students that being an entrepreneur would entail great satisfactions; and (5) To convince students if they go for startup, they will certainly be successful providing with support from the government.

In addition, by understanding determinants of startup, any related agencies can advance their entrepreneurial activities and programs by incorporating relevant training, which will strengthen the perceptions or intentions of students toward startup. Thus, as suggested by (Klapper & Tegtmeier, 2010), the students may feel more encouraged and confident to venture on business startup.

Moreover, for the policymakers, Bruneian government could also have the strategic idea by allocating resources to indus-

tries where these students were more inclined to admit preference would be a constructive economic policy step. The contribution of this thesis lies in the suggestions, which policy makers and financial supporters can utilise to allocate resources to these industries and prioritise them in their policies. To have a deeper understanding on the startup intention of Bruneian university students could be a valuable study providing practical solutions to job creation programs among university students.

In conclusion, the finding which proved a positive relationship between government support and students' startup intention is useful for policymakers in Brunei, as it can allow them to establish formal entrepreneurial policies; in turn providing a better entrepreneurial environment and facilitating startup creations in Brunei. The students can be given enhancement of knowledge on entrepreneurship, which will encourage them to be self-employed. Hence, the Bruneian government should provide the funds and supporting infrastructures for young generations as part of the effort to facilitate new venture creations for these younger generations. Additionally, the findings could also support policymakers to establish more effective startup incentives and programs in the future. For future benefit, Brunei's "Wawasan 2035" could benefit from this study.

### 5.3 Limitations of the research

Despite providing a significant contribution to the discipline, this report contains limitations, which need to be acknowledged.

This report has a limitation of generalisation, which was due to non-representative sampling. Although caution was exercised while sampling, as the respondents were heterogeneous with different streams, variety of content and subject areas. This study focused on a university student which are studying full time or part time in public and private institutions. This study ignored other heterogeneous aspects of the respondents and other modes of acquiring education. This resulted in a narrow scope for the study. Future studies are recommended to use the framework developed for this research and assess its impact on a wide array of educational programmes. This would probably be useful in widening the scope of study and generalising the results.

The next limitation was due to the geographic location selected for the research. To address this limitation, it is recommended that this same study be replicated by increasing the number of samples and not focusing on specific study programs. This could contribute to greater generalisability of the findings.

In addition, time constraint is another limitation in this study. Since startup intention is the best predictor of entrepreneurial behavior amongst university students, this research study only focused on the intention but not the actual action. This



mainly due to difficulties arise and time-efficient to quantify action. As that would requires a longer time and need more data to run. Hence, this research was unable to conduct in a longitudinal period to have a more comprehensive result. For recommendation for future studies should include to not mainly focused on startup intention, but on the actual startup action. Thus, to assess the effectiveness of entrepreneurial programs might be the most explicit way to measure the impact of determinants on startup intention, and finally, the actual startup actions. So, future research should address research questions which focus on "students' actual startup creation", which focusing on the entrepreneurial action where the students are already involved with startup, and it is no longer about their intention towards startup.

In conclusion, this study has investigated the variables (attitude, social norms, entrepreneurial self-efficacy, perceived desirability of self-employment, intrinsic motivation, innovativeness and risk-taking personality characteristics and government support), as well as demographic factors which influence students' startup intention. The limitations and some recommendations are stated earlier to support future researchers. Future studies might want to conduct future research with in-depth knowledge on this topic. It is because in Brunei, the government is encouraging the younger generation to venture onto startup and/ or small and medium enterprises, as it has a very important position in the rapidly changing socio-economic environment. Moreover, entrepreneurs play a vital role in supporting the development of any nation as they will indeed contribute to the effort of reducing unemployment rate in a country. To conclude, this study should provide policymakers, startup founders or entrepreneurs with useful knowledge to understand how an individual's behavior will have an influence on intention to be an entrepreneur.

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