

Prediction of Entrepreneurial Intention and Pre-Start-Up Behaviours on Entrepreneurial Concentrated Students

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Abstract

This study aims to examine the factors that have the potential to influence student's entrepreneurial intentions using the TPB theory model along with several other factors (i.e., attitude towards entrepreneurship, subjective norms, perceived behavioral control, innovation, proactive personality, need for achievement, internal locus of control, risk taking propensity, lifestyle integration, social networking, resources, opportunity recognition, fungibility issues, entrepreneurial intention, and pre-start-up behavior). Data were collected through 222 entrepreneurship concentration students from well-known universities in Indonesia. The structural equation model (PLS-SEM) was applied to test the research hypotheses. The emergence of significant and positive results among all factors involved, except fungibility issues is evidence of the positive influence of the factors studied on student's entrepreneurial intentions in Indonesia which are then briefly summarized in the form of conclusions.

Keywords: Entrepreneurial intention, theory of planned behavior, pre-start-up behavior, entrepreneurship

Prediksi Entrepreneurial Intention dan Pre-Start-Up Behaviour terhadap Mahasiswa Konsentrasi Kewirausahaan

Abstrak

Penelitian ini bertujuan untuk menguji faktor-faktor yang berpotensi mempengaruhi niat berwirausaha mahasiswa dengan menggunakan model teori TPB beserta beberapa faktor lainnya (yaitu sikap berwirausaha, norma subjektif, persepsi pengendalian perilaku, inovasi, kepribadian proaktif, kebutuhan berprestasi, internal locus of control, kecenderungan mengambil risiko, integrasi gaya hidup, jejaring sosial, sumber daya, pengenalan peluang, masalah kesepadan, niat kewirausahaan, dan perilaku pra-start-up). Pengumpulan data dilakukan melalui 222 mahasiswa konsentrasi kewirausahaan dari universitas ternama di Indonesia. Model persamaan struktural (PLS-SEM) digunakan untuk menguji hipotesis penelitian. Munculnya hasil yang signifikan dan positif di antara semua faktor yang terlibat, kecuali masalah kesepadan merupakan bukti pengaruh positif dari faktor-faktor yang diteliti terhadap niat berwirausaha mahasiswa di Indonesia yang kemudian dirangkum secara singkat dalam bentuk kesimpulan.

Kata kunci: Niat kewirausahaan, teori perilaku terencana, perilaku-pra-start-up, kewirausahaan

INTRODUCTION

The phenomenon of unemployed educated graduates in Indonesia is dominated by youths with university degrees, increasing yearly. Indonesia is a country with a high unemployment rate of approximately 7.24 million people, an increase of 90 thousand compared to the previous year. This led to the development of various start-up entrepreneurial activities by educated, creative youths. However, despite the increase in the number of young entrepreneurs in Indonesia, the rate is still insufficient to meet the ideal minimum number of 2%, or 5% in Malaysia. According to Sondari (2014),

Indonesia still needs 4.7 million new entrepreneurs yearly to reach a minimum figure of 2% of the total number of 237 million people. Therefore, it is important to encourage the knowledge and understanding of undergraduate economics from universities, especially students of entrepreneurial concentration, to have a mindset oriented to creating start-up jobs (Utami, 2017).

Start-up entrepreneurship is not a new phenomenon because it has been with the world for the past decade. This skillset is an adventurous process associated with the creation of a new venture that defines challenges with high risk and uncertainty. The process of starting a new business is basically driven by individual intentions (pre-start-up behavior) and exploitation of entrepreneurial intention that have the potential to produce business ideas (Mergemeier, Moser, & Flatten, 2018). Entrepreneurs need to understand the factors that contribute to the success or failure of businesses at the pre-start-up phase (Van Gelderen, Thurik, & Bosma, 2005). Furthermore, they need to consider the possibility of a correlation between the intention to expand in the initial year and the behavior of the actual expansion activities. The strength of intention is one of the motivational factors that influence a person's start-up behavior (Shirokova, Osiyevskyy, & Bogatyreva, 2016). These two factors were mentioned in the theory of planned behavior (TPB).

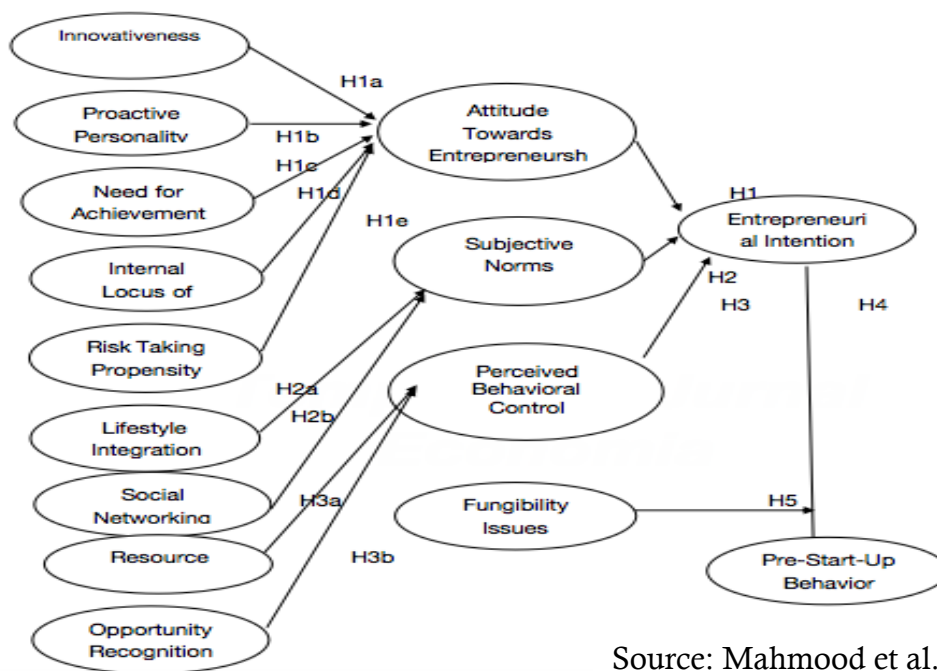
According to Ajzen & Madden (1986), the framework of the TPB model consists of three antecedents, namely favorable or unfavorable evaluation of behavior (attitude towards entrepreneurship), perceived social pressure (subjective norm), and difficulties in doing behavior (perceived behavioral control). Research on the influence of the TPB theory and the fragmentation of other influencing factors on entrepreneurial intentions and pre-start-up behavior studied at Asnaf Millennials in Malaysia (Mahmood, Al Mamun, Bin Ahmad, & Ibrahim, 2019) provided positive answers with the combined model of fragmentation theory. The research indicated that it is not necessarily a reference for predicting entrepreneurial intentions and pre-start-up behavior on targets with educational backgrounds in entrepreneurship at universities. Most Indonesian students do not know their potential capabilities (Hadi, Wekke, & Cahaya, 2015).

There is a comparison of the level of entrepreneurial intention in several different countries, namely Indonesia, Japan, and Norway (Indarti & Rostiani, 2011). A study carried out by Ferreira, Raposo, Rodrigues, Dinis, and Paco (2012) reported that behavior, subjective norms, and perceived behavioral control are determinants of entrepreneurial intention among students in Portugal. The research strengthens this carried out by Susan Mueller on students participating in entrepreneurship classes. Mueller (2011) concluded that behavior, subjective norms, and perceived behavioral control influence entrepreneurial intentions in Germany and Switzerland. It can be assumed that a person's geographic location makes a difference to their entrepreneurial intentions and pre-start-up behavior.

Research on entrepreneurial intentions has been widely carried out by Ambad & Damit (2016), Entrialgo & Iglesias (2016), Mei, Zhan, Fong, Liang, & Ma (2016), Trivedi (2016), Aragon-Sanchez, Baixauli-Soler, & Carrasco-Hernande (2017), Chipeta &

Surujlal (2017), Mamun, Nawi, Mohiuddin, Shamsudin, & Fazal (2017), and Mahmood, Al Mamun, Bin Ahmad, & Ibrahim (2019). However, there are limited studies on the pre-start-up behavior of entrepreneurial concentration students in Indonesia. Therefore, this study aims to predict entrepreneurial intention and pre-start-up behavior in entrepreneurial concentration students. It specifically seeks to predict the relationship between antecedent factors of pre-start-up behavior, as shown in Figure 1.

This study replicates the model developed by Mahmood et al. (2019) by replicates the verification and disconfirmation functions of the research carried out by Muma (1993). Furthermore, studies conducted by Zimmermann (2015) and Muma (1993) had relatively small sample sizes to help broaden the generalizability of entrepreneurial intentions in Indonesia. Moreover, one main principle of the scientific method is the necessity of replicating research (Aim & Reed, 2015).



Source: Mahmood et al. (2019)

Figure 1. Research model

METHOD

This is a quantitative study with the questionnaire built using indicators from previous the research carried out by Mahmood et al. (2019). The specific examples of indicators for attitudes towards entrepreneurship are as follows, (1) I will start a business when given an opportunity, and (2) I prefer being an entrepreneur out of the various available options. Further examples of subjective norm indicators are: (1) My family thinks that starting my own business is a good idea, and (2) If I start a new business, my family members are going to help me succeed. Examples for perceived behavioral control identifiers are (1) it is easy for me to keep the business I started, and (2) I am likely to succeed assuming I set up a company.

There are 6 indicators for innovativeness. Examples are (1) I often surprise people with my new ideas, and (2) I am often asked for help in planning creative activities. Then,

examples of proactive personality indicators are: (1) I am constantly looking for ways to improve my life, and (2) I am a powerful source of constructive change. More examples of need for achievement indicators are: (1) I try to do my best at work, and (2) I enjoy situations that take advantage of my abilities. Meanwhile, examples for internal locus of control are: (1) I am in control of my life, and (2) My life is determined by my actions.

There are 5 indicators for social networking, namely (1) knowing people capable of locating new businesses, (2) using personal connections to promote businesses, etc. Furthermore, there are 6 indicators used to determine the resources, namely (1) acquiring market information for a new business and (2) obtaining the supply chain information for a new business. Examples of opportunity awareness variable indicators include (1) identifying opportunities to start new businesses and (2) not missing new business opportunities.

Intention to entrepreneurship is measured using 5 indicators. Examples are (1) ready to do anything to become an entrepreneur and (2) making efforts to run a business. Meanwhile, examples of indicators for fungibility issues are: (1) easily tempted to use business capital for activities that do not generate income, and (2) planning to use business capital for activities that do not generate income. Pre-start-up behavior is measured by 7 indicators, such as (1) Ready to apply for a business license and (2) attending business development training.

All indicators are measured using a 5-point Likert scale. Meanwhile, a purposive sampling plan was used to distribute the questionnaire to 240 respondents with a concentration in the field of entrepreneurship. Reliability and validity assessments were carried out prior to hypothesis testing, which is analyzed using structural equation modeling.

Table 1. Reliability and validity results

Variable	Items	Cronbach's Alpha	Composite Reliability	AVE
Attitude Towards Entrepreneurship (ATE)	4	0.798	0.868	0.623
Subjective Norms (SUN)	4	0.820	0.880	0.647
Perceived Behavioural Control (PBC)	7	0.875	0.904	0.574
Innovativeness (I)	6	0.949	0.960	0.798
Proactive Personality (PP)	5	0.806	0.866	0.564
Need for Achievement (NA)	5	0.871	0.906	0.658
Internal Locus of Control (ILC)	6	0.922	0.939	0.720
Risk Taking Propensity (RTP)	6	0.829	0.875	0.538
Lifestyle Integration (LI)	4	0.754	0.843	0.574
Social Networking (SN)	5	0.812	0.869	0.570
Resource (R)	6	0.859	0.894	0.586
Opportunity Recognition (OR)	5	0.851	0.894	0.627
Entrepreneurial Intention (EI)	5	0.847	0.890	0.619
Fungibility Issues (FI)	7	0.967	0.972	0.831
Pre-Start-Up Behaviour (PSUB)	7	0.932	0.945	0.712

FINDING AND DISCUSSION

Data was collected from a total of 222 students concentrating on entrepreneurship at 5 private universities in Jakarta and Tangerang. More than half of the respondents are women (62%), while two-thirds were between 20-23 years old.

Reliability and validity assessments were carried out prior to hypothesis testing to ensure that the research indicators used were reliable. Specifically, Cronbach alpha and composite reliability were used to assess reliability, while the convergent validity was determined using the average variance extracted (AVE) method. Table 1 shows the reliability and validity results, while Table 2 illustrates the discriminant validity results (Fornell-Lacker criterion).

Table 2. Fornell-Lacker criterion

	ATE	EI	FI	I	ILC	LI	NA	OR	PBC	PP	PSUB	R	RTP	SN	SUN
ATE	0.789														
EI	0.572	0.787													
FI	-0.015	-0.068	0.912												
I	0.597	0.852	0.120	0.893											
ILC	0.616	0.754	0.114	0.807	0.849										
LI	0.563	0.737	0.052	0.731	0.729	0.758									
NA	0.373	0.635	-0.106	0.648	0.643	0.685	0.811								
OR	0.459	0.732	0.039	0.689	0.665	0.719	0.551	0.792							
PBC	0.389	0.525	0.096	0.559	0.553	0.579	0.395	0.639	0.758						
PP	0.513	0.680	-0.006	0.665	0.626	0.665	0.645	0.622	0.555	0.751					
PSUB	0.400	0.676	0.110	0.695	0.623	0.611	0.509	0.671	0.527	0.578	0.844				
R	0.378	0.563	0.075	0.564	0.505	0.606	0.520	0.674	0.617	0.597	0.511	0.765			
RTP	0.547	0.674	0.059	0.675	0.690	0.749	0.658	0.678	0.560	0.672	0.574	0.620	0.733		
SN	0.391	0.629	0.057	0.615	0.608	0.693	0.608	0.703	0.608	0.532	0.583	0.656	0.623	0.755	
SUN	0.353	0.490	0.164	0.530	0.567	0.507	0.410	0.520	0.650	0.446	0.521	0.507	0.550	0.561	0.804

This study used the structural equation modeling to determine the theoretical interdependence between SUN, PBC, EI, FG, and PSUB. Path analysis in PLS was used for hypothesis testing, with the results shown in table 3. The indication of the supported or unsupported hypothesis is shown from the critical and p-values of ± 1.96 and 0.05, respectively. The results of the path analysis show that the hypotheses H1A, H1B, H1C, H1D, H1E, H2A, H2B, H3A, H3B, H1, H2, H3, AND H4 are supported because they have met every requirement of the significance of the direct effects hypothesis.

Table 4 shows that the r2 value of 0.453 or 45.3% has a moderate level of explanation from the ate variable to i, pp, na, ilc, and rtp in students of entrepreneurship concentration. The r2 value of 0.342 or 34.2% of sun is used to explain the li and sn variables in students that concentrate on entrepreneurship at the moderate level of explanation. This is not different from the two preceding variables, with the pbc explanation level of r and or at a moderate r2 value of 0.472 or 47.2%. The r2 value of 0.455 or 45.5% describes a moderate level of explanation for ei on ate, sun, and pbc in students that concentrate on entrepreneurship. The level of explanation of psub towards ei

is at a moderate level of explanation of 0.481 or 48.1% for students that concentrate on entrepreneurship.

Table 3. Hypothesis Testing

Hypothesis	Relationship between variables	Standard Deviation	T Statistic	P value	Conclusion
Factors affecting Attitude towards Entrepreneurship					
H1a	I -> ATE	0.098	2.364	0.019	Supported
H1b	PP -> ATE	0.079	2.030	0.044	Supported
H1c	NA -> ATE	0.089	2.589	0.010	Supported
H1d	ILC -> ATE	0.093	3.624	0.000	Supported
H1e	RTP -> ATE	0.088	2.282	0.024	Supported
Factors affecting Subjective Norms					
H2a	LI -> SUN	0.094	2.494	0.013	Supported
H2b	SN -> SUN	0.087	4.930	0.000	Supported
Factors affecting Perceived Behavioural Control					
H3a	R -> PBC	0.065	5.245	0.000	Supported
H3b	OR -> PBC	0.065	6.298	0.000	Supported
Factors affecting Entrepreneurial Intention					
H1	ATE -> EI	0.073	5.630	0.000	Supported
H2	SUN -> EI	0.083	2.229	0.027	Supported
H3	PBC -> EI	0.076	3.200	0.002	Supported
Factors affecting Pre-Start-Up Behaviour					
H4	EI -> PSUB	0.046	14.842	0.000	Supported
Factor moderating Fungibility Issues					
H5	FI*EI -> PSUB	0.042	- 0.037	0.736	Not Supported
Factors mediating Entrepreneurial Intention					
H6	ATE -> PSUB	0.051	5.496	0.000	Supported
	SUN -> PSUB	0.058	2.175	0.031	Supported
	PBC -> PSUB	0.056	3.007	0.003	Supported

Tabel 4. R-Square values

Variable	Value of R-Square (R ²)
ATE	0.453
SUN	0.342
PBC	0.472
EI	0.455
PSUB	0.481

Table 5 shows the results of the Sobel test carried out to test the mediating variables. This test aims to determine the direct and indirect effects specifically. The variables ate with PSUB, SUN with PSUB, and PBC with PSUB represent the direct effect. Meanwhile, the variables ATE, and EI with EI and PSUB, SUN and EI with EI and PSUB, PBC and EI with EI and PSUB represent the indirect effect.

Table 5. Sobet Test Mediating Effectng

Effects	Path	Standard Deviation	T Statistic	P value	Conclusion
Indirect Effects	EI -> PSUB	0.046	14.842	0.000	Supported
	ATE -> EI	0.073	5.630	0.000	Supported
	ATE -> PSUB	0.051	5.496	0.000	Supported
	SUN -> EI	0.083	2.229	0.027	Supported
	SUN -> PSUB	0.058	2.175	0.031	Supported
	PBC -> EI	0.076	3.200	0.002	Supported
	PBC -> PSUB	0.056	3.007	0.003	Supported
Direct Effects	ATE to PSUB through EI	0.055	5.108	0.000	Supported
	SUN to PSUB through EI	0.052	2.445	0.015	Supported
	PBC to PSUB through EI	0.058	2.890	0.004	Supported

Table 6 shows the results of the moderation test. The results show that FI * EI -> PSUB is not significant.

Table 6. Moderating Effects

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	29.026	2.172		13.363	.000	24.743	33.310		
EI	1.548	.112	.715	13.867	.000	1.328	1.768	.946	1.057
FI	-.014	.042	-.017	-.337	.736	-.097	.068	.946	1.057
(Constant)	38.231	1.228		31.140	.000	35.810	40.652		
EI	1.562	.128	.721	12.204	.000	1.310	1.815	.719	1.390
FI	-1.562	.128	-1.926	-12.204	.000	-1.815	-1.310	.101	9.918
EI_x_FI	-.014	.042	-.020	-.337	.736	-.097	.068	.719	1.390

a. Dependent Variable: PSUP

The hypothesis testing previously presented show that the effect of entrepreneurial intention (IE) and students' pre-start-up behavior (PSUB) is in accordance with the

variables in the theory of planned behavior (TPB). These variables are the attitude toward entrepreneurship (ATE), subjective norms (SUN), and perceived behavioral control (PBC). Furthermore, this research model was developed to collect the factors that influence ATE, SUN, and PBC, namely innovation (I), proactive personality (PP), need for achievement (NA), internal locus of control (ILC), risk-taking propensity (RTP), integration lifestyle (LI), social networks (SN), resources (R), and opportunity recognition (OR). The results of significance are concluded as follows.

Entrepreneurial behavior is directly influenced by innovation, proactive personality, achievement, internal control, and risk-taking. Apart from that, social factors from the integration of lifestyle and social networks are also important determinants of SUN, while resources and opportunities play an essential role in PBC. Furthermore, this research focuses on new ventures at the pre-start-up stage, and the results can become capital for entrepreneurial students in developing their excellence in ATE, SUN, PBC, I, PP, NA, ILC, RTP, LI, SN, R, and OR. However, students also need to understand and move away from the cash equivalents in business management in the pre-start-up phase.

This study is slightly different from the research carried out by Mahmood et al. (2019), which stated that there are two unsupported hypotheses related to the relationship between risk propensity and attitude toward entrepreneurship. Furthermore, Mahmood et al. (2019) state that fungibility issues do not moderate the relationship between entrepreneurial intention and pre-start-up behavior.

In terms of practical implications, this study can help Indonesian universities to overcome unemployment among graduates with the factors that affect the IE and PSUB. Furthermore, this study provides valuable insights into the importance of behavior, innovation, and subjective norms as a positive package towards entrepreneurial intentions, which directly influence behavior during the preparation phase. In this regard, the Indonesian government also needs to collaborate and ensure that entrepreneurship development programs at all related universities are high quality and explain the required behavior to start-ups.

CONCLUSION

In conclusion, this study was carried out to predict the pre-start-up behavior of students in entrepreneurship concentration. The specific research integrated variables are innovation, proactive personality, need for achievement, internal locus of control, risk-taking, lifestyle integration, the social network of resources, awareness of opportunities, entrepreneurial start-up behavior, subjective norms, and behavioral control. This study is associated with several limitations. Firstly, it is a cross-sectional study with a non-probability sampling design, therefore, it cannot be generalized. Secondly, data was only collected from students of entrepreneurial concentration from several private universities in Jakarta and Tangerang. Therefore, further research needs to apply this research model with samples from state university students.

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