

Entrepreneurial Intention among Commerce Graduates in Punjab: The Role of Self-Efficacy, Family Support and Institutional Environment

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Abstract—Purpose: This study investigates the determinants of entrepreneurial intention (EI) among undergraduate and postgraduate commerce graduates in Punjab, India, with particular emphasis on three under-examined contextual factors: self-efficacy, family entrepreneurial support, and institutional environment. While the global literature on entrepreneurial intention is extensive, its application to commerce-stream students in non-metropolitan Indian states — where career choice is strongly shaped by conservative occupational norms and limited institutional infrastructure — remains inadequately explored.

Design/Methodology/Approach: A structured questionnaire was administered to 480 commerce and management students from ten higher educational institutions in Punjab, selected through stratified random sampling across institutional types (government, private aided, private unaided) and geographic locations (urban and rural). The theoretical framework is grounded in Ajzen's (1991) Theory of Planned Behaviour, augmented with contextual variables specific to the Indian higher education landscape. Exploratory Factor Analysis (EFA) was conducted to identify the latent construct structure, followed by Structural Equation Modelling (SEM) using SmartPLS 4 to test the hypothesised directional relationships. One-way ANOVA and independent samples t-tests were used to examine demographic group differences in EI scores.

Findings: Self-efficacy emerged as the strongest determinant of entrepreneurial intention ($\beta = 0.43$, $p < 0.001$), followed by institutional environment ($\beta = 0.29$, $p < 0.001$) and family entrepreneurial support ($\beta = 0.22$, $p < 0.001$). Attitude toward entrepreneurship significantly mediated the relationship between family support and entrepreneurial intention. Significant gender and location-based differences were observed: male students and urban students reported substantially higher entrepreneurial intention scores. The structural model explained 61.7% of the variance in entrepreneurial intention and demonstrated good fit (CFI = 0.931, RMSEA = 0.056).

Practical Implications: The findings call for targeted institutional investments in entrepreneurship cells, mentorship programmes, and role-model-driven awareness initiatives — particularly in government colleges and rural institutions where both self-efficacy and institutional environment scores are significantly lower. Gender-specific interventions addressing female students' lower self-efficacy perceptions are strongly recommended.

Originality/Value: This paper delivers original, first-hand evidence on the entrepreneurial intention of commerce graduates in Punjab — a population and geographic context not previously studied with this level of methodological rigour — and offers a theoretically grounded, contextually enriched extension of the standard TPB framework.

Index Terms— entrepreneurial intention, Theory of Planned Behaviour, self-efficacy, family support, institutional environment, commerce students, Punjab, India, SEM, gender differences

I. INTRODUCTION

Entrepreneurship has come to occupy a position of singular importance in contemporary discussions of economic development, particularly in rapidly urbanising, demographically young societies such as India. The country's extraordinary demographic dividend — more than 600 million individuals below the age of 25, with an addition of approximately 12 million new labour market entrants every year — creates both an enormous opportunity and an equally enormous challenge (Ministry of Labour and Employment, 2024). The formal employment sector, despite years of sustained economic growth, has consistently proven insufficient to absorb this influx. Manufacturing-led employment generation, historically the bridge between agricultural redundancy and urban formal employment in successful development trajectories, has remained structurally constrained in India. In this context, entrepreneurship — and particularly the cultivation of entrepreneurial intention and readiness among educated youth — assumes a direct macroeconomic function beyond its conventional role as an expression of individual agency and market dynamism.

Commerce and management graduates occupy a particularly interesting position within this national entrepreneurship conversation. Unlike engineering graduates, who benefit from well-established startup incubation ecosystems at IITs and NITs, or MBA graduates at premium business schools, who are actively mentored toward venture creation as a legitimate and even prestigious career choice, commerce graduates at affiliated colleges — particularly in states like Punjab — have historically been socialised toward stable salaried employment: accountancy, banking, insurance, or government service. Entrepreneurship, while admired in the cultural abstract, has often been perceived as a residual choice rather than a deliberate, informed career aspiration. This cultural dynamic creates a specific and important research question: what factors, within and beyond the college experience, drive entrepreneurial intention in this population — and

how strong are those factors relative to the structural and normative barriers that have historically kept commerce graduates in the employment-seeking lane?

The question is both theoretically rich and practically urgent. Theoretically, the commerce student population provides a natural laboratory for testing the Theory of Planned Behaviour in a context where the interplay of subjective norms (family and societal conservatism), attitude (education-shaped evaluation of entrepreneurship), and perceived behavioural control (skill confidence derived from academic preparation and institutional support) is particularly well defined and potentially distinctive from populations studied elsewhere in the literature. Practically, understanding the drivers of entrepreneurial intention in this population informs the design of NEP 2020 implementation, Panjab University's curriculum revision agenda, and the policy architecture of the Punjab Government's Startup Policy 2022.

Punjab presents a specific and instructive regional context. The state's economy carries a deeply embedded entrepreneurial tradition — its globally dispersed diaspora has seeded businesses across four continents; its domestic industrial clusters in Ludhiana (hosiery, bicycle manufacturing), Jalandhar (sporting goods), and Amritsar (textiles) represent some of the most organically developed MSME ecosystems in India. Yet formal startup density — as measured by DPIIT-recognised ventures — remains well below what the state's human capital and economic base would predict. The hypothesis that this gap is partly an education-and-awareness phenomenon — that potential entrepreneurs exist in large numbers but lack the confidence, knowledge, and institutional scaffolding to translate aspiration into intent and intent into action — motivates the present empirical inquiry.

This paper is organised as follows: Section 2 reviews the relevant theoretical and empirical literature; Section 3 presents the theoretical framework and conceptual model; Section 4 states the research hypotheses; Section 5 describes the methodology; Sections 6 and 7 present and discuss the results; and Section 8 concludes with recommendations and limitations.

II. REVIEW OF LITERATURE

2.1 Theory of Planned Behaviour: Core Framework

The Theory of Planned Behaviour (Ajzen, 1991) remains the most extensively validated and applied theoretical framework in entrepreneurial intention research globally. Its intellectual lineage traces from Fishbein and Ajzen's (1975) Theory of Reasoned Action, which established that volitional behaviour is most directly predicted by intention, and that intention is determined by attitude and social norms. The TPB extended this model by adding Perceived Behavioural Control (PBC) — the individual's assessment of their own capability to perform the behaviour — to account for the reality that intention alone is insufficient when the behaviour is complex, uncertain, or resource-intensive. Entrepreneurship, involving as it does the identification of opportunity, mobilisation of resources, management of uncertainty, and navigation of institutional and social environments, is precisely the kind of complex, volitional behaviour for which PBC is most consequential.

Krueger and Carsrud (1993) provided the first systematic application of TPB to new venture creation intentions, demonstrating that the model's explanatory power exceeded both trait-based approaches and economic opportunity models in predicting entrepreneurial intent. Linan and Chen (2009) subsequently developed and cross-culturally validated the six-item Entrepreneurial Intention Questionnaire (EIQ), establishing a standardised measurement instrument that has since been applied in over 50 countries. Their meta-analytic review confirmed that PBC — closely allied to Bandura's (1977) self-efficacy — is the strongest single predictor of EI across cultural contexts, with attitude a close second and subjective norms somewhat weaker but still significant, particularly in collectivist cultural settings where family opinion carries greater normative weight.

2.2 Self-Efficacy and Entrepreneurial Intention

Self-efficacy — defined by Bandura (1997) as an individual's belief in their capability to organise and execute the courses of action required to produce given attainments — has emerged as one of the most reliably significant determinants of entrepreneurial intention across cultural and disciplinary contexts. Zhao et al. (2005) conducted a meta-analysis of 23 studies and found a mean correlation of $r = 0.38$ between entrepreneurial self-efficacy (ESE) and entrepreneurial intention, outperforming risk propensity, innovation orientation, and prior exposure to entrepreneurship as predictors. Chen et al. (1998) distinguished between general self-efficacy and domain-specific entrepreneurial self-efficacy, finding that ESE — which encompasses beliefs about marketing, management, risk-taking, and innovation capability — is a stronger and more direct predictor of EI than general self-efficacy. In the Indian context, Puni et al. (2018) confirmed the self-efficacy-EI relationship among South Asian student populations, with particularly strong effects in contexts where institutional support is limited — precisely the condition prevailing in many affiliated colleges in Punjab.

2.3 Family Support and Subjective Norms

The role of family in shaping entrepreneurial intention has a rich theoretical and empirical grounding, particularly in the context of collectivist societies where family is the primary reference group for major life decisions. In the TPB framework, family opinion operates primarily through the subjective norms construct — the perceived social pressure from significant others to engage or refrain from a behaviour. However, the mechanism is more nuanced than simple normative pressure: Aldrich and Cliff (2003) conceptualised family entrepreneurial support as comprising three distinct dimensions — financial resource provision, social network access, and human capital transmission (knowledge, skills, and attitude transfer from entrepreneurial family members to younger generations). Families with a business background thus provide not merely normative validation but substantive resource and capability advantages that compound the self-efficacy effect.

In the Punjab context specifically, the kith-and-kin enterprise model — where business ventures are traditionally family-operated and intergenerationally transferred — creates a distinctive family support dynamic. First-generation commerce graduates from non-business families face a much

steeper normative and resource barrier to entrepreneurship than their counterparts with family business backgrounds. Singh and Raghuvanshi (2020) found this distinction to be significant in their study of Indian undergraduate students, with family business background acting as a positive moderator of the subjective norms-EI relationship. The present study extends this finding to the commerce-specific population in Punjab with greater methodological rigour.

2.4 Institutional Environment and Entrepreneurship Education

The institutional environment of the higher educational institution — its physical infrastructure for entrepreneurship support, the quality and orientation of its faculty, its industry linkages, and its cultural attitude toward venture creation — has been identified as a significant proximal determinant of student entrepreneurial intention and self-efficacy. Souitaris et al. (2007) demonstrated in a European quasi-experimental study that entrepreneurship programmes raised both attitudes and intentions, with the inspirational elements of the programme — exposure to successful entrepreneurs, role model storytelling, and vision articulation — generating stronger effects than the analytical or business-planning components. Fayolle and Linan (2014) argued that the institutional framing of entrepreneurship — whether it is presented as exceptional heroism accessible only to the gifted few, or as a learnable, structured, progressively developed set of skills and decisions — has measurable effects on student self-efficacy and thereby on intention. Gupta and Mirchandani (2018) found, in the Indian MBA context, that the presence of an active entrepreneurship cell, mentoring programmes, and industry interaction events were the institutional variables most predictive of startup intention among graduating students.

2.5 Punjab-Specific Context and Research Gap

Despite the national importance of the entrepreneurial intention literature and the regional significance of Punjab's enterprise economy, published research specifically examining EI among commerce graduates in Punjab using rigorous quantitative methods is sparse to the point of being almost absent. Kumar and Bhatia (2023) noted the startup density paradox — high cultural entrepreneurship but low formal startup formation — and suggested that undergraduate commerce education in Punjab was not yet functioning as an entrepreneurship catalyst. Nair and Pandey (2021), examining NEP 2020 implementation readiness, found that affiliated colleges in Punjab had limited entrepreneurship infrastructure and that faculty awareness of NEP's entrepreneurship provisions was inadequate. Neither study, however, provided primary survey data on student EI using validated instruments and multi-method statistical analysis. This paper fills that gap directly.

III. THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESES

The study's conceptual model positions entrepreneurial intention as the outcome of three TPB constructs — Attitude toward Entrepreneurship (ATE), Subjective Norms (SN), and Self-Efficacy (SE/PBC) — while introducing two contextual antecedents: Family Entrepreneurial Support (FES), which feeds into both SN and ATE, and Institutional Environment (IE), which influences

SE directly. Family Business Background (FBB) is included as a binary control variable. This extended model yields the following null hypotheses:

H ₀	Statement	Predicted outcome
H ₀₁	Self-efficacy has no significant positive effect on entrepreneurial intention among commerce students in Punjab.	Reject (positive)
H ₀₂	Family entrepreneurial support has no significant effect on entrepreneurial intention.	Reject (positive)
H ₀₃	Institutional environment does not significantly influence self-efficacy or entrepreneurial intention.	Reject (positive)
H ₀₄	Attitude toward entrepreneurship does not mediate the relationship between family support and EI.	Reject (mediation)
H ₀₅	There are no significant demographic differences in EI across gender, institution type, and domicile.	Reject (differences)
H ₀₆	Subjective norms have no significant effect on entrepreneurial intention.	Reject (positive)

IV. RESEARCH METHODOLOGY

4.1 Research Design and Sampling

A cross-sectional, quantitative research design was adopted, consistent with the established methodological tradition in entrepreneurial intention research. The target population comprised all undergraduate (B.Com, BBA) and postgraduate (M.Com, MBA) students enrolled in Commerce and Management programmes in HEIs affiliated to Panjab University in Punjab during the academic year 2024-25. A stratified random sampling approach was employed, stratifying by institution type (government, private aided, private unaided), programme level (UG, PG), and domicile (urban, rural). Ten institutions were selected — four government colleges, three private aided, and three private unaided — and within each institution, students were approached through systematic classroom sampling. A total of 520 questionnaires were distributed; 497 were returned, and 480 were retained after excluding 17 for excessive missing data or uniform response patterns. The effective response rate was 92.3%.

4.2 Measurement Instrument

Construct	Items	Scale Source	Sample Item
Entrepreneurial Intention (EI)	6 items	Linan & Chen (2009)	I am determined to create a firm in the future
Self-Efficacy / PBC	6 items	Bandura (1997) adapted	I am confident I could successfully manage a startup
Attitude toward Entrepreneurship	5 items	Kolvereid (1996)	A career as an entrepreneur is attractive to me
Subjective Norms	5 items	Ajzen (1991) adapted	My family thinks I should consider starting a business
Family Entrepreneurial Support	6 items	Aldrich & Cliff (2003)	My family actively encourages my entrepreneurial ideas
Institutional Environment	8 items	Souitaris et al. (2007)	My college provides good support for startup ideas
Family Business Background	1 item (binary)	Authors' design	Does your family own/run a business? (Yes/No)

All attitudinal items are measured on a 5-point Likert scale anchored at 1 = Strongly Disagree and 5 = Strongly Agree. Pilot-tested on 35 students; Cronbach's Alpha ≥ 0.73 for all constructs.

4.3 Statistical Methods

Data analysis proceeded through five stages. Stage 1 computed descriptive statistics and frequency distributions for all demographic and construct variables (SPSS 26). Stage 2 conducted Exploratory Factor Analysis (EFA) using principal axis factoring with promax rotation on all attitudinal items to confirm the factor structure (SPSS 26). Stage 3 performed Confirmatory Factor Analysis (CFA) and assessed measurement model validity through Composite Reliability (CR) and Average Variance Extracted (AVE) using SmartPLS 4. Stage 4 estimated the structural model via PLS-SEM with 5,000 bootstrap resamples for significance testing and applied the Preacher-Hayes bootstrapping approach (with 95% bias-corrected confidence intervals) for mediation

hypothesis testing (H_{04}). Stage 5 conducted one-way ANOVA and independent samples t-tests (SPSS 26) to examine demographic group differences in EI scores (H_{05}).

V. DATA ANALYSIS AND RESULTS

5.1 Respondent Profile

Demographic Variable	Category	Frequency (%)
Gender	Male	198 (41.3%)
	Female	282 (58.7%)
Programme Level	Undergraduate (B.Com / BBA)	296 (61.7%)
	Postgraduate (M.Com / MBA)	184 (38.3%)
Institution Type	Government College	184 (38.3%)
	Private Aided	154 (32.1%)
	Private Unaided	142 (29.6%)
Domicile	Urban	261 (54.4%)
	Rural / Semi-urban	219 (45.6%)
Family Business Background	Yes (business family)	166 (34.6%)
	No	314 (65.4%)

5.2 Descriptive Statistics: Construct Mean Scores

Construct	Mean	Std. Dev.	Interpretation
Entrepreneurial Intention (EI)	3.27	0.89	Moderate — scope for development
Self-Efficacy (SE)	3.41	0.84	Moderate-high; principal driver
Attitude toward Entrepreneurship (ATE)	3.62	0.77	Moderately positive — strongest construct
Subjective Norms (SN)	3.18	0.93	Moderate — family norms variable

Family Entrepreneurial Support (FES)	3.08	0.97	Moderate — divided by family type
Institutional Environment (IE)	2.71	0.94	Below average — infrastructure gap clear

The descriptive profile reveals several noteworthy patterns. Attitude toward entrepreneurship records the highest mean score ($M = 3.62$), indicating that commerce students in Punjab hold a generally positive evaluation of entrepreneurship as a career path — consistent with the state's entrepreneurial cultural heritage. However, the translation of positive attitude into strong intention ($M = 3.27$) is not proportionate, suggesting that intervening barriers — most visibly the below-average institutional environment score ($M = 2.71$) and the moderate family support score ($M = 3.08$) — are partially intercepting the attitude-to-intention pathway. Self-efficacy at 3.41 reflects a student population with moderate confidence in their own entrepreneurial capabilities, significantly lower than the 3.62 attitude score, suggesting that students appreciate entrepreneurship more than they believe themselves capable of pursuing it — a pattern with direct pedagogical implications.

5.3 Measurement Model: Reliability and Validity

Construct	Cronbach's α	CR	AVE	Discriminant Validity (HTMT)
EI	0.87	0.91	0.63	Confirmed < 0.85
SE	0.88	0.92	0.66	Confirmed
ATE	0.83	0.88	0.59	Confirmed
SN	0.77	0.84	0.56	Confirmed
FES	0.79	0.85	0.54	Confirmed
IE	0.82	0.87	0.57	Confirmed

Notes: CR = Composite Reliability; AVE = Average Variance Extracted; HTMT = Heterotrait-Monotrait ratio. AVE > 0.50 (Fornell & Larcker, 1981); CR > 0.80; HTMT < 0.85 confirms discriminant validity. Overall model fit: SRMR = 0.058; CFI = 0.931; RMSEA = 0.056.

5.4 Structural Model Results: Hypothesis Testing

H ₀	Path	β (Std.)	t-value	p-value	Decision
H ₀₁	SE $\rightarrow$ EI	0.43	10.21	< 0.001	Rejected

H ₀₂	FES → EI	0.22	5.03	< 0.001	Rejected
H _{03a}	IE → SE	0.38	8.14	< 0.001	Rejected
H _{03b}	IE → EI (direct)	0.29	6.37	< 0.001	Rejected
H ₀₄	FES → ATE → EI (mediation)	0.17*	4.22	< 0.001	Rejected
H ₀₅	Gender: t-test EI	t=4.17	df=478	0.002	Rejected
H ₀₆	SN → EI	0.21	4.88	< 0.001	Rejected

Notes: β = standardised path coefficient from PLS-SEM bootstrapping (5,000 resamples).
 *Indirect effect via ATE; 95% BC confidence interval [0.08, 0.26] excludes zero confirming mediation. R^2 for EI = 0.617 (61.7% variance explained). Model fit indices reflect acceptable fit by Hu & Bentler (1999) criteria.

5.5 Demographic Differences in Entrepreneurial Intention

Demographic Group	Mean EI	SD	Statistic	Significance
Male students	3.52	0.81	t = 4.17 (df=478)	p = 0.002 **
Female students	3.09	0.94		
Urban domicile	3.48	0.83	t = 4.93 (df=478)	p < 0.001 ***
Rural / Semi-urban domicile	3.00	0.92		
Government college	3.04	0.91	F(2,477)=9.82	p < 0.001 ***
Private aided college	3.28	0.88		
Private unaided college	3.52	0.84		
Family with business	3.64	0.76	t = 5.21 (df=478)	p < 0.001 ***

No family business	3.07	0.94		
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Post-hoc Tukey's HSD for institution type: Government vs. Private Unaided significant ($p < 0.001$); Government vs. Private Aided significant ($p = 0.018$); Private Aided vs. Private Unaided not significant ($p = 0.274$). Effect sizes: Gender Cohen's $d = 0.47$ (medium); Location $d = 0.53$ (medium); Family Background $d = 0.63$ (medium-large).

VI. DISCUSSION OF FINDINGS

6.1 Self-Efficacy: The Decisive Internal Driver

The confirmation of self-efficacy as the most powerful predictor of entrepreneurial intention ($\beta = 0.43$, $p < 0.001$) among commerce graduates in Punjab is consistent with the dominant global finding (Zhao et al., 2005; Chen et al., 1998) and carries important contextual nuance in the Punjab setting. Commerce graduates, unlike engineering or science students, do not routinely engage in project-based learning, design challenges, or laboratory problem-solving — activities that naturally build domain-specific self-efficacy through mastery experience, which Bandura (1997) identifies as the most potent source of efficacy belief. The commerce curriculum, as traditionally delivered in affiliated colleges, emphasises theoretical knowledge of accounting, economics, and management principles, with limited exposure to the applied, iterative, failure-tolerant experience required to build genuine entrepreneurial confidence. The finding that self-efficacy, despite being the strongest predictor of EI, scores only moderately ($M = 3.41$) in this sample reflects this pedagogical gap and points directly to what institutional intervention should prioritise.

The institutional environment's strong effect on self-efficacy ($\beta = 0.38$, $p < 0.001$) provides the causal mechanism through which colleges can address this gap. Institutions that host active entrepreneurship cells with student membership, invite successful alumni entrepreneurs as guest speakers, organise startup competitions and business plan challenges, and establish mentoring relationships between students and practicing entrepreneurs are, in effect, providing vicarious learning experiences and social persuasion — both of which Bandura (1997) identifies as secondary sources of self-efficacy building. The below-average institutional environment score ($M = 2.71$) across the sample thus represents not merely a resource gap but a systemic self-efficacy deficit that compounds over time.

6.2 Family Entrepreneurial Support: Enabling and Constraining

The significant positive effect of family entrepreneurial support on EI ($\beta = 0.22$, $p < 0.001$) and the confirmed mediation through attitude toward entrepreneurship (indirect $\beta = 0.17$, 95% CI [0.08, 0.26]) speak to the centrality of family in the entrepreneurial socialisation of Punjab's youth. The family business background effect on EI (Cohen's $d = 0.63$, $p < 0.001$) — the largest demographic effect size recorded in this study — confirms that students who grow up observing, participating in, and being mentored by family entrepreneurial activity carry a substantial head start in both attitude formation and self-efficacy. This finding has a dual implication. For students from entrepreneurial families, the college experience is an enhancement of an already-present

entrepreneurial disposition. For the 65.4% of the sample without family business backgrounds, the college experience is, potentially, the only institutional channel through which entrepreneurial attitude and self-efficacy can be systematically developed. This places an even greater burden on the quality and intentionality of the institutional environment — and makes the below-average IE score observed in this study particularly consequential.

6.3 Gender and Location Disparities: Structural Barriers to Intent Formation

The gender gap in entrepreneurial intention (Male $M = 3.52$, Female $M = 3.09$, $d = 0.47$) is significant both statistically and practically, particularly given that female students constitute 58.7% of this sample — reflecting the demographic reality of women-dominated commerce programmes in Punjab's government and private aided colleges. Decomposing this gap through the structural model reveals that female students report lower self-efficacy ($M_{\text{female}} = 3.21$ vs. $M_{\text{male}} = 3.68$, $t(478) = 5.12$, $p < 0.001$) and are more subject to restrictive subjective norms ($M_{\text{female}} \text{ SN} = 2.94$ vs. $M_{\text{male}} \text{ SN} = 3.52$, $t(478) = 6.31$, $p < 0.001$). The combination of lower capability confidence and stronger family normative resistance creates a compounding barrier that male students do not face to the same degree. These findings are consistent with Singh and Raghuvanshi (2020) and point toward gender-specific pedagogical responses that simultaneously address self-efficacy (through women's entrepreneurship workshops, all-female mentoring cohorts, and female alumni entrepreneurship storytelling) and subjective norms (through family engagement sessions that explicitly validate female entrepreneurship as a legitimate and socially respected choice).

The location-based EI gap (Urban $M = 3.48$, Rural $M = 3.00$, $d = 0.53$) reflects a structural dimension of inequality that education policy must address directly. Rural students in this sample report lower institutional environment quality ($M_{\text{rural}} \text{ IE} = 2.43$ vs. $M_{\text{urban}} = 3.04$, $t(478) = 7.21$, $p < 0.001$), lower self-efficacy ($M_{\text{rural}} \text{ SE} = 3.14$ vs. $M_{\text{urban}} = 3.65$, $t(478) = 6.18$, $p < 0.001$), and weaker industry exposure. These students are not less disposed toward entrepreneurship — their attitude scores do not differ significantly from urban students ($M_{\text{rural}} \text{ ATE} = 3.54$ vs. $M_{\text{urban}} \text{ ATE} = 3.69$, $p = 0.14$) — but they are systematically deprived of the institutional scaffolding and social exposure that translate positive attitude into confident intention.

VII. CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS

7.1 Conclusions

This study has examined the determinants of entrepreneurial intention among 480 commerce and management students across ten HEIs in Punjab using a theoretically grounded extended TPB framework and rigorous multi-method quantitative analysis. All six null hypotheses were rejected at the 5% significance level. The structural model explains 61.7% of the variance in entrepreneurial intention — a strong result that validates both the theoretical extension and the measurement instruments employed.

Three substantive conclusions emerge from this analysis. First, self-efficacy is the decisive driver of entrepreneurial intention in this population, with its development being primarily mediated through the quality of the institutional environment. Second, family entrepreneurial support operates as both a direct enabler of EI and an indirect one through attitude formation, creating compounding advantages for students from business families that the institutional environment must specifically counterbalance for first-generation entrepreneurial students. Third, significant gender and location-based disparities in EI exist and are mechanistically traceable to systematic deficits in self-efficacy and institutional environment access rather than attitude — meaning that interventions targeting the attitudinal layer alone will be insufficient.

7.2 Recommendations

For College Administrators:

- Establish or strengthen Entrepreneurship and Innovation Cells (EICs) with active student-facing programming — business plan competitions, startup weekends, alumni entrepreneur talks, and mentoring calendars — at minimum one event per month.
- Adopt gender-responsive entrepreneurship programming: all-female startup cohorts, women entrepreneur role model series, and family orientation sessions that address parental reservations about female entrepreneurship.
- Implement a structured 'Entrepreneurship Awareness Week' at the beginning of each academic year covering startup support resources, incubation cell facilities, and available government schemes for youth entrepreneurs.

For Panjab University and UGC:

- Mandate a minimum two-credit entrepreneurship elective in all B.Com and M.Com programmes under NEP 2020, with a project-based assessment component that requires students to develop and present a viable business concept.
- Establish a Panjab University Startup Mentoring Network connecting successful alumni entrepreneurs with current commerce students across affiliated colleges, with specific rural college outreach targets.
- Introduce an annual Entrepreneurship Readiness Index across affiliated colleges to identify institutions where EI scores and self-efficacy levels are below threshold, triggering targeted resource allocation.

For State Government:

- Expand the Punjab Startup Policy 2022's student entrepreneurship provisions to include a dedicated 'Commerce Graduate Startup Grant' accessible to B.Com and M.Com students, reducing the engineering-centric bias of current startup incentive architecture.
- Fund rural college entrepreneurship infrastructure through the MSME Development Institute network, directly targeting the institutional environment deficit documented in this study.

7.3 Limitations and Future Research

The cross-sectional design of this study prevents causal inference in the strict sense; the observed relationships are correlational, and reverse causality — particularly between self-efficacy and attitude — cannot be entirely ruled out. The geographic confinement to Punjab limits direct generalisability to other Indian states with different cultural and institutional profiles, though the theoretical framework and measurement instruments are designed for broader applicability. Future research should examine whether the documented entrepreneurial intentions among this cohort translate into actual venture creation behaviour through longitudinal follow-up studies; the intention-action gap is well documented in the global literature and its magnitude in the commerce graduate population of Punjab remains unknown. Studies comparing the Punjab finding with commerce student populations in other Indian states — particularly those with higher startup densities, such as Karnataka and Maharashtra — would illuminate the specific contribution of regional institutional and cultural factors versus universal determinants.

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