

## **Gender As A Moderator Of The Effect Of Attitude Toward Entrepreneurship, Perceived Behavioural Control On Entrepreneurial Intention**

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### **Abstract**

This study aims to explore the role of gender on the relationship between attitude toward entrepreneurship, perceived behavioural control and entrepreneurial intention in vocational students in Indonesia. The data were gathered from several universities, comprising 600 students. Multigroup structural equation modeling was used to estimate the moderating effect of gender on the relationship. The result found that gender had weak effect on entrepreneurial intention, when it was treated as an independent variable, mediated by attitude toward entrepreneurship and perceived behavioural control. However, the result indicates a significant effect of gender when it was treated as moderator. The significant moderating effects were found in the relationship between choice intention, self-efficacy and commitment, and between instrumental attitude and nascent entrepreneurship, as well as commitment and nascent entrepreneurship.

### **Keywords**

Attitude Toward Entrepreneurship; Entrepreneurial Intention; Gender Relationship; Perceived Behavioural Control.



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## **1. INTRODUCTION**

The case of entrepreneurship intention among university students in Indonesia has always been interesting to examine, since the unemployment rate of the country has been reported to surge over the year. In, 2020, the unemployment rate in the country increases to 1.84% and it has been predicted to rise two times in 2021 (Badan Pusat Statistik, 2020). As reported by the government, the unemployed population was mainly from high school/vocational school graduates (79.8%) and college graduates (20.4%). The unemployed students were predicted to increase in 2030 (Badan Pusat Statistik, 2020). It was reported that women become a major actor of entrepreneurial ventures in Indonesia. Based on a national survey data, in 2013-2016, the number of women who started a business was about 10-20% higher than men. Thus, it is interesting to study entrepreneurial intention in Indonesia especially in students and its association with gender, using planned behavior theory.

This study will focus on understanding the role of gender in entrepreneurial intention. There are still contradictory results related to the effect of gender on entrepreneurial intention. Some studies found that gender did not affect entrepreneurial intention. Of the 51 reviewed literature containing 60 independent samples, a significant effect was found in 21 samples, but the remaining did not show any significant difference (Shneor & Jenssen, 2014). Thus, we try to explore more about the effect of gender on attitude toward entrepreneurship, perceived behavioral control, and entrepreneurial intention. Specifically, we explore the relationship between gender and treats as an independent variable and moderating variable. To our knowledge, the proposed model was not yet been studied in Indonesia, whereas Indonesia provides an interesting context.

Entrepreneurial intention consists of three elements: choice intention which indicates preference to involve in entrepreneurial career. Second indicator is commitment to entrepreneurship, reflecting the dedication to an entrepreneurial career, and the third dimension is nascent entrepreneurship, indicating present activities to start business.

The attitude towards entrepreneurship comprises of two dimensions. First is instrumental attitude which related to rational evaluation to entrepreneurial career, and second is affective attitude which refers to personal attraction to entrepreneurship. Perceived behavioural control encompassed perceived self-efficacy (belief in entrepreneurial achievement) and perceived controllability (capacity to navigate

external hurdles). In this study, basing upon theory of planned behaviour, entrepreneurial intention will be determined by two main variables (attitude toward entrepreneurship and perceived behavioural control). Hence, entrepreneurial intention acts as dependent variable, and two two formers (attitude toward entrepreneurship and PBC act as independent variable).

There is no agreement regarding the relationship between gender and entrepreneurial intention. The results of the previous study are complicated and contradictory. Based on 51 reviewed literature containing 60 independent samples, only 21 samples found a significant direct effect of gender toward entrepreneurial intention; the remaining did not show any significant difference (Shneor and Jenssen, 2014). According to Vamvaka (2020), the contradictory results of the effect of gender are because, in some studies, gender was treated as moderating effect. But, in other studies, gender was treated as an independent variable that was fully mediated by other variables. Schlaegel & Koenig (2014), Shinnar, Giacomini, & Janssen (2012), Shirokova, Osiyevskyy, & Bogatyreva (2016) found the direct effect of gender on entrepreneurial intention. Kolvereid (1996) and Maes *et al.* (2014) found that gender indirectly affected entrepreneurial intention, and the effect was mediated by attitude and perceived behavioral control. At the same time, Shirokova *et al.* (2016) and Shinnar *et al.* (2012) discovered that gender was moderating variable of entrepreneurial intention. Contrarily, Haus *et al.* (2013), in their literature review on 30 studies, did not found a significant effect of gender.

Concerning the relationship direction of gender, a previous study conducted in Indonesia demonstrated a contradictory result. Kurjono *et al.* (2020) found no significant difference in entrepreneurial intention based on gender. Hutasuhut (2018) found that male has a higher mean of entrepreneurial intention than female. Contrarily, Setyawan (2016) found that woman has higher entrepreneurial intention than man. According to the latest data, Global Entrepreneurship Monitor (GEM) reported that in 2013-2016, women's intention to become entrepreneur is higher than man (Tempo, 2017). There were also new companies and online shops which was developed by woman In Indonesia. Nowadays, women maybe have more intention to create a business. Based on this evidence, the following hypotheses for the relations of entrepreneurial intention and gender were proposed:

*H<sub>1</sub>*: Gender of university students has a weak association with entrepreneurial intention when it mediates by attitude toward entrepreneurship and perceived behavioral control.

*H*<sub>2</sub>: Gender of university students has a strong effect when it is treat as moderator variable, moderating the effect of attitude toward change, perceived behavioral control on entrepreneurial intention. The relations of intention to attitude and perceived behavioral control are stronger for female students than for male students.

## **2. METHODS**

This cross-sectional study tested its hypotheses using a convenience sample of 600 vocational education students in several Indonesia's universities and polytechnics. Academic staff members were indirectly involved in the study, as they facilitated the administration of the online questionnaire during their regular virtual classes. Prior to data collection, the faculty was informed about the study's objectives and potential benefits. The questionnaires were distributed and completed anonymously during class sessions to maintain confidentiality. Participation was entirely voluntary. Data collection took place in June 2021. Before conducting the analyses, the dataset underwent a thorough validation process to identify and rectify any missing, out-of-range, or non-permissible values. As a result, 13 questionnaires were excluded, leaving a final sample of 583 participants (191 males, 392 females) for analysis. The students' mean age was 20.9 years ( $SD = 1.9$ ), with an age range of 18 to 29 years.

Moderation analysis and hypothesis testing were carried out using multigroup structural equation modeling (SEM). The analysis was conducted in AMOS 24, employing maximum likelihood estimation based on the covariance matrix and raw data (Arbuckle, 2015). This approach was selected as it enables the evaluation of competing models to determine the best-fitting model through confirmatory or exploratory factor analysis. A key assumption of the maximum likelihood estimation in SEM is that the data must follow a normal distribution. Consequently, the initial step involved assessing univariate normality by examining skewness and kurtosis values within the range of  $\pm 1.5$ , as well as multivariate normality with a threshold of  $< 5$  (Bentler, 2005). However, some items exhibited skewness and kurtosis values exceeding  $\pm 1.5$ , while the multivariate normality value was found to be 69.02, indicating a deviation from the required threshold.

Given that both univariate and multivariate normality assumptions were violated, an analysis for multivariate outliers was conducted using Mahalanobis distance. As a result, 100 survey responses were excluded from the analysis. Even after removing these outliers, multivariate normality was not achieved (c.r. multivariate =

22.991). Therefore, as a subsequent step, structural equation modeling was performed using bootstrap resampling with 1,000 subsamples to account for these violations.

### 3. FINDINGS AND DISCUSSION

Table 1 presents the scores for construct validity and reliability. Cronbach's alpha values for all constructs exceed 0.71, signifying that each construct demonstrates strong internal consistency. Comparatively, Composite Reliability (CR) provides a superior estimate for SEM, ranging from 0.85 to 0.96 which indicate good reliability (Peterson and Kim, 2013). In addition, the average variance extracted is more than 0.5 ranging from 0.63 to 0.80, indicating that each variable has good validity. According to the Fornier-Larcker criterion, the square root of the Average Variance Extracted (AVE) exceeds the intercorrelation among each variable. It demonstrated that each variable possesses strong discriminant validity.

Table 1. Construct Validity and Reliability (Cronbach Alpha, Composite Reliability, Average Variance Extracted, And Fornier-Larcker Criterion

Constructs	$\alpha$	CR	AV	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			E							
(1 Instrumental )	0.71	0.85	0.70	<b>0.85</b>						
(2 Affective )	0.80	0.91	0.80	0.50	<b>0.89</b>					
(3 Choice )	0.80	0.90	0.70	0.40	0.55	<b>0.89</b>				
(4 Commitment )	0.90	0.96	0.77	0.39	0.75	0.70	<b>0.90</b>			
(5 Controllability )	0.77	0.90	0.65	0.50	0.55	0.50	0.60	<b>0.85</b>		
(6 Nascent )	0.89	0.91	0.80	0.43	0.55	0.57	0.60	0.59	<b>0.90</b>	
(7 Self-efficacy )	0.90	0.91	0.65	0.53	0.60	0.60	0.70	0.80	0.60	<b>0.89</b>

Table 2 presents the SEM result of the model with gender as independent variable. According to the result, gender has significant yet weak effects on

entrepreneurial intention components. The direct effect of gender on intention was only found in choice intention dimension ( $\beta = -0.17$ ,  $P = 0.012$ ). But no significant differences were found between gender and two components of entrepreneurial intention ( $\beta_{\text{commitment}} = 0.04$ ,  $P = 0.399$ ,  $\beta_{\text{nascent}} = 0.17$ ,  $P = 0.874$ ), except gender was fully mediated by attitude and perceived behavioral control. The result supports the hypothesis 1.

Table 2. SEM result with gender as the antecedent of entrepreneurial intention

			Model 1		
			Estimate	C.R.	P
Self_efficacy	<---	Gender	-,245	-2,722	,006
Affective	<---	Gender	-,233	-3,108	,002
Controllability	<---	Gender	-,139	-2,174	,030
Instrumental	<---	Gender	-,179	-2,077	,038
Choice intention	<---	Gender	-,174	-2,498	,012
Commitment	<---	Gender	,045	,843	,399
Nascent	<---	Gender	,017	,159	,874
Choice intention	<---	Affective	,385	7,652	***
Choice intention	<---	Self_efficacy	,446	10,596	***
Commitment	<---	Affective	,608	11,673	***
Commitment	<---	Choice	,341	6,589	***
Commitment	<---	Self_efficacy	,230	6,333	***
Nascent	<---	Instrumental	,659	5,879	***
Nascent	<---	Controllability	,495	5,922	***
Nascent	<---	Commitment	,797	8,244	***

Table 3 presents the autocorrelation of each variable. As seen in Table 3, gender (Male=0, female=1) was associated with others in the reverse directions. Table 4 also shows a significant difference in entrepreneurial intention, attitude, and perceived controllability between males and females. The means of entrepreneurial intention, attitude toward change, and perceived-controllability in males are larger than females.

Table 3 Correlations among variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Gender	1.000							
(2) Instrumental attitude	-0.088	1.000						
(3) Affective attitude	-0.134	0.518	1.000					
(4) Self-efficacy	-0.091	0.538	0.594	1.000				
(5) controllability	-0.079	0.468	0.504	0.737	1.000			
(6) Choice Intention	-0.177	0.358	0.532	0.564	0.452	1.000		
(7) Commitment to entrepreneurship	-0.141	0.399	0.739	0.613	0.512	0.664	1.000	
(8) Nascent Entrepreneurship	-0.120	0.424	0.438	0.568	0.525	0.542	0.557	1.000

Table 4. Mean and SD by gender

	Male (N = 191)	Female (N = 392)	
	Mean (SD)	Mean (SD)	p-value
<b>Instrumental</b>	5.39 (1.14)	5.19 (1.07)	0.034
<b>Affective</b>	6.20 (0.82)	5.94 (0.92)	0.001
<b>Selfeficacy</b>	5.24 (1.04)	5.05 (0.99)	0.028
<b>controllability</b>	5.05 (1.06)	4.88 (0.92)	0.056
<b>Choice intention</b>	5.30 (1.07)	4.91 (0.99)	<0.001
<b>Commitment</b>	5.92 (1.01)	5.61 (1.03)	0.001
<b>Nascent</b>	4.81 (1.27)	4.49 (1.24)	0.004

Table 5 shows the result of multigroup SEM analysis to test the second hypothesis. The moderating effect of the gender used measurement invariance and structural invariance. The procedure calculates the difference chi-square value following Steinmetz *et al* (2009). The result shows that groups are not different in the

model ( $\Delta X^2 = 43.636$ ,  $\Delta df = 56$ ,  $p = 0.886$ ). However, there were found two paths that were significantly differences. First, there is a significant difference in the path coefficient from self-efficacy to commitment ( $\Delta X^2 = 3,593$ ,  $\Delta df = 2$ ,  $p < 0.05$ ), and the coefficient for males is larger than female ( $\beta_{\text{male}} = 0,220$ ,  $\beta_{\text{female}} = 0,04$ ). Second, the path coefficient from instrumental attitude to nascent entrepreneurship was significantly stronger ( $\Delta X^2 = 4,074$ ,  $\Delta df = 2$ ,  $p < 0.05$ ) for females than males, and both have inverse pattern ( $\beta_{\text{male}} = -0,01$ ,  $\beta_{\text{female}} = 0,458$ ). It means that gender moderates the effect of self-efficacy on commitment and instrumental attitude on nascent entrepreneurship. In the males' group, the improvement of self-efficacy increased their commitment level. In contrast with the female group, the higher the self-efficacy did not improve their commitment to entrepreneurship. However, in the males' group, the more they have rational reason (instrumental attitude), no increase was detected in their willingness to build their entrepreneurial capacity. In contrast, in the female group, the rational evaluation of entrepreneurship increased their willingness to build entrepreneurial capacity. The result partially supports hypothesis 2.

Table 5. Multigroup SEM result

			Overall		Male		Female		$\Delta X^2$	$\Delta df$	$p$
			B	P	B	P	B	P			
Choice	<-- -	Affective	,291	***	,333	,001	,235	,002	0,616	2	>,10
Choice	<-- -	Self_efficacy	,442	***	,384	***	,486	***	0,789	2	>,10
Commitment	<-- -	Affective	,469	***	,393	***	,509	***	1,060	2	>,10
Commitment	<-- -	Choice	,387	***	,290	***	,461	***	2,746	2	<,05
Commitment	<-- -	Self_efficacy	,117	,017	,220	***	,040	,566	3,593	2	<,05
Nascent	<-- -	Instrumental	,257	,020	-,009	,956	,458	,004	4,074	2	<,05
Nascent	<-- -	Controllability	,703	***	,674	***	,623	***	0,143	2	>,10
Nascent	<-- -	Commitment	,212	,009	,368	,050	,174	,056	4,174	2	<,05



According to the finding, gender as an independent variable has a significant albeit weak effect on entrepreneurial behaviour. These results differ from Vamvaka's 2020 estimate of gender relationship with attitude. However, they are consistent with an earlier study by Maes (2014), who found that gender was indirectly affected on intention and was fully mediated by personal attitude and perceived behavioral control. The more surprising result is the moderating effect of gender on the relationship between perceived behavioral control and attitude toward entrepreneurship. In the structural model, there was no significant difference between males and females. However, in the path level, there was found that in the male's group, Respondents who reported high levels of self-efficacy also reported significantly higher levels of commitment to entrepreneurship, but, in the female group, no increase in commitment was detected. These results are likely to be related to Koellinger *et al.* (2013), who argues that women lack confidence in entrepreneurial skills and social networks and fear failure higher than men. In other words, females lack self-efficacy; that is why the improvement of women's commitment to an entrepreneurial career is not based on their self-efficacy.

However, in the relationship between instrumental attitude and nascent entrepreneurship, females' cognitive evaluation of the entrepreneurial advantage will improve their willingness to start their business pioneer. At the same time, in the male group, none of these differences were statistically significant. The reason for this is not clear, but it may have something to do with the male's preference to search for something challenging. These results further support the idea of Camelo-Ordaz *et al.* (2016), who posits that males have more desire for new challenges and the willingness to take risks. Accordingly, although the results were not significant, it was found that the relationship of the instrumental attitude with nascent entrepreneurship of the male's group are in the inverse direction. In other words, when males are being asked about instrumental evaluation, the more males perceived that entrepreneurship have high advantages and more ups rather than down, the lower their intention to prepare for future business.

Our results revealed that in the male group, the association of choice intention on commitment and the effect of commitment on nascent entrepreneurship are larger than females. The means of intention variables in males are larger than females. These results align with those of previous studies that males have a higher intention to entrepreneurship than females. However, the result did not support our hypothesis to prove that females have larger intention than males though females conducted

progressively new business. It may be due to our instrument which was likely to ask about intention in entrepreneurship using common terms "firm" or "business" (e.g., "If I had the opportunity and resources, I would love to start a firm (business)"), without assuming that there is different intention among gender in the context of company building and small-medium enterprise. Accordingly, future research was needed to explore more about the relationship of gender in the context of intention toward small-medium enterprises and companies or large enterprise.

#### 4. CONCLUSION

The results of this study demonstrate that gender have weak effect on the relationship between attitude toward entrepreneurship, perceived behavioural control and entrepreneurial intention. Although the finding of moderating effect of gender is not significant in the structural level, in the dimensional level, gender has proven to be the strong moderator of the effect of each dimension of perceived behavioural control and attitude toward entrepreneurship on entrepreneurial intention dimension.

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