

ENTREPRENEURIAL INTENTION DETERMINANTS FOR URBAN UNIVERSITY STUDENTS TO CREATE BUSINESS START-UPS: THE IMPACT OF ENTREPRENEURSHIP EDUCATION, PERCEIVED BEHAVIORAL CONTROL, COMMITMENT, AND NASCENT ENTREPRENEURSHIP BEHAVIOR

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ABSTRACT

Entrepreneurship is often seen as a pathway to youth empowerment and economic growth, yet start-up failure rates remain high despite the strong entrepreneurial enthusiasm of young people, particularly urban university students. This study investigates the determinants of entrepreneurial intention by incorporating entrepreneurship education, nascent entrepreneurial behavior, perceived behavioral control, and commitment, with commitment also tested as a moderator. Using PLS-SEM with 330 urban university students, the findings reveal that entrepreneurship education, perceived behavioral control, and commitment significantly enhance entrepreneurial intention, while entrepreneurship education also promotes nascent entrepreneurial behavior. However, commitment does not moderate the link between entrepreneurship education and entrepreneurial intention (H3 not supported), and nascent entrepreneurial behavior does not significantly influence entrepreneurial intention (H4 not supported). These results contribute theoretically by extending the Theory of Planned Behavior to the context of urban start-ups and highlighting the boundary conditions of commitment and nascent behavior. Practically, the study underscores the importance of strengthening entrepreneurship curricula and support systems, while cautioning that exploratory entrepreneurial activities alone may not translate into strong start-up intentions. Beyond theoretical contributions, the findings also offer practical insights for Indonesian universities. Specifically, entrepreneurship education should be integrated with project-based learning, mentoring programs, and funding mechanisms that enable students to transform intentions into sustainable ventures within the urban start-up ecosystem.

Keywords: *Entrepreneurship education, nascent entrepreneurship behavior, perceived behavioral control, commitment, entrepreneurial intention.*

INTRODUCTION

Entrepreneurship is viewed as a solution to youth unemployment and a driver of economic advancement (Baporikar, 2014). Currently, many young individuals, especially in urban areas, demonstrate a strong interest in entrepreneurship, particularly in start-up ventures. The urban environment is considered more favorable for creative individuals to establish a firm (Freire-Gibb & Nielsen, 2014). However, despite this enthusiasm, recent patterns in Indonesia reveal a paradox: while start-up creation is accelerating, the failure rate remains high, with several well-known companies ceasing operations such as Zenius, JD.ID, Fabelio, and TaniHub (Suhartanto, 2024). This paradoxical situation presents a unique difficulty for aspiring entrepreneurs, particularly for those aiming to establish a start-up enterprise. This situation highlights the tension between high entrepreneurial interest and the fragility of new ventures.

The significance of this paradox becomes clearer when viewed globally. As shown in Table 1, Indonesia ranks among the top six countries with the highest number of start-up enterprises, demonstrating the scale of entrepreneurial activity but also highlighting the urgent need to understand why many ventures do not survive.

Table 1. Countries with the Highest Number of Start-up Enterprises Globally

Country	Number of Start-up Enterprises
United States	77,984
India	16,344
United Kingdom	7,077
Canada	3,875
Australia	2,795
Indonesia	2,562
Germany	2,422
France	1,642
Spain	1,490
Brazil	1,186

Source: Annur (2024)

Prior studies indicate that students' entrepreneurial inclinations are driven by enthusiasm to start businesses shortly after graduation (Bulin et al., 2022; Le & Tran, 2021), influenced by factors such as personal drive, family support, academic experience, and social elements (Cekule & Cekuls, 2022; Furdui et al., 2020; Prabandari et al., 2024). At the same time, youth face persistent barriers including limited business knowledge, financial constraints, and administrative obstacles (Bilewicz & Tsimayeu, 2021; Boldureanu et al., 2024). These challenges demonstrate why enhancing entrepreneurship education is critical for cultivating creativity, financial literacy, and self-efficacy (Nguyen & Nguyen, 2020).

Universities play a pivotal role in fostering entrepreneurial mindsets through curricula, incubation centers, and mentoring programs, which have been shown to positively influence students' entrepreneurial intentions (Febriyantoro, 2018; Meitriana et al., 2020). Students generally perceive

entrepreneurship courses as beneficial for building knowledge, self-efficacy, and enthusiasm for business (Budiman, 2023; Liu et al., 2022). Nonetheless, obstacles such as financial limitations and time management challenges remain (Budiman, 2023).

Within this context, several determinants are consistently highlighted as central to entrepreneurial intention. Perceived Behavioral Control (PBC) enhances confidence in entrepreneurial capabilities (Méndez-Gutiérrez et al., 2023; Sahinidis et al., 2019; Utami, 2017), while entrepreneurial commitment provides the perseverance needed to translate intention into action (A. Adam & Fayolle, 2015). Nascent Entrepreneurial Behavior (NEB) reflects exploratory activities such as attending seminars or drafting business plans, yet its impact on sustained intention remains contested (Cai et al., 2021). Despite extensive research globally, the interaction of these determinants remains underexplored in developing countries, especially within Indonesia's metropolitan university context. While much of the existing literature has been developed in Western or transition economies, there is still limited understanding of how these determinants interact in developing countries. This study addresses this gap by focusing on Indonesia's metropolitan university students, a population embedded in a vibrant but challenging entrepreneurial ecosystem.

The disparity between the eagerness of youth to establish start-up enterprises, which is fundamentally linked to entrepreneurship education, and the prevalence of start-ups that emerge and subsequently fail underscores the necessity for a more comprehensive investigation through this research. Moreover, the aforementioned explanations give rise to a series of inquiries, specifically whether entrepreneurship education, nascent entrepreneurial behavior, perceived behavioral control, and commitment significantly impact entrepreneurial intention. Accordingly, this study seeks to address the following research questions: How do entrepreneurship education, perceived behavioral control, commitment, and nascent entrepreneurial behavior influence entrepreneurial intention among urban university students? and Does commitment moderate the effect of entrepreneurship education on entrepreneurial intention? The novelty of this study lies in situating these relationships in the context of Indonesian urban students, thereby extending the Theory of Planned Behavior in a developing country setting. By doing so, the study contributes theoretically to clarifying how intention is formed and practically to informing universities and policymakers on how entrepreneurship education and support mechanisms can strengthen start-up sustainability.

Relationship between Variables and Hypothesis Development

Entrepreneurship education is typically defined as the cultivation of mindsets, skills, and practices essential for initiating a new firm (Neck & Corbett, 2018; Omer Attali & Yemini, 2017). The objective is to cultivate entrepreneurial competencies and favorable attitudes towards entrepreneurial conduct (Kuckertz, 2013), encompassing the formation of an entrepreneurial mentality, enhancement of knowledge and skills, augmentation of self-efficacy, and comprehension of entrepreneurial risks and opportunities. Entrepreneurial purpose is a fundamental concept in comprehending new business formation, defined as a cognitive condition preceding the initiation of a business (N.

Krueger, 2009). This desire focuses attention and action on the business notion, which influences organizational outcomes (Bird, 1988). Prior research has demonstrated a favorable correlation between entrepreneurship education and students' entrepreneurial intentions (Abdul Rani et al., 2019; Çera et al., 2021; Patricia & Silangen, 2016). Nonetheless, the intensity of this link fluctuates, as several research reveal minimal correlation (Bae et al., 2014). Entrepreneurship education affects entrepreneurial intention via mediating elements including entrepreneurial motivation (Hassan et al., 2021), inspiration, social networks, and the knowledge and skills learned (Thomas, 2022). Gender disparities exist, with males typically exhibiting greater entrepreneurial inclinations (Patricia & Silangen, 2016; Zhang et al., 2014). Entrepreneurship education exerts a more significant influence on entrepreneurial intention than regular business education (Bae et al., 2014). Consequently, a correlation exists between entrepreneurship education and the cultivation of entrepreneurial intention among students, leading to the formulation of the following hypothesis (H):

H1: Entrepreneurship education significantly affects entrepreneurial intention.

Nascent entrepreneurial behavior often encounters many challenges that can impede students, including insufficient knowledge and skills, psychological disposition, and resource scarcity. This aligns with the notion of embryonic entrepreneurial behavior. Nascent entrepreneurship behavior encompasses the activities and actions undertaken by individuals during the initial phases of establishing a new business, prior to its formal inception or operation (Krueger et al., 2000; Sequeira et al., 2007), which includes, in this context, the formulation of a business plan. Entrepreneurship education fosters emerging entrepreneurial behavior by modulating the effects of entrepreneurial passion and self-efficacy (Cai et al., 2021). Research indicates that entrepreneurship education influences students' views, perceived self-efficacy, and motivation to initiate a new firm, subsequently impacting entrepreneurial intents (Kazmi & Nábrádi, 2017). Specific educational approaches, including simulations, workshops, and courses, have been shown to enhance emerging entrepreneurship (Onjewu et al., 2021). Entrepreneurship education enhances attitudes, perceived behavioral control, and entrepreneurial goals, which modulate the impact on later venture formation behavior (Rauch & Hulsink, 2015). Furthermore, entrepreneurship education activities positively influence behavioral entrepreneurial attitudes, which moderate the connection between education and entrepreneurial goals (Cui & Bell, 2022). The relationship between the development of positive embryonic entrepreneurial behavior and the influence of entrepreneurship education establishes the following hypothesis:

H2: Entrepreneurship education significantly affects nascent entrepreneurial behavior.

In this study, commitment denotes entrepreneurial commitment, a multidimensional construct that influences the entrepreneurial process, encompassing strategic thinking, decision-making, and resource allocation (Ross, 1988). Entrepreneurial commitment fosters entrepreneurial character (Budiningsih et al., 2018) and goal persistence (De Clercq et al., 2009). Prior studies also demonstrate that entrepreneurship education (EE) enhances entrepreneurial commitment, motivation, and competence, thereby elevating

entrepreneurial intentions (Ekawarna et al., 2022; Hassan et al., 2021; Lv et al., 2021). While EE directly contributes to intention, its translation into concrete entrepreneurial intention may depend on students' level of commitment. From the perspective of the Theory of Planned Behavior (Ajzen, 2002), commitment can strengthen the stability and persistence of intention, serving as a boundary condition in the EE–EI link. Scholars have argued that commitment plays a role in bridging the intention–behavior gap and can act as a moderator in entrepreneurship models (A. Adam & Fayolle, 2015; Mei et al., 2022). Accordingly, it is reasonable to posit that students with higher commitment are more likely to internalize knowledge from EE into strong entrepreneurial intentions compared to those with lower commitment. Thus, we propose the following hypothesis:

H3: Commitment moderates the effect of entrepreneurship education on entrepreneurial intention.

Studies on emerging entrepreneurial behavior and purpose underscore the intricate interplay between individual and contextual elements. Social interactions, self-efficacy, and attitudes markedly affect entrepreneurial intention and fledgling entrepreneurial conduct (Sequeira et al., 2007; Vamvaka et al., 2020). Entrepreneurial intention is shaped by personal characteristics including self-efficacy, attitudes, and dark tetrad personality traits, with contextual circumstances (Cai et al., 2021; Silva et al., 2024; Vamvaka et al., 2020). The affective component of self-efficacy significantly forecasts entrepreneurial intention and emerging entrepreneurial action (Mwiya et al., 2019; Vamvaka et al., 2020). Social connections and environmental influences significantly impact entrepreneurial intention and fledgling entrepreneurial activity (Sequeira et al., 2007). Intention-based models, such as the Theory of Planned Behavior and Shapero's Entrepreneurial Event, have been employed to examine this link, with studies expanding from student populations to encompass budding entrepreneurs. Consequently, this link prompts this study to offer the subsequent hypothesis:

H4: Nascent entrepreneurship behavior significantly affects entrepreneurial intention.

The notion of perceived behavioral control within the theory of planned behavior has undergone multiple interpretations and implementations. A hierarchical model wherein perceived behavioral control encompasses self-efficacy and control (Ajzen, 2002). Perceived behavioral control has been demonstrated to enhance the prediction of intents and behaviors across many situations (Ajzen & Madden, 1986; Devellis et al., 1990). Individuals who perceive themselves as possessing the requisite means, abilities, and opportunities to initiate a business are likely to cultivate more robust intents to pursue this endeavor. Research by Valencia-Arias & Restrepo, 2020) indicates that perceived behavioral control affects students' entrepreneurial inclinations. Perceived behavioral control favorably affects students' entrepreneurial intents (Mustofa & Setiawan, 2022) and can mitigate the association between entrepreneurial enthusiasm and entrepreneurial intention (Kraiem et al., 2021). Moreover, perceived behavioral control is associated with entrepreneurial aspiration and intention (Saboor et al., 2020). Additional research has reinforced this association, revealing that internal locus of control, a pertinent

notion, enhances the intention-action relationship in entrepreneurship (Bernardus et al., 2020). This association compels this study to present the subsequent hypothesis:

H5: Perceived behavioral control significantly affects entrepreneurial intention

Studies indicate that commitment is crucial in connecting entrepreneurial intention with conduct (Adam, 2015; Adam & Fayolle, 2015). Dedicated individuals may encounter obstacles that hinder the fulfillment of their entrepreneurial ambitions. Research persists in examining aspects that connect intention and action, including resource accessibility, risk tolerance, and opportunity identification. A study indicated that entrepreneurial commitment correlates with the intention to act (Mei et al., 2022). Entrepreneurship education and family environment both positively impact entrepreneurial commitment and intention (Ekawarna et al., 2022). Consequently, in this instance, commitment is associated with entrepreneurial ambition; therefore, this study posits the following hypothesis:

H6: Commitment significantly affects entrepreneurial intention.

This study presents a research framework, illustrated in Figure 1, based on the aforementioned explanations of the relationship between variables and hypothesis formulation. This study has five paths with direct impacts and one path exhibiting a moderating effect.

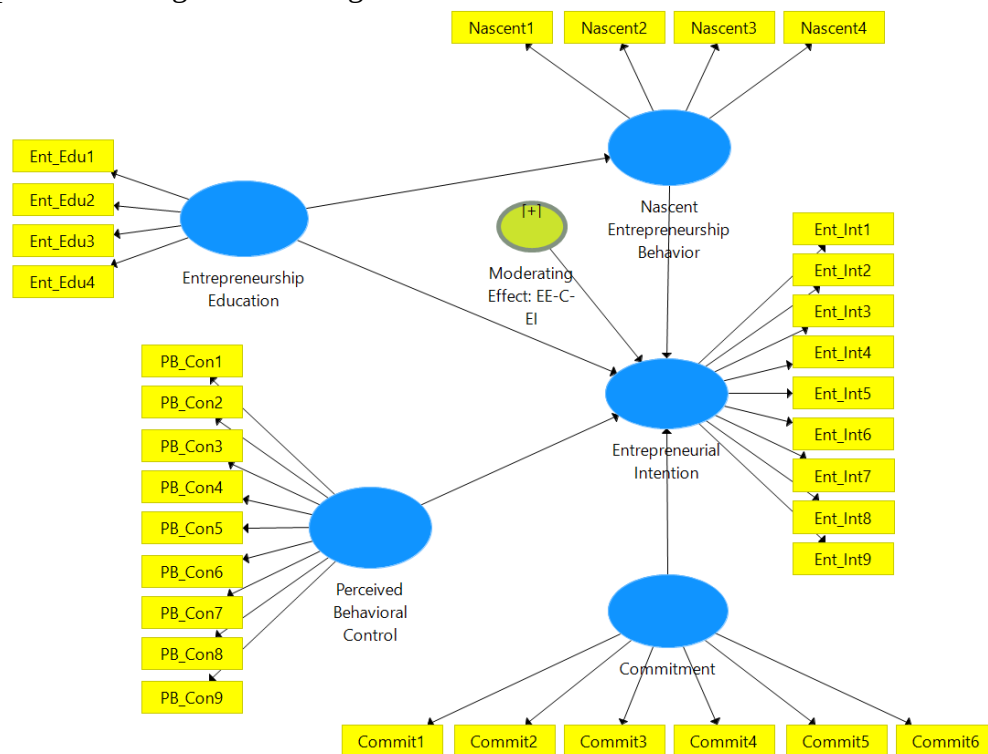


Figure. 1 Research Framework

RESEARCH METHOD

This study employed purposive sampling of university students located in the Jabodetabek metropolitan area (Jakarta, Bogor, Depok, Tangerang, and Bekasi). This region was selected not only for accessibility but because it

represents Indonesia's largest urban start-up ecosystem, with a high concentration of entrepreneurial hubs, incubators, and digital infrastructure. Participants were recruited via Google Forms disseminated through university mailing lists, WhatsApp academic groups, and classroom announcements coordinated with faculty members. While the focus on Jabodetabek strengthens the study's alignment with the urban start-up context, it may limit generalizability to students in non-urban settings; this is acknowledged as a study limitation.

The final sample consisted of 330 university students. In the initial planning, we applied the "10-times rule" proposed by Hair *et al.* (2021) and Kock and Hadaya (2018) as a heuristic, given the number of indicators and the maximum number of predictors pointing to an endogenous construct. However, recognizing the limitations of this rule, we additionally conducted an a priori power analysis using G*Power 3.1. With parameters set at a medium effect size ($f^2 = 0.15$), $\alpha = 0.05$, desired power = 0.95, and four predictors for the most complex endogenous construct, the required minimum sample size was 129 respondents. Our realized sample of 330 students therefore exceeds the minimum threshold, ensuring sufficient statistical power for the PLS-SEM analysis. As a robustness check, we also note that alternative PLS-SEM sample-size procedures (e.g., distribution-free approximations) would set a similar or lower bound given our model complexity, further supporting the adequacy of $N = 330$.

This modeling facilitates iterative processes and elucidates causal links within the model pathway (Christian *et al.*, 2023; Sarstedt *et al.*, 2021). This study employs SmartPLS 3.0 for analysis. This instrument facilitates the analysis of intricate causal linkages despite constrained sample sizes (Benitez *et al.*, 2020; Christian *et al.*, 2021; Willaby *et al.*, 2015; Wolf *et al.*, 2013). This study employs a variety of studies utilizing existing provisions. This study's reliability test relies on composite reliability (CR) and Cronbach's alpha (CA), with values need to exceed 0.7. This study's validity test relies on the average variance extracted (AVE), which must above 0.5, and the outer loading (OL), which must surpass 0.7. Furthermore, the validity assessment in this study relies on the heterotrait-monotrait ratio (HTMT), which must yield a value below 0.9 (Ekaimi *et al.*, 2024; Hsu *et al.*, 2023). Items that fail to meet the standards will undergo an elimination procedure. This study employs P-value results to evaluate the hypothesis, requiring a value of less than 0.05 for support.

All constructs were measured using validated scales from prior studies (Table 2). This study employed 33 items derived from prior research, including 10 items for assessing entrepreneurial intention, 4 items for evaluating entrepreneurship education, 9 items for measuring perceived behavioral control, 6 items for gauging commitment, and 4 items for examining nascent entrepreneurship. For the questionnaire delivered to participants, the items were translated into Indonesian with likert Scale 1-5. A pilot test from the target population confirmed clarity and cultural relevance for all constructs. As for ethical approval, the study was conducted with voluntary participation, and all responses were kept anonymous.

Table 2. Operational Variables

Variable	Item
Entrepreneurial Intention (Kolvereid & Isaksen, 2006; Liñán & Chen, 2009; Sherkat & Chenari, 2022; Vamvaka et al., 2020)	Willingness to pursue entrepreneurship.
	Attaining entrepreneurship is a professional objective to be realized.
	Exerting significant effort to establish your own enterprise.
	Possessing the resolve to establish a corporation in the future.
	Contemplating the establishment of a corporation.
	Harboring a resolute goal to establish a corporation in the future.
	Choosing to establish your own enterprise instead of being employed by another individual for a substantial wage.
	Choosing to establish your own enterprise instead of following a lucrative job path.
	Prepared to make significant sacrifices to ensure future business survival.
	Eager to initially work in an environment to acquire knowledge or skills for future entrepreneurial endeavors.
Entrepreneurship Education (Dabbous & Boustani, 2023; Liñán & Chen, 2009; Misoska et al., 2016)	The college's instructional method fosters the development of knowledge regarding the entrepreneurial landscape.
	The college's instructional structure fosters the generation of innovative business concepts and the identification of opportunities.
	The college's instructional method facilitates the development of skills essential for entrepreneurship.
	The college's educational system facilitates the development of abilities necessary for future business management.
	I could effortlessly establish and maintain a corporation.
Perceived Behavioral Control (Autio et al., 2001; Kolvereid, 1996; Liñán & Chen, 2009; Vamvaka et al., 2020)	I could effortlessly become an entrepreneur if I choose.
	I would likely have a favorable opportunity for success if I endeavored to establish a business.
	I possess the competencies and capabilities necessary for entrepreneurial success.
	I am assured of my potential success in establishing my own company.
	I am assured in my ability to establish and sustain a company.
	I believe I would effectively manage the process of establishing a new company.
Commitment	I believe few external factors will impede my pursuit of entrepreneurship.
	As an entrepreneur, I shall exert total control over circumstances beyond my influence.
	My career objective is to become an entrepreneur.
	I will endeavor to establish and manage my own

Variable	Item
(Liñán & Chen, 2009; Thompson, 2009; van Gelderen et al., 2008)	enterprise. Resolute in the intention to establish a company in the future. Contemplating the establishment of a corporation with utmost seriousness. It is highly probable that I will establish my own company in the future. I intend to establish my own business in the future.
Nascent entrepreneurship (McGee et al., 2009; Thompson, 2009)	Peruse literature on entrepreneurship. Dedicate time to acquiring knowledge about business initiation. Participate in seminars and conferences centered on entrepreneurial company strategy. Engage in workshops centered on the development of a business plan.

RESULTS AND DISCUSSION

This study included participants from many backgrounds, as evidenced by the distribution of participant profiles in Table 3. The study's participants were predominantly female, at nearly 57%, while males constituted less than 44%. The majority of participants in this study were aged 19 to 20, comprising almost 55% of the total. Moreover, regarding educational background, the survey predominantly comprised undergraduate participants, accounting for nearly 76%, followed by those at the diploma level, who constituted over 25%. The participants in this study predominantly originated from communication science degrees, comprising nearly 38%, followed by tax accounting at around 31%, and management at nearly 28%. The study's participants were primarily distributed across numerous major cities, with Tangerang comprising about 35% and Jakarta accounting for approximately 33%.

Table 3. Distribution of participant profiles

Profile	Frequency	%
Gender		
Female	188	56.97%
Male	142	43.03%
Age		
17-18	74	22.42%
19-20	186	56.36%
21-22	70	21.21%
Education level		
Diploma	81	24.55%
Bachelor	249	75.45%

Profile	Frequency	%
Study program		
Management	91	27.58%
Tax accounting	101	30.61%
Economic sustainability	3	0.91%
Communication studies	124	37.58%
Law	11	3.33%
College location		
Jakarta	108	32.73%
Bogor	67	20.30%
Bekasi	41	12.42%
Tangerang	114	34.55%

PLS-algorithm

The outcomes of the PLS-algorithm procedure, illustrated in Table 4, display the findings of various tests performed in this study. This study employs the CA and CR results for the reliability test, demonstrating that all items related to commitment, entrepreneurial intention, entrepreneurship education, nascent entrepreneurship behavior, and perceived behavioral control variables satisfy the necessary criteria, thereby confirming the reliability of the items within the commitment variable. Additionally, the validity assessment in this work employs the outcomes of OL. The results indicate that all submitted items meet the necessary criteria, hence confirming their validity. The validity assessment in this study is also evaluated based on the AVE results. All variables in this study are deemed valid based on the acquired results. The validity assessment in this study is also evaluated based on the HTMT results. The results indicate that all variables in this study satisfy the criteria for validity.

Table 4. PLS-algorithm

Construct	Item	OL	CA	CR	AVE	HTMT			
						C	EI	EE	NEB
Commitment	Commit1	0.821							
	Commit2	0.911							
	Commit3	0.887							
	Commit4	0.850	0.935	0.949	0.755	-	-	-	-
	Commit5	0.873							
	Commit6	0.869							
Entrepreneurial Intention	Ent_Int1	0.788							
	Ent_Int2	0.870							
	Ent_Int3	0.859							
	Ent_Int4	0.872	0.933	0.946	0.716	0.827	-	-	
	Ent_Int5	0.891							
	Ent_Int6	0.893							
Entrepreneurship Education	Ent_Int9	0.740							
	Ent_Edu1	0.885							
	Ent_Edu2	0.896							
	Ent_Edu3	0.912	0.921	0.944	0.809	0.547	0.567	-	-
Nascent Entrepreneurship	Ent_Edu4	0.903							
	Nascent1	0.877	0.916	0.941	0.799	0.640	0.594	0.488	-
	Nascent2	0.875							

Construct	Item	OL	CA	CR	AVE	HTMT			
						C	EI	EE	NEB
rship	Nascent3	0.901							
Behavior	Nascent4	0.922							
Perceived	PB_Con1	0.732							
Behavioral	PB_Con2	0.754							
Control	PB_Con3	0.754							
	PB_Con4	0.802							
	PB_Con5	0.852	0.920	0.934	0.611	0.748	0.724	0.601	0.724
	PB_Con6	0.856							
	PB_Con7	0.840							
	PB_Con8	0.724							
	PB_Con9	0.703							

*OL = Outer loading (>0.7); CA = Cronbach's alpha (>0.7); CR = Composite reliability (>0.7); HTMT = Heterotrait monotrait ratio (<0.9) C = Commitment; EI = Entrepreneurial Intention; EE = Entrepreneurship Education; NEB = Nascent Entrepreneurship Behavior.

This study presents the coefficient of determination results based on the R-square values displayed in Table 5. The results indicate that the R-square value for entrepreneurial intention is 0.647. This figure illustrates that the variables of entrepreneurial education, perceived behavioral control, embryonic entrepreneurship activity, and commitment account for 64.7% of the variance in entrepreneurial intention. Moreover, the R-squared value for nascent entrepreneurship activity is 0.204. This chart indicates that the entrepreneurial education variable accounts for 20.4% of the variance in nascent entrepreneurship behavior.

Table 5. R-Square

Variable	R-square
Entrepreneurial Intention	0.647
Nascent Entrepreneurship Behavior	0.204

This study elucidates the hypothesis test results based on the path coefficients presented in Table 6. The P-value for the EE → EI path is 0.018, which is below the 0.05 threshold required to substantiate a hypothesis. Consequently, it can be articulated that hypothesis 1 is supported, indicating that entrepreneurship education substantially affects entrepreneurial intention. Moreover, throughout the EE → NEB trajectory, the P-value is recorded as 0.000, indicating support for hypothesis 2. This study elucidates that entrepreneurship education substantially impacts embryonic entrepreneurial behavior. The subsequent outcome in this investigation is observed from the EE → *C* → EI pathway, where the P-value is 0.140, exceeding 0.05. The results indicate that dedication in this study does not influence the effect of entrepreneurship education on entrepreneurial intention. This study does not support hypothesis 3. Similar to the NEB → EI pathway, the P-value similarly exceeds 0.05. This outcome indicates that embryonic entrepreneurship activity does not have a substantial impact on entrepreneurial intention; thus, hypothesis 4 is not supported in this study. Other results, such as the PBC → EI path, demonstrate a P-value of 0.000, indicating that perceived behavioral control strongly influences entrepreneurial intention. This study supports hypothesis 5. Additionally, in the C → EI pathway, the P-value is below 0.05,

indicating that commitment significantly influences entrepreneurial intention. This study supports hypothesis 6.

Table 6. Path Coefficients

Path	OS	T Statistics	P Values	Remark
EE → EI	0.118	2.366	0.018	H1: supported
EE → NEB	0.451	9.74	0.000	H2: supported
EE → *C* → EI	-0.039	1.477	0.140	H3: not supported
NEB → EI	0.043	0.968	0.334	H4: not supported
PBC → EI	0.204	3.528	0.000	H5: supported
C → EI	0.536	9.996	0.000	H6: supported

This study examined the determinants of entrepreneurial intention among urban university students in Indonesia, with a particular focus on entrepreneurship education, perceived behavioral control, commitment, and nascent entrepreneurial behavior. The results provide both confirmations of established theoretical expectations and novel insights through non-significant findings.

The finding that EE significantly enhances EI is consistent with prior literature emphasizing the role of education in equipping students with entrepreneurial knowledge, skills, and motivation (Ekawarna et al., 2022; Hassan et al., 2021; Lv et al., 2021). Within the Theory of Planned Behavior, EE contributes indirectly by shaping attitudes and perceived control, which in turn foster stronger intentions. In the Indonesian urban context, where universities in Jabodetabek actively promote entrepreneurship through incubators, mentoring, and curricular programs (Budiman, 2023; Naqvi et al., 2023), the strong link between EE and EI demonstrates the importance of institutional support. This aligns with prior evidence that entrepreneurship courses and experiential learning opportunities play a critical role in transforming students' aspirations into concrete entrepreneurial plans (Petrescu et al., 2022; Portuguese Castro & Gómez Zermeño, 2021).

The significant positive influence of PBC on EI further confirms TPB predictions (Ajzen, 2002) and echoes previous studies showing that students' sense of efficacy and control strongly predicts their entrepreneurial choices (Méndez-Gutiérrez et al., 2023; Sahinidis et al., 2019; Utami, 2017). In developing-country contexts, PBC can be particularly salient, as students who believe they can mobilize resources and overcome structural barriers are more likely to sustain entrepreneurial intentions despite environmental uncertainties. The results suggest that enhancing students' self-efficacy and perceived capability through EE can reinforce their entrepreneurial mindset.

Contrary to expectations, the moderating role of commitment was not significant. While prior studies argued that commitment fosters entrepreneurial persistence and strengthens goal attainment (Budiningsih et al., 2018; De Clercq et al., 2009), this study suggests that commitment may not amplify the EE–EI relationship. One explanation is theoretical: in the TPB framework, commitment is not explicitly modeled as a moderator but is rather associated with the stability of intention and the transition from intention to behavior (A. Adam & Fayolle, 2015). In this sense, commitment may be more effective in

bridging the *intention-behavior gap* rather than reinforcing the formation of intention itself. Another explanation may lie in the Indonesian urban student context: students already benefit from strong exposure to EE, so the marginal effect of commitment is limited. Students with varying levels of commitment may still develop entrepreneurial intentions when supported by robust educational infrastructures, mentorship, and peer networks (Bakar et al., 2022; Khan & Khan, 2023). This finding highlights that commitment might play a stronger role at later stages of entrepreneurship (e.g., sustaining efforts during venture creation) rather than in the earlier phase of intention development.

Similarly, the hypothesized effect of NEB on EI was not supported. This result is important because it clarifies theoretical boundaries. In TPB, behavior follows intention rather than preceding it (Ajzen, 2002). NEB reflects exploratory and preparatory actions such as attending workshops or drafting business plans (L. Cai et al., 2021), which may not necessarily translate into strong entrepreneurial intentions. These behaviors are often trial-based and exploratory, reflecting curiosity rather than a firm decision to start a venture (Širec & Huđek, 2023). In other words, students may engage in nascent behaviors without fully committing to entrepreneurship as a career path, which explains why NEB did not significantly predict EI in this study. This finding complements earlier evidence that financial and operational challenges, as well as lack of confidence, may weaken the link between exploratory action and actual entrepreneurial decision-making (Fatoki & Chindoga, 2011; Ooi & Ahmad, 2012).

The most novel contributions of this study lie not in confirming the established effects of EE and PBC but in clarifying the boundary conditions where expected relationships did not hold. Specifically, (1) entrepreneurial commitment did not strengthen the EE–EI pathway, and (2) nascent entrepreneurial behavior did not enhance EI. These findings refine existing knowledge by showing that, in a developing-country context such as Indonesia, commitment and exploratory behaviors may not directly influence intention formation but instead may operate more strongly in later phases of the entrepreneurial process. This provides a modest but meaningful refinement to existing models, suggesting that in urban Indonesian universities, what matters most for intention formation are knowledge-based (EE) and self-efficacy-related (PBC) factors, whereas commitment and NEB may exert influence later in the entrepreneurial process. Thus, this study contributes to clarifying the boundary conditions of the Theory of Planned Behavior in a developing-country setting. While EE and PBC remain robust predictors of entrepreneurial intention, NEB and commitment appear to play weaker roles in the early stage of intention formation, highlighting the importance of contextualizing entrepreneurial models within the realities of Indonesia's urban student population.

In practical terms, this suggests that policymakers and educators in Indonesia should not only provide EE but also develop mechanisms to ensure that exploratory behaviors translate into sustainable commitment and eventual venture creation. For theory, the study demonstrates the need to differentiate between preparatory behaviors and genuine entrepreneurial decision-making,

offering a modest but meaningful refinement to intention-based models in entrepreneurship research.

CONCLUSION

This study addressed the paradox in the Indonesian entrepreneurial ecosystem: despite strong enthusiasm among urban university students for entrepreneurship, many start-ups fail to sustain operations. By examining entrepreneurship education, perceived behavioral control, commitment, and nascent entrepreneurial behavior as determinants of entrepreneurial intention), the study provides new insights into the antecedents of students' entrepreneurial aspirations. The results confirm that both EE and PBC significantly strengthen entrepreneurial intention, underscoring the role of structured learning and self-efficacy in shaping students' entrepreneurial mindset. However, the non-significant findings are equally important: commitment did not moderate the EE–EI relationship, and NEB did not significantly predict EI. These findings suggest that while education and perceived control directly foster intention, exploratory behaviors and commitment may operate more strongly at later stages of venture creation rather than during the initial intention-forming process. As the theoretical contributions, the findings extend the Theory of Planned Behavior by clarifying boundary conditions in the Indonesian context. They highlight that EE and PBC remain robust predictors of intention, but commitment and NEB—although conceptually relevant—may not reinforce intention formation directly. This provides a more nuanced understanding of how entrepreneurial processes unfold in developing-country, urban student populations. For universities, the findings underline the need to move beyond classroom-based entrepreneurship education and provide concrete experiential opportunities. First, curricula should integrate project-based and simulation-based modules that allow students to practice entrepreneurial decision-making in a controlled environment. Second, universities should strengthen mentoring and incubation programs by partnering with industry and local start-up communities, ensuring that students have access to networks, resources, and real-world feedback. Third, targeted financial mechanisms such as start-up grants, student business competitions, or seed-funding schemes should be institutionalized to help students translate intentions into ventures. Finally, embedding entrepreneurial role models—such as successful alumni or local entrepreneurs—into the teaching process can help reinforce confidence and motivation among students. These strategies are particularly relevant in the Indonesian urban context, where universities are expected to serve as both educational and ecosystem hubs for entrepreneurial growth.

Meanwhile, for the limitations and future research, the study's purposive sampling in Jabodetabek provides contextual relevance but limits generalizability to non-urban student populations. The cross-sectional design and self-report data raise the possibility of common method bias, which future research should address with longitudinal or multi-source designs. Moreover, additional constructs—such as social influence, resilience, or institutional support—could enrich the understanding of how entrepreneurial intention

develops. Despite these limitations, the study offers meaningful insights into how entrepreneurial education and control perceptions influence intention, while revealing boundary conditions where commitment and nascent behaviors may not directly strengthen intention. Moreover, because the sample was drawn from urban students in the Jabodetabek region, the non-significance of NEB may partly reflect the abundance of exploratory opportunities in metropolitan areas, such as workshops, competitions, and incubators. These conditions may differ significantly in rural or less developed regions, suggesting that future research should compare diverse contexts to validate and extend these findings.

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