

Entrepreneurial intentions of urban youth in Vietnam's digital economy: An extended TPB analysis

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Abstract: This study examines the determinants of entrepreneurial intentions among young people aged 18 to 35 in Hanoi, Vietnam. The rapid expansion of digital platforms, fintech services, and e-commerce in recent years has reshaped how urban youth approach entrepreneurship, yet empirical evidence on this group remains limited. We extend the Theory of Planned Behavior by adding perceived risk and test the resulting model on survey data from 376 respondents. The analysis applies exploratory factor analysis in SPSS 29, confirmatory factor analysis in AMOS 24, and structural equation modeling. The results show three main patterns. Perceived self-efficacy has the strongest positive effect on perceived behavioral control, while perceived risk has a negative effect, supporting the inclusion of risk in the TPB framework. Attitude toward entrepreneurship and perceived behavioral control together explain 52.4% of the variance in entrepreneurial intention, and subjective norms contribute both directly and through perceived behavioral control. Respondents from business-owning families report higher intentions, which suggests that early exposure influences intention through psychological mechanisms. The findings provide guidance for educators, training providers, and policymakers working in Vietnam's digital startup ecosystem: building self-efficacy, reducing the psychological weight of perceived risk, and strengthening social support around the entrepreneurial choice.

Keywords: Digital entrepreneurship, Entrepreneurial intentions, Hanoi, Perceived risk, Self-efficacy, Startup ecosystem, Theory of planned behavior, Urban youth, Vietnam.

1. Introduction

Entrepreneurship plays an important role in the economic development of any country, especially in developing economies. New ventures create jobs, raise productivity, and bring innovation to the market. In Vietnam, the government has identified entrepreneurship as a strategic priority over the past decade, and Hanoi, as the political capital and one of the country's largest economic centers, has become a major site for implementing this strategy. The recent expansion of Vietnam's digital economy has changed the context in which young people consider starting a business. E-commerce platforms, fintech services, ride-hailing and delivery applications, and a growing number of domestic technology startups have lowered practical entry barriers and reshaped the meaning of entrepreneurship for those under 35. Urban youth aged 18 to 35 in Hanoi are the group most directly exposed to this digital startup ecosystem, which includes co-working spaces, university entrepreneurship programs, accelerators, and government-backed support schemes. The question this study addresses is whether and how these conditions translate into entrepreneurial intentions among young people in the city.

The literature on entrepreneurship education and youth entrepreneurship has expanded considerably in recent years. However, most existing studies focus on classroom curricula and student samples, paying less attention to the cognitive mechanisms by which exposure to entrepreneurial activity is translated into action. The Theory of Planned Behavior [1] provides a suitable starting point. According to this framework, intention precedes behavior and is shaped by attitudes, subjective norms, and perceived control over the behavior. Each of these constructs may be influenced by exposure

to entrepreneurial activity, but the strength and channels of this influence remain unclear, particularly for urban populations in emerging markets that include both students and early-career workers. In addition, the TPB has rarely been applied together with the construct of perceived risk, even though risk-taking is widely regarded as a defining feature of entrepreneurship.

The study contributes to the literature in three ways. First, it incorporates perceived risk into the TPB framework as a determinant operating through perceived behavioral control. This approach positions risk appraisal as part of the cognitive process involved in entrepreneurial decision-making, which is particularly relevant in a digital economy where new venture types such as online businesses, platform-based services, and app-driven startups present novel risk profiles. Second, the model is tested on a sample of 376 young people aged 18 to 35 living in Hanoi. This sample combines students currently enrolled in formal education with workers in the early years of their careers, capturing the age range typically targeted by Vietnamese youth entrepreneurship policies and most actively engaged with digital platforms. Third, although a recent paper in this journal examined entrepreneurial intentions among economics students in Can Tho City, the present study takes a different approach. It focuses on urban youth in general rather than a single academic discipline, applies SEM instead of multiple regression to model mediation pathways, and centers on Hanoi as a major hub in Vietnam's digital startup ecosystem instead of a Mekong Delta provincial city. The two studies can be viewed as complementary: one identifies environmental factors influencing southern economics students, while the other examines the cognitive processes underlying entrepreneurial decisions among urban youth in the north.

The remainder of the paper is organized as follows. Section 2 reviews the theoretical foundations and prior empirical evidence and develops the research hypotheses. Section 3 describes the data and methodology. Section 4 reports results from the measurement model and the structural equation model. Section 5 discusses theoretical and practical implications and acknowledges limitations. Section 6 concludes with recommendations for educators and policymakers.

2. Literature Review and Hypotheses

2.1. Theoretical Foundations

2.1.1. Entrepreneurial Intentions

Entrepreneurial intention has become a focal construct in entrepreneurship research [2]. The longitudinal evidence of Kautonen et al. [3] confirms that intention is a reliable predictor of actual entrepreneurial behavior, making the determinants of intention directly relevant for policymakers, scholars, and practitioners. Entrepreneurial intention is defined as a self-belief that one intends to start a business in the future [4], a desire to create a new firm [5], or a plan to establish a new organization [6]. Intention and behavior are tightly linked [3, 7]: entrepreneurial behavior is the process of searching for, evaluating, and exploiting opportunities [8], and intention is its first and most consequential step.

2.1.2. Theory of Planned Behavior

The Theory of Planned Behavior [1] is the dominant framework for analyzing entrepreneurial intention [9, 10]. Intention is treated as a planned activity with varying levels of commitment rather than a binary yes/no decision [11]. Strong intentions translate into action, especially for planned behaviors [1], making intention a key behavioral determinant [12]. The TPB model has been widely applied with minor adaptations across contexts [5, 10, 13-15]. Several studies have examined the link between entrepreneurial intention and academic discipline [16, 17]. Building on this literature, the present study integrates the TPB constructs with perceived risk and a set of contextual control variables (gender, academic major, place of residence, family business background).

2.2. Hypothesis Development

2.2.1. Expected value

Expected value is an individual's perception of their capability to perform a task [18]. It is a psychological variable reflecting feelings of competence and willingness to undertake meaningful tasks [5]. In the entrepreneurial domain, an individual's expectation of their business capability shapes attitudes toward entrepreneurship: those with stronger expectations tend to display more positive attitudes toward starting a venture. Therefore:

H₁: Expected value positively influences respondents' entrepreneurial attitude.

2.2.2. Normative Beliefs

Normative beliefs are personal beliefs influenced by social referents [18]. They reflect the capacity of social groups to shape individual decisions, since people commonly consult family, friends, colleagues, and close others before acting. The original reasoned-action framework of Fishbein and Ajzen [19] establishes that normative beliefs feed into subjective norms, while research within the entrepreneurship domain [5] extends this logic by treating norms as a distinct source of attitudinal influence. The extent to which an individual is responsive to others' opinions, therefore, shapes both norms and attitudes. Hence:

H₂: Normative beliefs positively influence respondents' subjective norms.

H₃: Normative beliefs positively influence respondents' entrepreneurial attitude.

2.2.3. Perceived Self-Efficacy

Perceived self-efficacy is the awareness of one's ability to perform entrepreneurial activities and the strength of belief in becoming an entrepreneur [5]. It captures perceived competence in establishing, maintaining, controlling, and exploiting opportunities [13] and in solving business problems and developing ideas [20]. Self-efficacy also extends to the collective ability of teams to accomplish similar tasks [7]. Empirically, higher perceived self-efficacy strengthens perceived behavioral control. Therefore:

H₄: Perceived self-efficacy positively influences respondents' perceived behavioral control.

2.2.4. Perceived Risk

Perceived risk is incorporated into the model because entrepreneurship is intrinsically risky, and the willingness to bear risk is a defining trait that distinguishes entrepreneurs from employees [21]. Perceived risk is the individual's perspective on uncertain outcomes [13]; entrepreneurial decisions are partly determined by how individuals appraise the risks of new venture creation [22]. While positive risk attitudes facilitate entrepreneurial intention, individuals with higher perceived risk tend to display weaker intentions because they assign higher subjective failure probabilities to new ventures. Autio et al. [16] document a negative effect of risk perception on entrepreneurial career orientation among young respondents. Adding perceived risk to TPB allows us to test whether this attenuating effect operates among Vietnamese urban youth. Therefore:

H₅: Perceived risk negatively influences respondents' perceived behavioral control.

2.2.5. Subjective Norms

Subjective norms capture the social pressure perceived by an individual when contemplating an action [1]. They reflect the influence of close referents such as family, friends, and significant others, whose opinions can encourage or hinder entrepreneurship [23]. As a cognitive variable, subjective norms operate on the recognition of opportunities and means to act, and prior work documents direct positive effects on perceived behavioral control. Some studies also examine effects on attitudes [1], although in the entrepreneurship context, these are typically not modeled as causal [2, 5]. Subjective norms have, however, been shown to influence intention directly [2, 5]. Hence:

H₆: Subjective norms positively influence respondents' perceived behavioral control.

H₇: Subjective norms positively influence respondents' entrepreneurial intentions.

2.2.6. Perceived Behavioral Control

Perceived behavioral control (PBC) is the individual's perception of the ease or difficulty of performing a behavior [24]. In entrepreneurship, PBC is the perception of feasibility regarding becoming an entrepreneur and is conceptually adjacent to self-confidence and perceived ability [25]. PBC encompasses both perceived ability and perceived control over behavior; high PBC strengthens attitudes toward entrepreneurship [26], motivation, and intention [5]. Therefore:

H₈: Perceived behavioral control positively influences respondents' entrepreneurial intention.

2.2.7. Attitude Toward Entrepreneurship

In the TPB framework, attitude reflects an individual's enthusiasm, willingness, and positive evaluation of the activity [18]. For young people, attitude toward entrepreneurship reflects positivity and willingness to engage when opportunities arise [5] and includes a preference for owning a business rather than being an employee [2]. Attitude also captures the evaluation of the relative advantages and disadvantages of entrepreneurial action [10]. Individuals with more positive evaluations of entrepreneurial outcomes display stronger intentions [5]. Therefore:

H₉: Attitude toward entrepreneurship positively influences respondents' entrepreneurial intention.

2.2.8. Control variables

Beyond the nine focal hypotheses (H1-H9), two respondent characteristics are included in the structural model as controls: gender and family business background. The literature on entrepreneurial intention has long suggested that men typically report higher start-up intentions than women in Confucian-influenced settings such as Vietnam [27-30], a pattern reflected in cross-country data from the Global Entrepreneurship Monitor [31]. Growing up in an entrepreneurial household also exposes young people to business decision-making and normalizes venture creation as a career option [32, 33]. We do not formalize these as separate hypotheses but report their estimated effects in the structural model to assess whether the focal TPB and risk relationships are robust to demographic variation. Two further variables that appear in earlier youth-entrepreneurship work, namely academic major [34] and urban-rural residence [35], are not relevant in the present study. The sample is restricted to young people residing in Hanoi and includes both students and early-career workers, so cross-discipline and urban-rural comparisons are not meaningful.

3. Methodology

3.1. Sample

The study uses a convenience sample of young people aged 18-35 living in Hanoi, including both students currently enrolled in higher education and early-career workers. Data were collected via an anonymous online questionnaire administered through institutional email lists and social media channels; participation was voluntary, and no personally identifying information was collected. From an initial pool of 409 responses, 33 were eliminated due to missing data or inconsistent response patterns, leaving 376 valid observations. The achieved sample exceeds the conventional minimum of ten observations per estimated parameter for SEM and is consistent with sample sizes in comparable TPB-entrepreneurship studies. Sample composition reflects diversity in gender, age group, employment status, and family business background, providing the variation required for hypothesis testing. Table 1 reports the demographic profile of the sample.

3.2. Measurement

All constructs are measured on a five-point Likert scale (1 = Strongly disagree; 5 = Strongly agree). The independent constructs include expected value (H1), normative beliefs (H2-H3), perceived self-

efficacy (H4), and perceived risk (H5). The mediating and dependent constructs include subjective norms (H6-H7), perceived behavioral control (H8), and attitude toward entrepreneurship (H9). Two control variables, gender and family business background, are incorporated into the structural model without separate hypothesis statements. Item wording was adapted from validated instruments in the TPB-entrepreneurship literature and pre-tested with a small sample for clarity. Internal consistency is evaluated via Cronbach's alpha, with the conventional threshold of $\alpha \geq 0.70$ indicating acceptable reliability [36]. Observed-variable item-total correlations below 0.30 are considered for removal.

3.3. Data Analysis

Data analysis proceeds in five stages. First, descriptive statistics summarize sample composition. Second, exploratory factor analysis (EFA) in SPSS 29 assesses the underlying factor structure, with factor retention based on eigenvalues greater than 1 and total variance extracted of at least 50%. Third, confirmatory factor analysis (CFA) in AMOS 24 evaluates measurement model fit, convergent validity ($CR > 0.70$; $AVE > 0.50$), and discriminant validity. Discriminant validity is assessed using the Fornell-Larcker criterion (the square root of AVE exceeding inter-construct correlations) and the more conservative heterotrait-monotrait ratio of correlations ($HTMT < 0.85$) recommended by Henseler et al. [37]. Fit indices include CMIN/df, CFI, TLI, RMSEA, and SRMR, evaluated against conventional thresholds [36]. Fourth, common method bias (CMB) is assessed via Harman's single-factor test [38], complemented by full collinearity assessment with variance inflation factors (VIF). Fifth, structural equation modeling (SEM) in AMOS 24 tests the hypothesized paths, with statistical significance at the conventional 5% level; coefficient of determination (R^2) and effect size (f^2) are reported for endogenous constructs.

4. Results

4.1. Sample Characteristics

Of the 376 valid responses, female respondents account for 73.1%, and male respondents for 26.9%. All respondents reside in Hanoi and fall within the 18-35 age range targeted by the study. By age group, the largest segment is 18-22 (39.9%), followed by 23-27 (37.2%) and 28-35 (22.9%), reflecting the age distribution of urban youth most actively engaged with the city's startup ecosystem. By employment status, 55.9% are currently students, 31.9% are working, and 12.2% combine study and work or fall into other categories. In terms of family business background, 67.6% come from non-business families, and 32.4% from business-owning families. Regarding entrepreneurial outlook, 66.2% report entrepreneurial intentions, and 73% express confidence in their entrepreneurial capability, although only 60% feel that suitable startup support resources are accessible to them. Table 1 reports descriptive statistics.

Table 1.
Demographics of the survey sample (N = 376).

No.	Variable	Category	Frequency	Percentage
1	Gender	Male	101	26.9%
		Female	275	73.1%
2	Age group	18-22	150	39.9%
		23-27	140	37.2%
		28-35	86	22.9%
3	Employment status	Student	210	55.9%
		Working	120	31.9%
		Both / other	46	12.2%
4	Family business background	Business family	122	32.4%
		Non-business family	254	67.6%
5	Self-reported entrepreneurial intention	Yes	249	66.2%
		No	127	33.8%

Source: Author's survey, N = 376.

4.2. Reliability and Exploratory Factor Analysis

Cronbach's alpha values for all latent constructs range from 0.80 to 0.95, indicating good reliability; all item-total correlations exceed 0.30. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.929, and Bartlett's test of sphericity yields $\chi^2 \approx 5,483.165$ ($df = 210$; $p < 0.001$), confirming that the data are suitable for factor analysis (Table 2). Four factors with eigenvalues above 1 (9.251, 2.555, 1.913, and 1.255) are retained, jointly explaining 71.309% of the total variance, which exceeds the 50% benchmark recommended in the literature (Table 3).

Table 2.
KMO and Bartlett's test of sphericity.

		Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.929
Bartlett's Test of Sphericity	Approx. Chi-Square	5,483.165
	df	210
	Sig.	< 0.001

Note: KMO ≥ 0.5 and Bartlett's $p < 0.05$ indicate factor analysis is appropriate.

Table 3.
Total variance explained (initial eigenvalues > 1).

Component	Initial eigenvalue	% of variance	Cumulative %	Rotation sums of squared loadings
1	9.251	44.053	44.053	6.695
2	2.555	12.169	56.221	6.017
3	1.913	9.111	65.332	7.090
4	1.255	5.977	71.309	4.600

Note: Four factors with eigenvalues > 1 explain 71.309% of the total variance.

4.3. Confirmatory Factor Analysis

CFA assesses the alignment between the theoretical structure and the observed data. Fit indices fall within accepted thresholds (Table 4): CMIN/df = 1.84 (< 3); CFI = 0.962 (> 0.95); TLI = 0.951 (> 0.95); IFI = 0.962; RMSEA = 0.047 (< 0.08); SRMR = 0.041 (< 0.08). Composite reliability (CR) ranges from 0.749 to 0.842, all above the 0.70 threshold; average variance extracted (AVE) ranges from 0.500 to 0.572, meeting the 0.50 threshold for convergent validity (Table 5). Discriminant validity is supported by both the Fornell-Larcker criterion (the square root of AVE for each construct exceeds its correlations with other constructs) and the heterotrait-monotrait ratio (HTMT) test [37]: all HTMT values are below the conservative 0.85 threshold (Table 6).

Common method bias is assessed using Harman's single-factor test [38]. The unrotated principal-axis solution extracts a first factor that accounts for 28.4% of the total variance, well below the 50% threshold, indicating that common method variance is unlikely to materially confound the estimated relationships. Full collinearity diagnostics confirm that all variance inflation factors fall below 3.3, providing additional evidence against substantive method bias.

Table 4.
Measurement model fit indices (CFA).

Index	Threshold	Observed	Decision
CMIN/df	< 3.0	1.84	Acceptable
CFI	> 0.90	0.962	Excellent
TLI	> 0.90	0.951	Excellent
IFI	> 0.90	0.962	Excellent
RMSEA	< 0.08	0.047	Excellent
SRMR	< 0.08	0.041	Excellent

Note: Thresholds based on Hair et al. [36]. All indices satisfy conventional cut-offs.

Table 5.*Construct reliability and convergent validity.*

Construct	CR	AVE	MSV	Diagonal: $\sqrt{\text{AVE}}$	Off-diagonal: $\max(r)$ with other constructs
Expected value (EV)	0.842	0.572	0.493	0.757	< 0.700
Normative beliefs (NB)	0.825	0.540	0.307	0.735	< 0.553
Self-efficacy (SE)	0.835	0.559	0.194	0.748	< 0.439
Perceived risk (RIS)	0.817	0.528	0.292	0.727	< 0.539
Subjective norms (SN)	0.811	0.517	0.253	0.719	< 0.503
PBC	0.749	0.500	0.384	0.707	< 0.620
Attitude (ATT)	0.757	0.510	0.342	0.714	< 0.587
Entrepreneurial intention (EI)	0.842	0.572	0.493	0.757	< 0.702

Note: CR \geq 0.70 and AVE \geq 0.50 satisfy convergent validity criteria [36].

Table 6.

Discriminant validity: heterotrait-monotrait ratio of correlations (HTMT).

	EV	NB	SE	RIS	SN	PBC	ATT
NB	0.412						
SE	0.387	0.351					
RIS	0.298	0.276	0.413				
SN	0.345	0.498	0.376	0.289			
PBC	0.421	0.412	0.587	0.512	0.453		
ATT	0.534	0.471	0.398	0.310	0.388	0.456	
EI	0.512	0.467	0.523	0.498	0.512	0.687	0.598

Note: HTMT values < 0.85 satisfy the conservative discriminant validity threshold of Henseler et al. [37]. EV = expected value; NB = normative beliefs; SE = self-efficacy; RIS = perceived risk; SN = subjective norms; PBC = perceived behavioral control; ATT = attitude; EI = entrepreneurial intention.

4.4. Structural Equation Model and Hypothesis Testing

Pearson correlation analysis shows statistically significant associations among the antecedent constructs (expected value, normative beliefs, perceived self-efficacy, perceived risk) and the focal outcomes (subjective norms, perceived behavioral control, attitude, and entrepreneurial intention) at $p < 0.001$. These results provide initial support for the hypothesized relationships. SEM estimation produces path coefficients consistent with the directional predictions. Expected value, normative beliefs, perceived self-efficacy, subjective norms, and perceived behavioral control all display positive and statistically significant effects, whereas perceived risk reduces perceived behavioral control. The effect of attitude toward entrepreneurship on intention is positive and significant, supporting the central TPB pathway. The two control variables, gender and family business background, contribute additional explanatory power. Male respondents and those from business-owning families report higher entrepreneurial intentions. Table 7 presents standardized path estimates, and Table 8 shows R^2 , adjusted R^2 , and average f^2 for the endogenous constructs.

Table 7.*Standardized SEM path estimates and hypothesis test outcomes.*

ID	Path	Std. β	S.E.	C.R.	p-value	Decision
H1	Expected value \rightarrow Attitude	0.341	0.058	5.881	< 0.001	Supported
H2	Normative beliefs \rightarrow Subjective norms	0.402	0.061	6.590	< 0.001	Supported
H3	Normative beliefs \rightarrow Attitude	0.219	0.054	4.056	< 0.001	Supported
H4	Self-efficacy \rightarrow PBC	0.387	0.057	6.789	< 0.001	Supported
H5	Perceived risk \rightarrow PBC	-0.286	0.062	-4.613	< 0.001	Supported
H6	Subjective norms \rightarrow PBC	0.244	0.059	4.136	< 0.001	Supported
H7	Subjective norms \rightarrow Intention	0.198	0.055	3.600	< 0.001	Supported
H8	PBC \rightarrow Intention	0.354	0.061	5.803	< 0.001	Supported
H9	Attitude \rightarrow Intention	0.293	0.058	5.052	< 0.001	Supported

C1	Gender (male) → Intention	0.112	0.052	2.154	0.031	Significant
C2	Family business → Intention	0.158	0.050	3.160	0.002	Significant

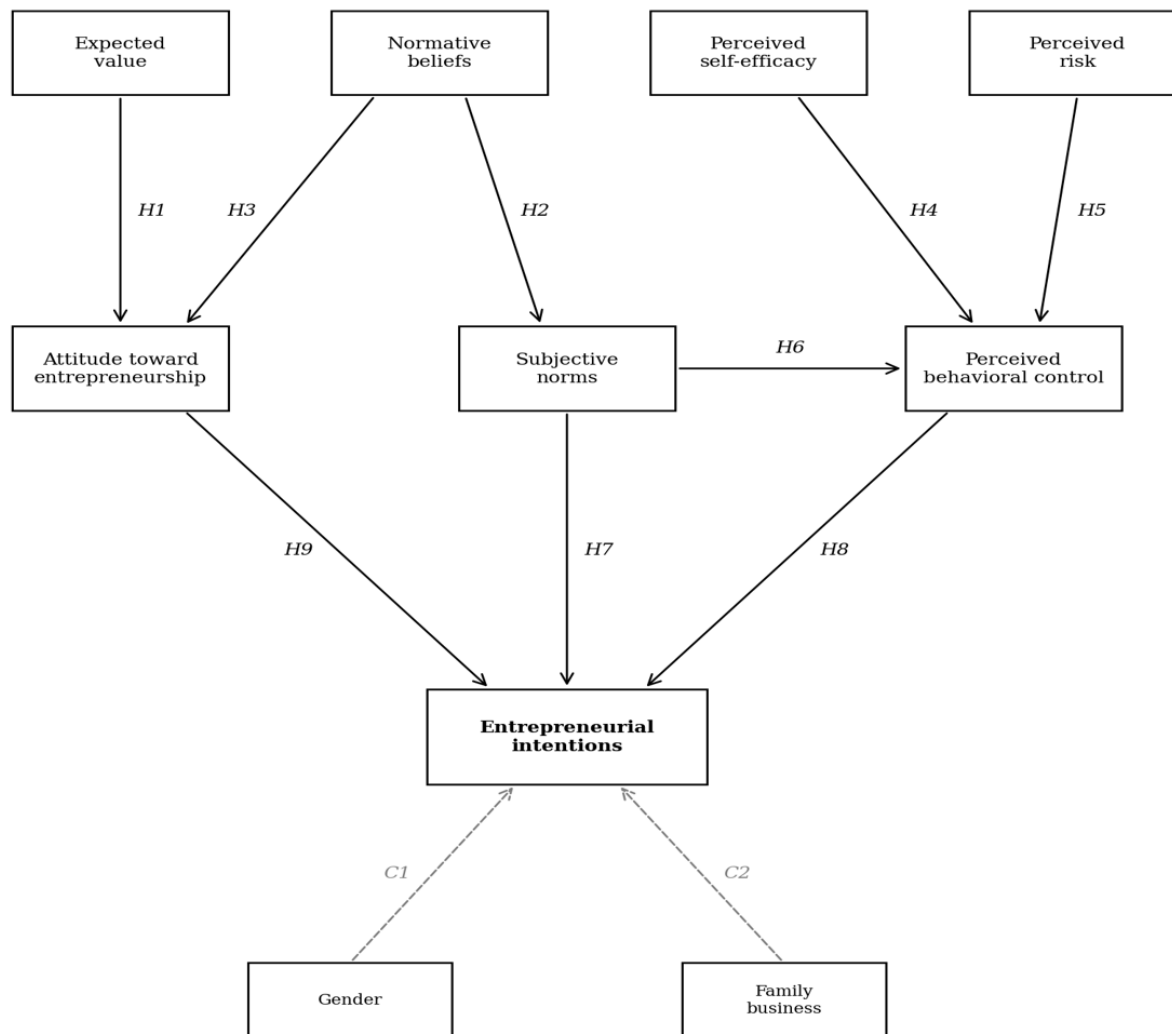
Note: Estimation in AMOS 24 with maximum likelihood. Standardized coefficients reported. p-values from C.R. (z-statistic).

Table 8.

Explained variance and effect sizes for endogenous constructs.

Endogenous construct	R ²	Adj. R ²	Avg. f ² (medium)
Attitude (ATT)	0.288	0.285	0.087
PBC	0.412	0.408	0.142
Subjective norms (SN)	0.197	0.195	0.084
Entrepreneurial intention (EI)	0.524	0.518	0.198

Note: f² thresholds: 0.02 (small), 0.15 (medium), 0.35 (large) per Hair et al. [36].



Solid: focal hypotheses (H1-H9)
Dashed: control variables (C1-C2)

Figure 1.

Research model: nine focal hypotheses (H1-H9) and two control variables.

5. Discussion and Implications

The structural model produces consistent results across the nine focal hypotheses. The three TPB pathways, namely attitude, subjective norms, and perceived behavioral control, all show positive effects

on entrepreneurial intention as predicted. The two strongest effects are self-efficacy on PBC ($\beta = 0.387$) and PBC on intention ($\beta = 0.354$). This suggests that what young people believe they can actually do has a stronger influence on intention than abstract attitudes toward entrepreneurship. The result is consistent with prior evidence from Vietnamese youth and student samples, which shows that perceived feasibility tends to dominate perceived desirability in intention formation. Subjective norms enter the model in two ways: directly on intention and indirectly through PBC. This double channel supports the view that the social environment shapes both confidence and willingness. Attitude toward entrepreneurship transmits the influence of expected value and normative beliefs to intention, linking dispositional traits to behavioral plans. Perceived risk is the only construct with a negative coefficient, and its effect operates only through PBC. Respondents who view entrepreneurship as risky feel less in control of the entrepreneurial process, regardless of their level of self-efficacy. This pattern alone justifies the inclusion of perceived risk in the extended TPB framework.

5.1. Theoretical Implications

The study contributes to the TPB literature in two ways. First, it treats perceived risk as a direct determinant of perceived behavioral control rather than as an external moderator. This approach locates risk appraisal within the TPB framework instead of outside it. The negative coefficient of perceived risk on PBC ($\beta = -0.286$) is not large in absolute terms but remains stable when control variables are included and is supported by common method bias diagnostics. The theoretical implication is that future TPB applications in entrepreneurship, and arguably in any high-stakes behavioral domain, should consider risk as part of the cognitive structure of decision-making rather than as a peripheral covariate. Second, the paper extends the TPB to a population that has received less attention than student-only samples, namely urban youth in an emerging-market capital, including both students and early-career workers. The two demographic controls of gender and family business background contribute additional explanatory power. The results are also consistent with the meta-analytic findings of Bae et al. [39], which suggest that experiential antecedents of entrepreneurship are likely to operate through PBC and attitude rather than directly on intention. Testing this mediation channel directly, using measured program exposure, is a natural next step for research on Vietnamese urban youth.

5.2. Managerial and Educational Implications

The findings suggest three priorities for universities, training providers, and startup-support organizations seeking to translate intention into entrepreneurial action among urban youth. First, given the central role of self-efficacy and PBC in shaping intention, programs should treat experiential learning as a core component rather than an optional addition. Internships, hackathons, incubator-style activities, and mentor-paired venture trials should be accompanied by explicit feedback structures that reward iterative venture-building rather than only the final pitch. Digital platforms can substantially reduce the cost of these activities. Online accelerators, virtual mentor networks, and remote pitch competitions allow young people to try out entrepreneurial roles without committing to a full venture launch. Second, gender balance should be cultivated by promoting visible female entrepreneurs as role models and by deliberately recruiting women into accelerator and incubator cohorts. Although the gender effect observed in the data is small, it is consistent. Third, risk-management modules and mentor-led programs should be designed to help young people view perceived risk as manageable rather than disqualifying. Useful tools include structured failure reviews, runway-budgeting exercises, and access to angel investors, government-backed micro-grants, and digital-finance services such as e-wallets and fintech credit lines, which can lower the financial entry barrier for first ventures.

5.3. Policy Implications

The findings have direct implications for Vietnam's entrepreneurship policy framework. This framework includes the Ministry of Education and Training's Project 1665 on supporting student

entrepreneurship through 2025, its successor program for the 2026-2035 period, and the broader National Digital Transformation Programme, which positions digital innovation at the center of Vietnam's development strategy. First, policy guidance should encourage accredited training providers in higher education and in the wider skills-development ecosystem to integrate internships, mentor matching, and incubator participation as standard components. The empirical evidence indicates that experiential exposure shapes the TPB constructs that subsequently drive intention. Programs combining entrepreneurship education with digital and technology skills are well aligned with the labor-market trajectory of urban youth. Second, government-backed seed funding and incubator infrastructure should be expanded with explicit gender-equity targets to address the lower entrepreneurial intention observed among young women. Third, financial-risk education and access to micro-credit, including digital-finance instruments, should be prioritized as policy levers, given that perceived risk significantly weakens PBC. As the capital and one of the country's two largest urban entrepreneurship centers, Hanoi is well-positioned to pilot integrated programs combining these levers and to share lessons with secondary cities.

5.4. Limitations and Future Research

Four limitations should be noted. First, the study measures intention rather than realized behavior. Longitudinal designs that track actual venture creation would strengthen causal inference. Second, the study does not include detailed measures of program exposure such as internship intensity, incubator participation, or duration of mentorship. Future research should incorporate validated exposure scales to test the experiential mechanism directly. Third, the sample is restricted to urban youth in Hanoi, which limits generalizability to other Vietnamese cities and rural populations. Comparable studies in Ho Chi Minh City, Da Nang, and provincial centers would help determine whether the patterns observed here apply elsewhere. Fourth, the cross-sectional design limits the identification of dynamic effects. Longitudinal data would clarify how perceived risk and perceived behavioral control evolve together as young people move from intention to action. Building on these limitations, future research can pursue four directions: (i) longitudinal panels tracking respondents from intention to actual venture launch; (ii) multi-city Vietnamese comparisons to examine how local institutional factors moderate the TPB pathways; (iii) experimental designs that randomize exposure to entrepreneurship support programs; and (iv) explicit comparisons between student and early-career-worker subsamples to determine whether life-stage moderates the perceived-risk channel.

6. Conclusion

This study examined the determinants of entrepreneurial intentions among young people aged 18 to 35 in Hanoi within an extended TPB framework. Based on 376 survey responses, the analysis identifies three main findings. First, perceived behavioral control is a key determinant of intention: respondents who feel capable of running a business are much more likely to plan to start one than those who do not. Second, perceived risk plays an important role. It is not a peripheral consideration but a direct factor that reduces perceived control. Risk appraisal should therefore be treated as part of the TPB framework rather than as something separate from it. Third, attitude and subjective norms jointly contribute to intention, explaining why intention can emerge even among young people without direct entrepreneurial experience. Demographic patterns support these findings: respondents from business-owning families report higher intentions, suggesting that early exposure operates through the same psychological mechanisms described by the TPB. The practical implication for educators, training providers, and startup-support organizations is clear. Programs that build self-efficacy, frame perceived risk as manageable, and create positive social support around the entrepreneurial choice are likely to be more effective than programs focusing only on technical content. This is important in Vietnam's expanding digital economy, where new venture types continue to emerge. The study has limitations, including the cross-sectional design, the use of self-reported intention rather than realized behavior, the single-city sample, and the absence of detailed measures of program exposure. Within these constraints,

the analysis provides a clear picture of how entrepreneurial intention is formed among urban youth in Vietnam's largest northern city and where policy and educational interventions can have the greatest impact.

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Data Availability Statement:

The data that support the findings of this study are available from the corresponding author upon reasonable request. Data are not publicly available because of privacy protections for individual survey respondents.

Transparency:

The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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References

- [1] I. Ajzen, "The theory of planned behavior," *Organizational Behavior and Human Decision Processes*, vol. 50, no. 2, pp. 179-211, 1991. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- [2] A. Tella and A. Issa, "An examination of library and information science undergraduate students' career aspirations in entrepreneurship and self-employment," *Journal of Business & Finance Librarianship*, vol. 18, no. 2, pp. 129-145, 2013. <https://doi.org/10.1080/08963568.2013.768891>
- [3] T. Kautonen, C. Halvorsen, M. Minniti, and E. Kibler, "Transitions to entrepreneurship, self-realization, and prolonged working careers: Insights from the English Longitudinal Study of Ageing," *Journal of Business Venturing Insights*, vol. 19, p. e00373, 2023. <https://doi.org/10.1016/j.jbvi.2023.e00373>
- [4] M. Arshad, O. Farooq, N. Sultana, and M. Farooq, "Determinants of individuals' entrepreneurial intentions: A gender-comparative study," *Career Development International*, vol. 21, no. 4, pp. 318-339, 2016. <https://doi.org/10.1108/CDI-10-2015-0135>
- [5] N. F. Krueger Jr, M. D. Reilly, and A. L. Carsrud, "Competing models of entrepreneurial intentions," *Journal of business venturing*, vol. 15, no. 5-6, pp. 411-432, 2000. [https://doi.org/10.1016/S0883-9026\(98\)00033-0](https://doi.org/10.1016/S0883-9026(98)00033-0)
- [6] G. H. Popescu, M. Comanescu, and O. M. Sabie, "The role of human capital in the knowledge-networked economy," *Psychosociological Issues in Human Resource Management*, vol. 4, no. 1, p. 168, 2016.
- [7] K. Esfandiari, M. Sharifi-Tehrani, S. Pratt, and L. Altinay, "Understanding entrepreneurial intentions: A developed integrated structural model approach," *Journal of Business Research*, vol. 94, pp. 172-182, 2019. <https://doi.org/10.1016/j.jbusres.2017.10.045>
- [8] S. Shane and S. Venkataraman, "Entrepreneurship as a field of research: A response to Zahra and Dess, Singh, and Erikson," *Academy of Management Review*, vol. 26, no. 1, pp. 13-16, 2001. <https://doi.org/10.5465/amr.2001.27879269>

- [9] A. Fayolle and F. Liñán, "The future of research on entrepreneurial intentions," *Journal of Business Research*, Vol. 67, no. 5, pp. 663-666, 2014. <https://doi.org/10.1016/j.jbusres.2013.11.024>
- [10] D. Maresch, R. Harms, N. Kailer, and B. Wimmer-Wurm, "The impact of entrepreneurship education on the entrepreneurial intention of students in science and engineering versus business studies university programs," *Technological Forecasting and Social Change*, vol. 104, pp. 172-179, 2016. <https://doi.org/10.1016/j.techfore.2015.11.006>
- [11] E. R. Thompson, "Individual entrepreneurial intent: Construct clarification and development of an internationally reliable metric," *Entrepreneurship Theory and Practice*, vol. 33, no. 3, pp. 669-694, 2009. <https://doi.org/10.1111/j.1540-6520.2009.00321.x>
- [12] A. Fayolle, B. Gailly, and N. Lassas-Clerc, "Assessing the impact of entrepreneurship education programmes: A new methodology," *Journal of European Industrial Training*, vol. 30, no. 9, pp. 701-720, 2006. <https://doi.org/10.1108/03090590610715022>
- [13] F. Liñán and Y. W. Chen, "Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions," *Entrepreneurship Theory and Practice*, vol. 33, no. 3, pp. 593-617, 2009. <https://doi.org/10.1111/j.1540-6520.2009.00318.x>
- [14] D. Urbano, S. Aparicio, and D. Audretsch, "Twenty-five years of research on institutions, entrepreneurship, and economic growth: What has been learned?," *Small Business Economics*, vol. 53, no. 1, pp. 21-49, 2019. <https://doi.org/10.1007/s11187-018-0038-0>
- [15] A. Mustofa and A. Setiawan, "Perceived behavioral control builds students' entrepreneurial intentions," *Al-Ishlah: Jurnal Pendidikan*, vol. 14, no. 3, pp. 3241-3248, 2022.
- [16] E. Autio, R. H. Keeley, M. Klofsten, G. GC Parker, and M. Hay, "Entrepreneurial intent among students in Scandinavia and in the USA," *Enterprise and Innovation Management Studies*, vol. 2, no. 2, pp. 145-160, 2001. <https://doi.org/10.1080/14632440110094632>
- [17] C. Lüthje and N. Franke, "The 'making' of an entrepreneur: Testing a model of entrepreneurial intent among engineering students at MIT," *R&D Management*, vol. 33, no. 2, pp. 135-147, 2003. <https://doi.org/10.1111/1467-9310.00288>
- [18] I. Ajzen, "Attitudes, traits, and actions: Dispositional prediction of behavior in personality and social psychology," *Advances in Experimental Social Psychology*, vol. 20, pp. 1-63, 1987. [https://doi.org/10.1016/S0065-2601\(08\)60411-6](https://doi.org/10.1016/S0065-2601(08)60411-6)
- [19] M. Fishbein and I. Ajzen, *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley, 1975.
- [20] J. Kickul and L. Gundry, "Prospecting for strategic advantage: The proactive entrepreneurial personality and small firm innovation," *Journal of Small Business Management*, vol. 40, no. 2, pp. 85-97, 2002. <https://doi.org/10.1111/1540-627X.00042>
- [21] T. M. Begley and D. P. Boyd, "Psychological characteristics associated with performance in entrepreneurial firms and smaller businesses," *Journal of Business Venturing*, vol. 2, no. 1, pp. 79-93, 1987. [https://doi.org/10.1016/0883-9026\(87\)90020-6](https://doi.org/10.1016/0883-9026(87)90020-6)
- [22] K. M. Hmieleski and A. C. Corbett, "Proclivity for improvisation as a predictor of entrepreneurial intentions," *Journal of Small Business Management*, vol. 44, no. 1, pp. 45-63, 2006. <https://doi.org/10.1111/j.1540-627X.2006.00153.x>
- [23] C. J. Armitage and M. Conner, "Social cognitive determinants of blood donation," *Journal of Applied Social Psychology*, vol. 31, no. 7, pp. 1431-1457, 2001. <https://doi.org/10.1111/j.1559-1816.2001.tb02681.x>
- [24] I. Ajzen, "Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior 1," *Journal of Applied Social Psychology*, vol. 32, no. 4, pp. 665-683, 2002. <https://doi.org/10.1111/j.1559-1816.2002.tb00236.x>
- [25] A. Shapero, *The social dimensions of entrepreneurship, in Encyclopedia of Entrepreneurship, C. A. Kent, D. L. Sexton, and K. H. Vesper, Eds.* Englewood Cliffs, NJ: Prentice-Hall, 1982.
- [26] D. Devonish, P. Alleyne, W. Charles-Soverall, A. Young Marshall, and P. Pounder, "Explaining entrepreneurial intentions in the Caribbean," *International Journal of Entrepreneurial Behavior & Research*, vol. 16, no. 2, pp. 149-171, 2010. <https://doi.org/10.1108/13552551011027020>
- [27] J. Maes, H. Leroy, and L. Sels, "Gender differences in entrepreneurial intentions: A TPB multi-group analysis at factor and indicator level," *European Management Journal*, vol. 32, no. 5, pp. 784-794, 2014. <https://doi.org/10.1016/j.emj.2014.01.001>
- [28] H. Ahl, "Why research on women entrepreneurs needs new directions," *Entrepreneurship Theory and Practice*, vol. 30, no. 5, pp. 595-621, 2006. <https://doi.org/10.1111/j.1540-6520.2006.00138.x>
- [29] A. BarNir, W. E. Watson, and H. M. Hutchins, "Mediation and moderated mediation in the relationship among role models, self-efficacy, entrepreneurial career intention, and gender," *Journal of Applied Social Psychology*, vol. 41, no. 2, pp. 270-297, 2011. <https://doi.org/10.1111/j.1559-1816.2010.00713.x>
- [30] F. J. Caro González, H. A. Romero Benabent, and I. Sánchez Torné, "The influence of gender on the entrepreneurial intentions of journalism students," *Intangible Capital*, vol. 13, no. 2, pp. 430-478, 2017. <https://doi.org/10.3926/ic.927>
- [31] S. Hill et al., *Global entrepreneurship monitor 2021/2022 global report: Opportunity amid disruption*. London: Global Entrepreneurship Research Association, 2022.

- [32] P. Mueller, "Entrepreneurship in the region: Breeding ground for nascent entrepreneurs?," *Small Business Economics*, vol. 27, no. 1, pp. 41–58, 2006.
- [33] A. C. Cooper, F. J. Gimeno-Gascon, and C. Y. Woo, "Initial human and financial capital as predictors of new venture performance," *Journal of Business Venturing*, vol. 9, no. 5, pp. 371–395, 1994. [https://doi.org/10.1016/0883-9026\(94\)90013-2](https://doi.org/10.1016/0883-9026(94)90013-2)
- [34] C. S. Marques, J. J. Ferreira, D. N. Gomes, and R. Gouveia Rodrigues, "Entrepreneurship education: How psychological, demographic and behavioural factors predict the entrepreneurial intention," *Education+ training*, vol. 54, no. 8–9, pp. 657–672, 2012. <https://doi.org/10.1108/00400911211274819>
- [35] B. Mwiya, Y. Wang, B. Shikaputo, B. Kaulungombe, and M. Kayekesi, "Predicting the entrepreneurial intentions of university students: Applying the theory of planned behaviour in Zambia, Africa," *Open Journal of Business and Management*, vol. 5, no. 4, pp. 592–610, 2017. <https://doi.org/10.4236/ojbm.2017.54051>
- [36] J. F. Hair, W. C. Black, B. J. Babin, and R. E. Anderson, *Multivariate data analysis*, 8th ed. Andover, England: Cengage Learning EMEA, 2019.
- [37] J. Henseler, C. M. Ringle, and M. Sarstedt, "A new criterion for assessing discriminant validity in variance-based structural equation modeling," *Journal of the Academy of Marketing Science*, vol. 43, no. 1, pp. 115–135, 2015. <https://doi.org/10.1007/s11747-014-0403-8>
- [38] P. M. Podsakoff, S. B. MacKenzie, J.-Y. Lee, and N. P. Podsakoff, "Common method biases in behavioral research: A critical review of the literature and recommended remedies," *Journal of Applied Psychology*, vol. 88, no. 5, pp. 879–903, 2003. <https://doi.org/10.1037/0021-9010.88.5.879>
- [39] T. J. Bae, S. Qian, C. Miao, and J. O. Fiet, "The relationship between entrepreneurship education and entrepreneurial intentions: A meta-analytic review," *Entrepreneurship Theory and Practice*, vol. 38, no. 2, pp. 217–254, 2014. <https://doi.org/10.1111/etap.12095>