

# What Makes Entrepreneurial Intention for Students in Technological University Works During Covid-19 Period: A Behavioral Assessment

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## Abstract

The covid-19 pandemic is without a doubt causing multidimensional catastrophic, which include the economic recession. Job losses, health problems, redefining business models, and the options to save money are why people seek alternate income. Entrepreneurship by taking advantage of the covid-19 pandemic becomes one solution for the workers and the fresh graduate students to overcome the economic pitfall. The present research aims to measure the entrepreneurial behavior intention of students in the technological university, which precisely without dominant entrepreneurship background. The famous theory of reasoned action (TRA) extension, including the personality trait dimension, is used as the development model. The model was analyzed by multivariate analysis with a structural equation model. The data was instrumented by questionnaire, and 215 respondents participated. The result showed the suitability of the extension TRA in predicting the entrepreneurial intention among the students in the Technological University. Attitude factor is revealed to be the most dominant influence factor to entrepreneurial intention. The study explains 48 percent of representation factors in explaining the entrepreneurial intention. The highlight of recommendations and practical implications were also discussed in this paper.

## Keywords

Entrepreneurial Intention, Students, Technological University, TRA, Personality Trait

## 1. Introduction

In the early year 2020, the world is crushed by the novel coronavirus, as we all know as Covid-19. The virus is quite dangerous, transmitted by a droplet of the infected person to a healthy person. The coronavirus produces more than 100 million cases and more than 3 million fatalities in less than the first quartal of the year 2021 (WHO, 2021). Numerous approaches were implemented to avoid the increased number of infected people as well as fatality, such as vaccines (Knoll & Wonodi, 2021; Le et al., 2020), lockdowns (Atalan, 2020; Mucci, Mucci, & Diolaiuti, 2020), work from home (Bick, Blandin, & Mertens, 2020; Savić, 2020), and health protocols (Sarmiento, Sarmiento, & Tolentino, 2021; Yonita & Amna, 2021). The Covid-19 not only causing chaos in the healthcare sector and disrupted the economy, industries, and academic sectors. The risk of interaction due to the person's inaccuracy in confirming himself

as a carrier makes the physical distancing transform into the new normal. Therefore, a lot of activities and businesses are affected due to this habit. Thus, redefining the business model becomes necessary. As the technologies advanced, many people tend to rely on the technology for their business processes. The ability to support offline and online activities helps the organization transform their business model into digital-based activities. Thus, work from home and online transactions are quite possible in this era. While the technologies made the possibility for digital transactions, the successful is indeed depending on how the human as the key role to operate it. Technology is also serving as vital role in entrepreneurship for Covid-19 period to compensate the physical distancing.

In many countries in the world, businesses are served as the primary backbone of the economy. However, the trends of business crisis and failures are unavoidable (Gourinchas, Kalemli-Özcan, Penciakova, & Sander, 2020; Kuckertz et al., 2020). While the governments tried to provide stimulus policies (Chakrabarty, Ray, & Pal, 2021; Mustapa & Mohamad, 2021; Nhamo, Dube, & Chikodzi, 2020; Siddik, 2020), the role of the entrepreneur itself with their business power decides the business sustainability. The entrepreneurship mindset becomes fundamental for both entrepreneurs and non-entrepreneurs. Specifically for non-entrepreneurs, they have to be prepared for the worst scenario that their organizations may collapse. The present research contributes to measuring the entrepreneurial intention of students in Technological University without dominant entrepreneurship background. The well famous TRA model with personality traits will be used to measure the influential factors. The result can be used by the students, Technological University, and government to gain insight and develop the proper strategy.

## 2. Literature Review

Experts and psychologists state that the intention assessment is the most precise tool for predicting behavior (Sun, Ni, Teh, & Lo, 2020). Many studies on entrepreneurship investigate entrepreneurial intention, especially in students. The literature provides valuable insight into new business initiations and innovations in various domains (Sun et al., 2020). Entrepreneurial intention is the most important predictor of individual entrepreneurial behavior (Liu, Lin, Zhao, & Zhao, 2019). Through various perspectives, various studies have examined the factors that influence entrepreneurial intention. Entrepreneurial intention is defined as a person's self-recognized belief to build a new business venture and conscious planning to run in the future (Wang, Chang, Yao, & Liang, 2016). Entrepreneurial intention is a cognitive representation of the actions that will be carried out by individuals either to build new independent businesses or to create new value in existing companies. Environmental and personality factors determine intention. Environmental factors include social and attitude (i.e, these dimensions are projected in the TRA model), while personality includes individual character and background such as personality traits.

TRA is a famous psychological model developed by Ajzen and Fishbein to predict people's intentions (Fishbein & Ajzen, 1977; Madden, Ellen, & Ajzen, 1992). TRA explains multivariate analysis of intention to be described by two predictors: Attitude (AT) and Subjective Norms (SN). AT reflects the measurement of an individual's favorable evaluation of a specific behavior. SN reflects the individual's perception of social pressure or peers who are essential to a particular behavior. Both AT and SN directly influence behavior intention (BI) as projected in Figure 1. BI is coded as EI in this research, which is described as entrepreneurial intention captured in individual effort for entrepreneurship. AT in this research is the individual favorable evaluation of himself or herself regarding entrepreneurship. SN in the present research is the influence of social peers on entrepreneurship. Both SN and AT are predicted to positively influence prior relevant research studies (Law & Breznik, 2017; Tong, Tong, & Loy, 2011). Thus, the following hypotheses are made:

**H1:** SN has a positive relation to EI

**H2:** AT has a positive relation to EI

Every person has an essential nature that is interpreted into personality. There are five standard dimensions of personality that are known well as personality traits terminology (Ajzen, 2005). The personality traits consist of extraversion, openness, neuroticism, conscientiousness, and agreeableness. Extraversion is a personality in which the individual is assertive, energetic, dominant, easy-going, ambitious, and enthusiastic. Openness is a characteristic with an active imagination, sensitivity to aesthetics, high curiosity, flexibility, and intellectual curiosity. Neuroticism describes the individual characteristic of negative state emotional such as depression, anxiety, sadness, anger, guilt, or depression. Conscientiousness reflects the character of the person with self-control, hard work, high motivation to achieve goals. Agreeableness is a characteristic in which the person has interpersonal orientation, trusting, cooperative,

gentle, warm, caring, and sympathetic. The five characteristics of personality traits encapsulate the constructed PT factor and positively influence the EI, as was highlighted in previous research (Karabulut, 2016) and Figure 1. Thus, the third hypothesis is made:

**H3:** PT has a positive relation to EI.

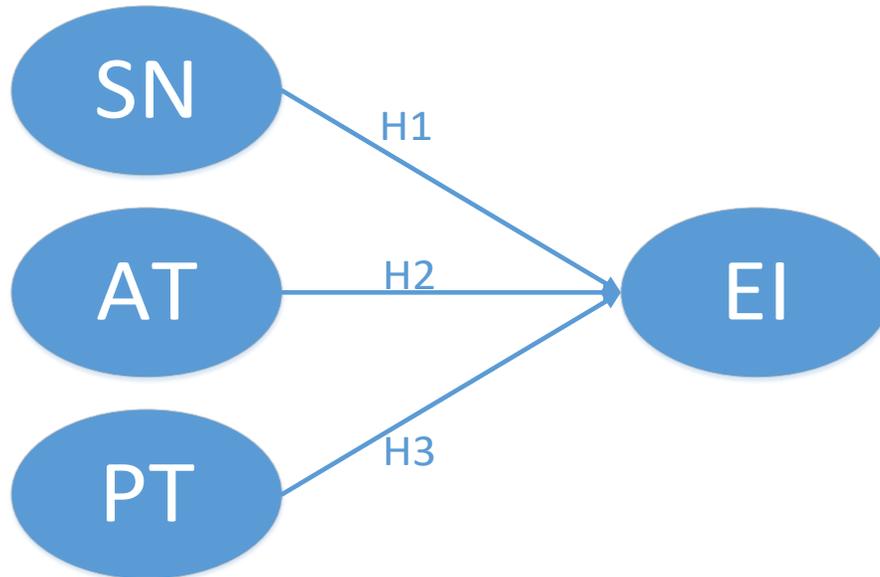


Figure 1. Extended TRA

### 3. Methodology

The research used conclusive design research, where four latent variables were measured. The detailed indicators of observed variables are presented in Table 1. The research used confirmatory factor analysis, and three hypotheses were developed. The instrument development of an online questionnaire was made. The questionnaire was distributed between March to May 2021. The questionnaire type is a self-administered questionnaire, where the respondents were filled the information by themselves. The questionnaire comprises of two sections, which the sections are demographic and the observed variables. The demographic contains gender, age category, level of education, family business background, GPA, and kind of desired entrepreneurship industries. The observed variables are measured by using a 5-points Likert scale. The points are interval type 1 as "I strongly disagree" to 5 as "I strongly agree." The population of the research is students in Technological University. The minimum expected sample is 100, which refers to Yamane Taro's equation with 10% error (S. F. Persada et al., 2021). The research used a nonprobability convenience sampling method. The data was analyzed by using partial least squares structural equation modeling (PLS-SEM). The PLS-SEM consists of many statistical tests based on factor analysis and multiple regression natures such as the outer loadings, reliability, variance extracted, model fit, path analysis, and R2. The model in this research is a first-order construct, where unique observed variables explain the latent factors. The hypotheses justification is based on path coefficients with the significant standard statistic of 5 percent p-value.

Table 1. Latent and Observed Variables

Latent Variable	Observed Variable	Symbol
Subjective Norms (SN/X1)	Supportive from family to start the entrepreneurship	X1.1
	Supportive from the close friends to start the entrepreneurship	X1.2
	Importance opinion from family	X1.3
	Importance opinion from a close friend	X1.4

Attitude (AT/X2)	Entrepreneurship gives more advantages than disadvantages	X2.1
	The interesting career of Entrepreneurship	X2.2
	Having resource and favorable in starting entrepreneurship	X2.3
	Favorable great feeling to be an entrepreneur	X2.4
Personality Traits (PT/X3)	Creative, imaginative, and innovative	X3.1
	Efficient, organized, practical, and systematic	X3.2
	Shy, awkward, and want to be alone	X3.3
	Sympathetic, warm, good, and cooperative	X3.4
	Envy, anxious, jealous, and easily offended	X3.5
Entrepreneurial Intention (EI/Y)	Ready for everything to be an entrepreneur	Y1.1
	Professional aim is to be an entrepreneur	Y1.2
	Making every effort to start the entrepreneurship	Y1.3
	Determinant to start the entrepreneurship in future	Y1.4
	Serious to think of entrepreneurship	Y1.5
	Having the intention to start entrepreneurship in future	Y1.6

## 4. Result and Discussion

### 4.1 Descriptive Result

The research gathered 215 respondents, where 54 percent are female, and 46 are male. There are five age categories: 18-22 years with 60.5 percent, 23-27 years by 22.8 percent, 28-32 years for 9.8 percent, 32-37 years in 4.7 percent, and more than 37 years about 2.2 percent. Seventy-one percent of respondents are pursuing an undergraduate degree, while 29 of the rest are postgraduate degrees. The respondents who are having family businesses are 63 percent, and the rest 37 are the opposite. The majority of GPAs are between 3.00 to 3.50 with 55 percent, followed by 37 percent with above 3.50. Only 8 percent has a GPA under 3.00. The respondents were asked about the desire of entrepreneurship industry desire, 27 percent answers on technopreneur, 17 percent on social entrepreneurship, 13 percent on ecopreneur, 30 percent on food-preneur, and 13 percent with women-preneur (e.g., fashion, beauty). The summary of demographics in person are presented in Table 2 below.

Table 2. Demographics Data

Demographic Items	Measure	Result (in person)
Gender	Male	99
	Female	116
Ages	18-22	130
	23-27	49
	28-32	21
	32-37	10
	>37	5
Education Degree	Undergraduate	153
	Post Graduate	62
Family Business	Family business	135
	No family business	80
GPA	<3.00	17
	3.00-3.50	118
	>3.50	80
Industry Desire	Technopreneurship	58
	Socio-preneurship	36
	Eco-preneurship	28
	Food-preneur	65
	Woman-preneur	28

## 4.2 Structural Model Result

The analysis by using SEM is conducted through two stages: the measurement model and the structural model. The measurement model aims to obtain a fit construct or latent variable to be used for the next stage of analysis. The measurement model test is used to test the validity and reliability of the indicator variables in the research model. The analysis is performed to see if the model is suitable for further testing. Specifically, the analysis tests the convergent validity based on the outer-loadings in generating the Average Variance Extracted (AVE) values. Furthermore, testing is developed for reliability testing based on the value of composite reliability (CR). Model fit in SEM-PLS is projected by Normed Fit Index (NFI). The structural model is conducted by looking up to the beta coefficient values in between the relations. In order to justify the proposed hypotheses, the path should consider the significant value below five percent ( $p$ -value  $< 0.05$ ) and positive result. The statistical Smartpls software calculates the test of the estimated value and path analysis.

Several iterations were performed for the construct model development. The iteration is conducted to ensure that the model produces good values according to the rule of thumbs. Based on the rule of thumbs, the Outer Loading, CR, AVE, and NFI should be above 0.50, 0.7, 0.5, and 0.7, respectively, from the rule of thumbs (Balinado et al., 2021; Cheung & Zhang, 2020; Chin, Jiang, Mufidah, Persada, & Noer, 2018; Joseph F Hair, William C black, Barry J Babin, & Anderson, 2019; Nadlifatin et al., 2020; Ong et al., 2021; S. Persada et al., 2020; S. F. Persada et al., 2021; S. F. Persada, Miraja, & Nadlifatin, 2019; Prasetyo, Castillo, et al., 2021; Prasetyo, Tanto, et al., 2021). The indicators that have the below threshold values will be deleted, and the overall analysis will be re-conducted. Table 3 describes the final detailed result.

Table 3. Latent and Observed Variables

Latent Variable	Symbol	Loadings	CR	AVE	NFI
SN(X1)	X1.1	0.95	0.8	0.7	0.7
	X1.2	0.71			
	X1.3	Deleted			
	X1.4	Deleted			
AT(X2)	X2.1	0.77	0.9	0.7	
	X2.2	0.91			
	X2.3	Deleted			
	X2.4	Deleted			
PT (X3)	X3.1	0.77	0.7	0.5	
	X3.2	0.61			
	X3.3	Deleted			
	X3.4	0.63			
	X3.5	Deleted			
EI(Y)	Y1.1	0.77	0.8	0.7	
	Y1.2	0.82			
	Y1.3	0.87			
	Y1.4	0.86			
	Y1.5	0.88			
	Y1.6	0.79			

The present research can generate an adequate model with path analysis results, as shown in Figure 2. From the generated model, the entire relations produce a positive effect. Further, the path values need to be checked from the significant perspective, and the detail of the hypotheses result is presented in Table 4. Two out of three hypotheses are accepted. SN factor is rejected due to insignificant value. The development model projects the R2 of 48 percent, indicating that the model can depict 48 percent overall entrepreneurial intention. The rest of 52 percent may come from the other construct outside this model.

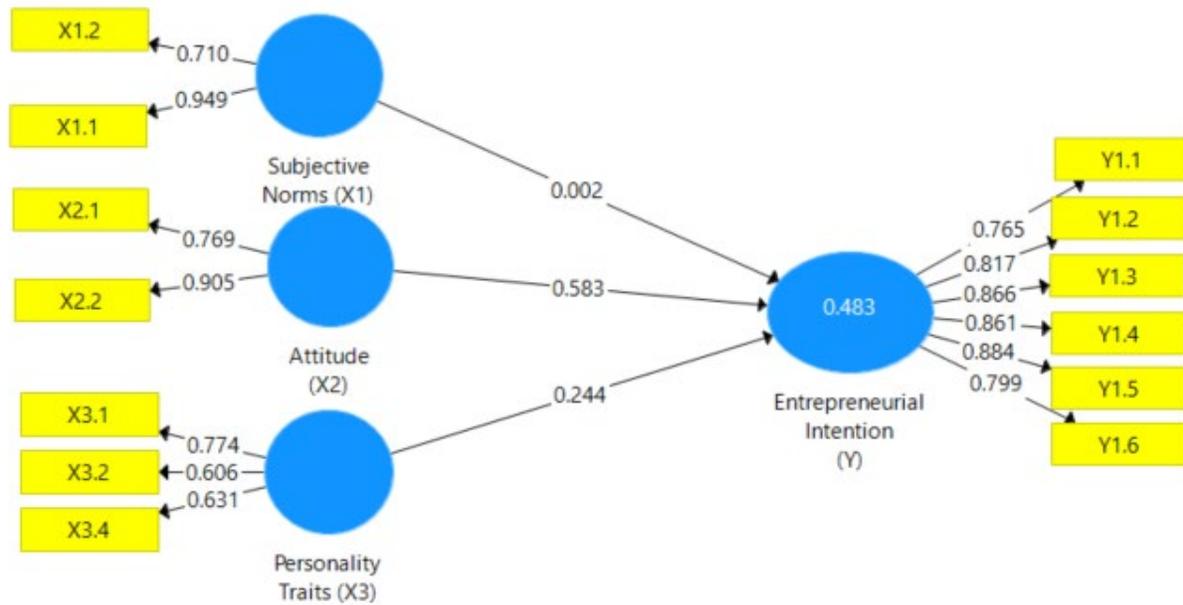


Figure 2. Path Coefficient Result

Table 4. Hypotheses Result

Hypotheses	Coefficient Result	p-value	Note
H1: SN → EI	0.002	0.974	Rejected
H2: AT → EI	0.583	0.000	Accepted
H3: PT → EI	0.244	0.000	Accepted

### 4.3 Discussion

The result of the SEM indicates two accepted hypotheses. As shown in Table 4, hypothesis 2 has a significant positive effect on the entrepreneurial intention with the coefficient value of 0.583. The result shows that Technological University students positively respond to entrepreneurship, desire, awareness, and value to carry out entrepreneurial activities and create new businesses. The goal of increasing awareness and entrepreneurial attitude in Technological University students is something that can be achieved. Even though several aspects have influenced a student's choice of study, job search in engineering companies is a significant determinant. Entrepreneurship education as a way of experiential learning can help strengthen a potential entrepreneur's confidence in himself and his ability to create Entrepreneurship. Technological University students have domain-specific knowledge of the chosen field of education that determines the types of opportunities to be recognized. While entrepreneurs generally look to their personal and everyday lives to find new ideas, Technological University students have the advantage of certain areas of knowledge that can provide innovative ideas for new entrepreneurship. For example, engineers work with technological developments and innovations every day. When teaching entrepreneurship education to engineering students, educators should know that building on the practical, specific knowledge that students have acquired during learning is necessary.

The indicators of the Personality Traits variables that are accepted in this study are individuals with extraversion, conscientiousness, and agreeableness personality characteristics. Extroverted individuals should have stronger entrepreneurial intentions than introverts because they are more active, seek leadership roles, and mobilize other individuals to create social networks and engage in vital situations. Technology University students have the advantages of self-control, hard work, and being active in executing the task. Further, Technology University students

have a great value of obeying the order. Thus, a startup with a dynamic interaction and significant impact on the client is the ideal business ecosystem for Technology University students.

## 5. Conclusion

Entrepreneurship for Technology University students became the best option for preparing for the uncertainty and bad economic recession. The current study measures the factors that affect entrepreneurship intention, where attitude, subjective norms, and personality traits are used as the predictors. Two out of three hypotheses are accepted. Attitude is revealed to be the most dominant influence factor. The Technology University can provide the ecosystem to stimulate the students' attitude to increase their entrepreneurial intention. Three indicators of personality traits, namely extraversion, conscientiousness, and agreeableness, are detected as the dominant variables construct for the Trait factor. The result indicates the suitability of Technology University students to deal with entrepreneurship with a dynamic interaction and a significant impact on consumers.

In conclusion, the extended TRA model projects 48 percent of representation in assessing the entrepreneurial model. The attitude factor gives the 0.58 beta coefficient in influencing the respondents' behavior. Few limitations during this study are presented. The first limitation is regarding the sampling, where the students only came from one university. Although the curriculum is relatively like others, students' profiles in top and average universities may differ. Thus, the current study may only reflect the character of a similar top university in Indonesia. The second limitation is regarding the model construct, where only 48 percent of entrepreneurial intention is described. Potential factors that explain the other 52 percent are suggested to be explored.

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