

Media, Motivation, Mastery, and Mobilization: A 4M Framework of Entrepreneurial Intention, Barriers, and the Intention-Action Gap

Aarti Chahal¹, Tamanna Baniwal²

¹Assistant Professor, Institute of Management Studies and Research, Maharshi Dayanand University, Rohtak, Haryana

²Independent Researcher, Karnal, Haryana

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ABSTRACT

This paper explores entrepreneurial intention, motivations, and barriers among students at a state university in Haryana, India through an exploratory, open-ended qualitative study. The study draws on student interviews from two cohorts: students interviewed before and after the widespread adoption of generative AI (25 each). The researchers use a combination of manual thematic coding and AI-assisted analysis using Google NotebookLM and Claude.

The study's central contribution is the 4M Framework — Media, Motivation, Mastery, and Mobilization. Media functions as the framework's entry condition — the awareness, interest, and intention through which entrepreneurship becomes visible and desirable. Media makes entrepreneurship visible; Motivation sustains the desire to pursue it; Mastery shapes perceived capability; and Mobilization converts intention and capability into action. The framework is non-linear, with gaps in one dimension potentially bridged through people, networks, resources, or technology.

The analysis identified six themes. First, popular media — specifically the reality television programme *Shark Tank India* — emerges as an influential trigger for initial entrepreneurial interest among students. Second, the pervasive fear of the first step functions as a primary procedural barrier. Third, students face mastery deficit involving practical knowledge in operational areas. Fourth, students across both cohorts expressed a consistent preference for experiential and demonstration-based learning. Fifth, the preference for stable employment functions as a persistent cultural counter-motivator. Sixth, selling aversion, agrarian identity, and limited entrepreneurial exposure within households and peer groups act as entrepreneurial barriers.

Applying a pre-AI/post-AI comparison, the paper finds that AI tools have materially reduced barriers in a few areas such as idea screening, content creation, business plan drafting, and market research. Venture barriers related to manufacturing, including plants, machinery, as well as cultural preferences, remain largely unchanged. The post-AI cohort showed the emergence of proto-entrepreneurial income generation through AI-assisted content and marketing services. However, it is sector-specific and currently small in scale. Future research should examine the transition from entrepreneurial intention to venture creation, focusing on the role of skills, mentoring, networks, financial support, and institutional mechanisms. Although this study identifies patterns and introduces a conceptual framework, future research should validate and extend these findings through larger samples, structured surveys, longitudinal studies, and integration with established entrepreneurship literature.

Keywords: Entrepreneurial Motivations, Intentions, 4M Framework, Shark Tank India, Barriers, Artificial Intelligence

INTRODUCTION

Entrepreneurship has emerged as a strategic priority for economic growth, innovation, employment generation, and sustainable development across both developed and developing economies (Dhahri & Omri, 2018).

Universities have consequently become central actors in nurturing entrepreneurial talent by developing entrepreneurial mindsets, competencies, and innovation capabilities among students (Meoli et al., 2019). In India, entrepreneurship has gained considerable policy attention over the past decade through initiatives such as Startup India, the Atal Innovation Mission (AIM), and the National Education Policy (NEP) 2020, all of which position entrepreneurship as an important educational and economic objective. Haryana has further strengthened this ecosystem through initiatives such as the Haryana Udhyaam Memorandum (HUM) portal, Rajya Udyamita Ayog, industrial corridors and Vision@2047 initiatives, startup grants and support for universities, startup incubation centres, and entrepreneurship development programmes. University-level support of this kind has been shown elsewhere in India to shape students' entrepreneurial intentions in specific sectors, including renewable-energy ventures (Bharti, Agarwal, Satsangi, & Rajwanshi, 2024), suggesting that institutional support and entrepreneurial intention interact at the sector level and not only in the aggregate. These initiatives reflect growing institutional efforts to encourage innovation and enterprise creation among young graduates through entrepreneurship education, incubation facilities, mentoring programmes, innovation centres, and financial support mechanisms.

These developments have contributed to a favourable entrepreneurial environment. The Global University Entrepreneurial Spirit Students' Survey (GUESSS, 2024), highlights the highest entrepreneurial intention of Indian university students globally, with an average score of 4.6 on a 7-point scale compared with the global average of 3.7. Furthermore, 31.4% of Indian students intend to establish their own businesses within five years of graduation, marginally exceeding the global average of 30%. These findings indicate strong entrepreneurial aspirations among Indian university students. However, entrepreneurial intention does not necessarily translate into entrepreneurial action. This intention–action gap raises an important question for entrepreneurship educators and policymakers: are existing university initiatives addressing what students actually perceive they need to move from entrepreneurial interest and intention towards concrete entrepreneurial action, or are they primarily delivering entrepreneurship content through institutional curricula?

The challenge is particularly relevant in the context of Haryana's public universities, where students may balance entrepreneurial aspirations with family expectations of stable employment and financial security (Kumar et al., 2024). While universities increasingly offer entrepreneurship courses, incubation centres, innovation competitions, and startup support programmes, relatively little evidence exists regarding how students themselves perceive their entrepreneurial awareness, motivations, knowledge requirements, aspirations, and barriers. Periodic assessment of these dimensions is important because entrepreneurial ecosystems evolve continuously in response to technological, economic, and societal changes.

Previous research has identified numerous factors influencing entrepreneurial intention. A recent systematic review by Fadzil et al. (2025) categorised these determinants into five broad domains: cognitive factors, such as attitudes and perceived behavioural control; personality factors, including resilience and self-efficacy; social factors, such as peer influence and family support; educational factors, including curriculum design and practical exposure; and contextual factors, such as funding availability and economic conditions. Although this body of literature has substantially advanced understanding of entrepreneurial intention, much of the existing research relies on predefined theoretical models and hypothesis testing to examine relationships among established variables. Consequently, such studies primarily explain which factors influence entrepreneurial intention rather than exploring what students themselves perceive as the barriers, capabilities, and forms of support required to move from entrepreneurial awareness and intention towards action.

The present study adopts a different perspective. Rather than testing predetermined hypotheses, it uses an exploratory qualitative approach to understand entrepreneurship from students' own experiences and narratives. Open-ended responses allow themes to emerge from participants' accounts and provide scope for identifying factors that students themselves perceive as influential in their entrepreneurial journey. This approach is particularly relevant to understanding the intention–action gap because the practical difficulties experienced by aspiring entrepreneurs may extend beyond the established constructs typically included in intention-based models (Liñán et al., 2024). This paper attempts to move beyond the Theory of Planned Behavior to capture the complex realities underlying student start-ups (Maheshwari et al., 2022).

This study develops the 4M Framework—Media, Motivation, Mastery, and Mobilization— as a conceptual interpretation of these student narratives. Media makes entrepreneurship visible; Motivation sustains the desire to pursue it; Mastery shapes perceived capability; and Mobilization converts intention and capability into action. The framework is non-linear, with gaps in one dimension potentially bridged through people, networks, resources, or technology. Rather than treating entrepreneurial development as a fixed sequence, the framework highlights the interaction between awareness, motivation, capability, and the resources required to translate entrepreneurial aspirations into action.

The emergence of generative artificial intelligence (AI), particularly following the public release of ChatGPT in November 2022, provides an important technological context for examining these entrepreneurial capabilities and barriers. Generative AI has made a range of activities relevant to early-stage entrepreneurship more accessible, including idea generation, market research, business planning, content creation, coding assistance, and digital marketing (Mudapaka et al., 2025; Zhou et al., 2024). However, the extent to which such tools alter students perceived entrepreneurial barriers remains an emerging area of inquiry. The present study therefore incorporates a pre-AI/post-AI comparison to explore whether the barriers and capabilities described by students differ across the two contexts. The comparison focuses not on establishing a causal effect of AI, but on identifying which entrepreneurial barriers appear more amenable to technological support and which remain rooted in cultural, structural, and financial conditions.

Accordingly, this study makes three related contributions. First, it provides an exploratory, student-centred account of the motivations, capabilities, learning preferences, and perceived barriers associated with entrepreneurial action. Second, it proposes the 4M Framework as a conceptual model for understanding the movement from entrepreneurial awareness and intention towards action, while recognising the non-linear nature of this process. Third, by comparing pre-AI and post-AI student cohorts, it provides qualitative insight into how the emergence of generative AI intersects with entrepreneurial capability and perceived barriers, while distinguishing technology-sensitive barriers from those that remain largely unaffected. Together, these contributions provide practical implications for universities, entrepreneurship educators, policymakers, and entrepreneurship support organisations seeking to strengthen the transition from entrepreneurial aspiration to entrepreneurial action.

REVIEW OF LITERATURE

The academic literature on entrepreneurial intentions is extensive. Ajzen (1991) remains the dominant theoretical framework, connecting intention to attitude, subjective norms, and perceived behavioural control. Bandura (1986) adds the dimension of self-efficacy — the belief in one's own capability to execute — which is consistently identified as the strongest individual-level predictor of entrepreneurial action. Krueger, Reilly & Carsrud (2000) validated competing models of entrepreneurial intentions and found that perceived feasibility — which maps closely to Bandura's self-efficacy — is a stronger predictor of intent than perceived desirability.

Theories related to audiences attachment with media figures and how these attachments shape behaviour, is relevant to this study. Parasocial interaction theory (Horton & Wohl, 1956) describes the one-sided relationship viewers develop with media personalities, in which repeated exposure builds a sense of familiarity and trust even though the relationship is not reciprocal. Applied to entrepreneurship, this theory offers a partial explanation for why a programme such as Shark Tank India can shape career thinking among viewers who have no direct contact with entrepreneurs. Watching entrepreneurs pitch, answer difficult questions, and negotiate investment allows viewers to observe entrepreneurial reasoning that would otherwise be inaccessible to them, particularly in households where no one runs a business. Studies on entrepreneurial role models (Bosma, Hessels, Schutjens, Van Praag, & Verheul, 2012) show that exposure to entrepreneurs, whether through family, community, or the workplace, is associated with stronger self-efficacy and entrepreneurial intention, but this literature generally assumes some form of personal or community connection to the role model. Parasocial interaction theory extends this reasoning to a form of exposure that involves no personal relationship at all, and it provides a theoretical account of how a television programme can function as a distant but psychologically meaningful role-modelling mechanism. This study draws on this theory when

interpreting the Shark Tank India finding discussed in Sections 5 and 7.2, and it is a lens that has been largely absent from entrepreneurial intention research to date, which has tended to treat media exposure as unspecified background rather than as a theorised influence in its own right.

Despite the extensive literature on entrepreneurial intention, important research gaps remain, particularly in the Indian higher education context. Kumar, Paray, and Dwivedi (2020) highlighted the limited understanding of how individual entrepreneurial orientation translates into entrepreneurial intention, while finding that proactiveness, innovativeness, and risk-taking positively influenced entrepreneurial intention, with this relationship varying significantly across gender, academic background, and region in 35 universities across North, South, and Western India.

This gap is not confined to Haryana or to India. Comparable intention-action patterns, and comparable calls to look beyond the Theory of Planned Behaviour alone, have been reported among university students in Yemen (Al-Qadasi, Zhang, & Al-Jubari, 2021), Rwanda (Mukasa, Dennis, Ekosse, & Sangwa, 2025), Ghana (Usman, Braimah, Oduro-Ofori, & Kessey, 2025), and Palestine (Albatran & Atikbay, 2025), as well as across several regions of India (Shrivastava & Acharya, 2021; Tandon, Jain, Joseph, & James, 2024; Jahnavi, Reddy, & Bung, 2025; Raghavendra & Shivaprasad, 2024; Gulzar & Rashid, 2025). The consistency of this pattern across such different settings is itself informative: it suggests that the intention-action gap this study investigates reflects a structural feature of how entrepreneurial intention is formed and acted upon, rather than something specific to one country's education system or economy.

Existing research has identified a wide range of psychological, educational, cultural, and contextual factors that influence entrepreneurial motivation and intention. However, the findings remain inconsistent. Entrepreneurship education is widely recognized for promoting entrepreneurship as a career by enhancing entrepreneurial knowledge, developing entrepreneurial potential, and fostering an entrepreneurial culture among students (Ahmed et al., 2010; Belwal et al., 2015; Laukkanen, 2000). However, Athikalam, (2020) reported that 54.9% of students believed entrepreneurship education was not necessary to become an entrepreneur. The author attributed this perception to the prevalent belief among Indians that entrepreneurial traits, skills, and abilities are innate and therefore cannot be effectively taught through university education. Similarly, government support policies and access to entrepreneurial finance have frequently been identified as important determinants of entrepreneurial motivation, as they reduce resource constraints and encourage individuals to pursue entrepreneurial careers (Nabi et al., 2016). However, Hassan et al., (2021) found that neither government policies nor access to finance had a significant impact on entrepreneurial motivation. Instead, their study revealed that cultural support and entrepreneurship education were the primary factors fostering entrepreneurial motivation. These contradictory findings suggest that the influence of contextual and institutional factors on entrepreneurial motivation is highly context-dependent and warrants further investigation across different educational and regional settings.

Self-efficacy and perceived behavioural control, in particular, recur across this literature as stronger and more consistent predictors of entrepreneurial intention than attitude alone, whether the setting is science and technology students in India (Roy, Akhtar, & Das, 2017), engineering graduates more broadly (Iwu, Opute, Nchu, Babatunde, Iwu, & Eze, 2020; Arafat, Saleem, & Dwivedi, 2020), or university students in China and Vietnam (Chien-Chi, Sun, Yang, Zheng, & Li, 2020; Le, Doan, & Duong, 2023). Recent work has also shown that this capability belief can itself be strengthened through targeted intervention — mediated learning and risk-taking exercises in one study (Shukla & Kumar, 2024), and structured self-efficacy-building support in another (Amani, Ismail, Makona, Changelima, & Kazungu, 2024) — which is consistent with this paper's later argument that Mastery is a dimension that can be deliberately built rather than a fixed trait students either have or lack.

More recently, the emergence of generative artificial intelligence (AI) has created new opportunities for entrepreneurship by improving opportunity recognition, innovation, and venture creation processes (Dwivedi et al., 2023; Li et al., 2025). Although early evidence suggests that generative AI can positively influence students' entrepreneurial intentions, empirical research on how AI shapes students' entrepreneurial intentions, motivations, and perceived barriers remains limited, particularly in the Indian context. This study addresses



this gap by examining these dimensions among university students in Haryana and exploring the role of generative AI in influencing their entrepreneurial intentions.

METHODOLOGY

Research Design: Qualitative Research

This study adopts a qualitative research design grounded in the interpretive research paradigm, which seeks to understand participants' experiences, perceptions, and meanings from their own perspectives. It follows an emergent or naturalistic inquiry approach proposed by Lincoln and Guba (1985) where themes are allowed to emerge from participants' experiences rather than being shaped by predetermined variables, structured instruments, or hypothesis testing. This approach is particularly suitable for exploring complex and context-dependent phenomena such as entrepreneurial intention, motivation, and perceived barriers, and it has been applied productively in comparable educational settings where the object of study is participants' own sense-making rather than a predefined set of variables (Luong, 2025).

The study was deliberately designed as an open-ended inquiry into students' understanding of entrepreneurship. Rather than beginning with a fixed set of variables or testing a predetermined theoretical model, students were invited to describe what entrepreneurship meant to them, what encouraged or discouraged them from considering entrepreneurship, what knowledge and skills they believed were required, what difficulties they anticipated, and what kind of learning and institutional support they considered useful. This approach allowed participants to describe entrepreneurial aspirations and barriers in their own language and provided scope for identifying themes that may not be captured adequately through conventional structured measures.

The study was conducted among students enrolled in a credit elective course in Entrepreneurship Development at a state government university in Haryana, India. The participants came from different academic backgrounds, including Computer Science, B.Tech, MCA, B.Com, Tourism, and Pharmaceutical Science. The diversity of disciplinary backgrounds was relevant to the study because students' perceptions of entrepreneurial capability may differ according to their existing technical, commercial, and professional knowledge. The study context also included students from rural and urban backgrounds, providing a setting in which entrepreneurial aspirations coexist with differing social, educational, and employment environments.

The study has two cohorts. The first consisted of 25 student narratives collected during the academic year 2022–23, before generative AI tools had become widely accessible in mainstream student use. The second consisted of 25 student narratives collected after generative AI tools such as ChatGPT, Claude, and similar systems had become widely accessible to students. The two cohorts were not the same individuals. Accordingly, the comparison is treated as an exploratory cross-cohort comparison rather than a longitudinal assessment of individual change or an experimental test of the effect of artificial intelligence. Differences between the cohorts are therefore interpreted as observed differences in students' narratives within two different technological contexts.

Data Sources and Participants

The study draws on two groups of student narratives collected at different times. The first group comprises 25 student narratives collected during the academic year 2022–23, before generative AI tools became widely accessible in mainstream student use. The second group comprises 25 student narratives collected in 2026, when generative AI tools had become readily accessible to university students.

Table 1. Data Sources

Data Source	Participants	Description
Narratives of the students from pre-	25	Open-ended narratives collected during the academic year 2022–23 from students enrolled in a credit elective in Entrepreneurship Development. Participants were from

AI group		diverse academic backgrounds.
Narratives of the students from post-AI group	25	Open-ended narratives collected in 2026 from university students randomly selected from the available student population. The responses addressed entrepreneurial intentions, motivations, perceived barriers, learning preferences, and entrepreneurial action.

Source: Authors' presentation of sample size and data collection

The choice of two study groups was intentional. The analysis of the pre-AI student narratives was completed before the present study, but was unpublished. These findings provided an empirical reference point for examining whether the patterns identified before the widespread adoption of generative AI persisted in a substantially changed technological environment. The post-AI data were therefore used not simply to assess the effect of AI but to examine the consistency and robustness of the emerging 4M Framework across a significant technological transition.

The comparison focuses on three questions: which patterns remain consistent across the two groups, which appear to have changed, and whether the 4M Framework remains analytically useful in the post-AI context. The comparison is exploratory and contextual rather than causal. Since the two groups consist of different students and were not followed longitudinally, differences cannot be attributed exclusively to generative AI. Instead, the post-AI data provide an opportunity to examine the continued relevance, variation, and robustness of the framework under changed technological conditions.

The participants were university students rather than individuals with established entrepreneurial experience. This was consistent with the study's purpose of understanding entrepreneurship from the perspective of ordinary students, including those who expressed entrepreneurial interest but had not yet started a venture. Their diverse academic backgrounds also allowed the analysis to capture differences in perceived entrepreneurial capability and knowledge requirements. However, this analysis focuses specifically on entrepreneurial intention, motivational drivers, perceived barriers, learning preferences, and the movement from entrepreneurial interest towards possible action.

The adequacy of a qualitative dataset is often judged by the depth and richness of participant narrations rather than solely by sample size. Previous methodological research has shown that meaningful recurring patterns can emerge from relatively modest qualitative datasets when participant interviews provide sufficient depth and conceptual richness (Coenen et al., 2011; Guest et al., 2016; Hennink et al., 2019; Namey et al., 2016) (Guest, Namey, & McKenna, 2017; Hennink, Kaiser, & Weber, 2019; Braun & Clarke, 2019; Cleary, Horsfall, & Hayter, 2014; Namey, Guest, McKenna, & Chen, 2016; Coenen, Stamm, Stucki, & Cieza, 2012). In the present study, the adequacy of the dataset was assessed through the recurrence and conceptual richness of themes across participant narratives rather than through a claim of statistical representativeness. The repeated appearance of related patterns across the two cohorts provided sufficient material for addressing the exploratory objectives of the study.

Data Analysis: AI-assisted techniques: tools, rationale, and researcher accountability

The qualitative data were analysed using Braun and Clarke's six-phase thematic analysis framework, which includes familiarisation with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report (Braun & Clarke, 2006, 2019, 2022; Isik, 2026). This approach was selected because it allows for a systematic yet flexible way of identifying patterns and is preferred over other qualitative approaches such as interpretative phenomenological analysis and narrative analysis for a study that is interested in recurrent, cross-participant patterns rather than single case depth (Isik, 2026).

Thematic analysis was performed manually assisted by AI tools, Google NotebookLM and Claude (Anthropic). The study followed a human-in-the-loop approach, where AI served as a tool of analytical support but all interpretive decisions were left to the researcher (Alqazlan et al., 2025). Student narratives were first

read repeatedly by the researcher to achieve familiarisation with the data before they were uploaded to the AI platforms. The researcher also provided the AI tools with the study context, research objectives, and analytical focus so that coding suggestions and pattern identification remained relevant to the research questions.

NotebookLM and Claude were primarily used to organize interviews, identify recurring patterns, compare responses across participants and groups, examine coding consistency, identify alternative interpretations. The tools were also used to question emerging interpretations and identify responses that might support, contradict, or provide an alternative understanding of a proposed theme. All AI-generated codes and thematic suggestions were carefully compared with the original narratives and were accepted, modified, or rejected based on the researcher's judgement. The final themes, theme names, the 4M Framework, cross-cohort interpretations, and all substantive conclusions were developed by the researcher. The researcher retained full accountability for the use of AI and for everything presented in this paper. Roberson (2026), in an editorial for the *Academy of Management Journal*, similarly emphasises the importance of responsible and accountable use of artificial intelligence in research.

The use of artificial intelligence in research has expanded rapidly, supporting activities such as literature reviews, literature synthesis, data management, qualitative analysis, data interpretation, and academic writing (Currie et al., 2023; Huang & Tan, 2023; Salimi & Saheb, 2023; Semrl et al., 2023; Švab et al., 2023). AI-assisted qualitative analysis is an emerging methodological practice that can support coding, pattern recognition, and thematic organisation (Prescott et al., 2024). Lee et al., (2024) report high agreement between certain LLM-assisted coding pipelines and human coding in benchmark datasets. The use of Claude and Google NotebookLM in the present study was therefore deliberate, as both tools can assist in examining large amounts of textual material, identifying recurring patterns, and interrogating the researcher's emerging interpretations. Zhang et al. (2023), in their work on QualiGPT, describe a similar role for large language models as analytical interlocutors that can raise alternative readings and question whether a proposed theme is adequately supported by the data. Recent studies have also examined the ability of generative AI to identify thematic patterns comparable with those obtained through manual coding under specified conditions (Player et al., 2024; De Paoli, 2024a). Consistent with these applications, Claude and NotebookLM were used in this study for preliminary pattern identification, cross-narrative comparison, and interrogation of thematic consistency. Their role was supportive rather than determinative: AI outputs were treated as suggestions requiring verification against the original narratives rather than as findings in themselves.

The dataset contained additional identifiable patterns concerning the types of ventures students aspired to establish, gender and rural–urban differences in entrepreneurial intention and barriers, and the role of entrepreneurial networks. However, the present study deliberately focuses on entrepreneurial intention, motivational drivers, perceived barriers, and the intention–action gap. The analysis examines these themes across the pre-AI and post-AI cohorts. Since the two cohorts comprise different students, the comparison is interpreted as an exploratory cross-cohort comparison rather than as evidence of individual-level change or a causal effect of artificial intelligence.

Epistemological Implications of AI-Assisted Qualitative Research

The employment of AI tools in this study opens up questions that extend beyond procedure and concern how qualitative knowledge is formed in the first place. The traditional approach to thematic analysis assumes that meaning is constructed through the analyst's sustained and reflexive engagement with the data: the analyst reads and re-reads narratives in the light of their own position, training and tacit knowledge of the research setting (Braun & Clarke, 2019, 2022). The introduction of an AI tool into this process then raises the fair question of what kind of “reading” the tool is actually doing, and whether pattern identification by a large language model is the same thing as interpretation in the sense qualitative methodology has traditionally meant it to be?

NotebookLM and Claude, the tools used in this study, do not interpret data the way a human researcher does. They identify statistical and linguistic regularities across text and produce summaries and comparisons based on those regularities, without lived experience of the research setting and without the reflexive awareness that a qualitative researcher brings to a coding decision. This study therefore treated AI output as a source of

candidate patterns rather than as interpretation in its own right. Every theme, and the 4M Framework itself, was developed, checked, and finalised by the human researchers against the original narratives, in line with recent guidance on treating generative AI as an analytic aid rather than an independent co-analyst (Costa, 2025; Roberson, 2026).

This poses a more general epistemological problem for qualitative research as AI tools become more prevalent in it: who has interpretive authority when part of the analytic process is delegated to a system that cannot itself be reflexive? The position taken in this study is that authority remains with the human researchers, and that AI-assisted qualitative work is only as trustworthy as the transparency with which researchers disclose what the tool did, what it did not do, and where its output was accepted, changed, or set aside (Dwivedi et al., 2023). This kind of disclosure is, in the authors' view, becoming a basic requirement of methodological rigour for qualitative studies that use AI, in much the same way that a clear account of coding procedure has long been expected of manual thematic analysis.

Trustworthiness and Rigor

The criteria for qualitative rigor are different to quantitative research (Colorafi & Evans, 2016; Polit & Beck, 2016) and this study reports against the four criteria most widely used for that purpose: credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985; Amankwaa, 2016; Thomas & Magilvy, 2011). These criteria are addressed here explicitly because a clear account of how they were pursued is itself part of what makes a qualitative study auditable (Cope, 2014; Gunawan, 2015).

Credibility was supported through prolonged engagement with the narratives — the researcher read each account repeatedly before any coding began — and through the use of Claude and NotebookLM as a form of analytic triangulation, in which AI-generated pattern summaries were checked against, and where necessary overruled by, the researcher's own reading of the original text (see Section 3.3). Transferability is supported by providing a detailed description of the study context, participant background, and data collection procedure (Sections 3.1 and 3.2), so that readers can judge for themselves how far the findings may apply to other university settings (Hall & Liebenberg, 2024). Dependability rests on the systematic, phase-by-phase application of Braun and Clarke's (2006) thematic analysis procedure and on keeping a record of how themes changed as coding progressed. Confirmability was pursued by cross-checking emerging themes against the raw narratives rather than against the researcher's prior expectations, and by using the AI tools specifically to surface alternative readings that might challenge an emerging interpretation (Section 3.3), consistent with recommendations that qualitative researchers actively seek disconfirming evidence rather than only supporting evidence (Connelly, 2016; Morse, 2015).

This study did not use member checking — returning themes to participants for confirmation — because the narratives were not collected in an ongoing relationship, which limited the practical scope for follow-up contact. This is acknowledged as a limitation of the trustworthiness strategy used here; member checking is a recognised way of strengthening credibility in thematic analysis (Birt, Scott, Cavers, Campbell, & Walter, 2016), and its absence is one reason the findings are presented as exploratory rather than confirmatory. Taken together, these strategies do not guarantee that another researcher would produce identical themes from the same data; qualitative analysis does not aim for that kind of replicability. They are intended instead to make the analytic process transparent enough that a reader can judge whether the interpretations offered are reasonably grounded in the data (Enworo, 2023).

The 4M Framework: Conceptual Contribution

The 4M Framework is the primary conceptual contribution of this paper. It emerged inductively from the student narratives rather than being imposed on the data as a predetermined analytical model. The framework brings together four interrelated dimensions of students' entrepreneurial journey: Media, Motivation, Mastery, and Mobilization (Figure 1). Together, these dimensions provide a conceptual explanation of how entrepreneurial awareness and intention may move towards entrepreneurial action and where gaps may emerge in this process.

The framework does not propose a fixed or sequential progression through the four dimensions. Motivation and Mastery operate as parallel and interacting conditions, while Mobilization represents the process through which intention and perceived capability can be translated into action. A student may possess strong motivation but lack the knowledge or skills required to act, while another may possess relevant skills but lack sufficient motivation or social support. Gaps in these dimensions may be bridged through people, networks, resources, or technological tools. Thus, the framework focuses not only on whether students possess entrepreneurial intention, but also on what enables or constrains the movement from intention towards action. The framework comprises four elements, as presented in Table 2.

Table 2: 4M Framework Conceptualization

Framework Element	Conceptual Definition
M1: Media: The Awareness and Interest	Media is conceptualized as the combination of message and channel through which entrepreneurship becomes visible and imaginable to students. It includes popular media, peer and family discussions, entrepreneurial success stories, alumni exposure, and informal digital networks. Its role is to create awareness, interest, and an initial perception that entrepreneurship is a possible career pathway.
M2: Motivation: The Push and Pull	Motivation is conceptualized as the interaction between individual dispositions and the social environment surrounding the student. It includes personal inclination, perceived self-efficacy, desire for independence, risk orientation, social norms, family expectations, and peer influence. Motivation may operate in both directions, encouraging entrepreneurship through aspirations for independence and creativity while simultaneously discouraging it through preferences for secure government or corporate employment.
M3: Mastery: The Capability Gap	Mastery is conceptualized as the technical knowledge, practical expertise, and operational capabilities perceived as necessary to initiate and develop a venture. It includes digital competencies, website development, automation, business planning, market research, and technical or production knowledge. The narratives indicate that students from non-science and non-technical backgrounds particularly perceive gaps in technical and domain-level knowledge as barriers to entrepreneurial action.
M4: Mobilization: The Intention–Action Bridge	Mobilization is conceptualized as the process through which entrepreneurial intention and perceived capability are translated into concrete action. It concerns the availability and activation of resources, people, networks, technological tools, opportunities, and other forms of support that can help students overcome gaps between what they possess and what entrepreneurial action requires. Mobilization is therefore not a sequential stage following Motivation and Mastery but an action-enabling process that connects intention and capability to possible action.

Source: Author's compilation based on thematic analysis of student narratives.

M1 — Media: The Awareness and Interest

How does a student with no family business background, no mentor, and no entrepreneur in their immediate circle first become aware that entrepreneurship is something they could pursue? In the present study, popular media, particularly Shark Tank India, emerged as an important trigger of entrepreneurial interest across the two student groups. The programme did not provide students with entrepreneurial capability; rather, it made entrepreneurship visible, relatable, and discussable. For some students, exposure to the programme generated curiosity and encouraged further engagement with entrepreneurship, including interest in formal entrepreneurship education.

Media in the 4M Framework is therefore not limited to television. It is conceptualized as the combination of message and channel through which the possibility of entrepreneurship reaches students' awareness. This may include peer discussions arising from shared media experiences, family conversations influenced by

entrepreneurial stories, social media and other digital platforms, and exposure to entrepreneur or alumni success stories. The influence of media depends not only on the platform but also on the relevance and relatability of the message. Stories of entrepreneurs perceived as socially or economically similar to the student may make entrepreneurship appear more attainable than abstract information about it.

The findings therefore position Media as an entry condition of entrepreneurial awareness and interest, rather than as a source of entrepreneurial capability itself. Media can make entrepreneurship visible and stimulate curiosity, but it does not by itself provide the knowledge, motivation, resources, or practical capability required to act. In this sense, Media opens the possibility of entrepreneurship; the remaining dimensions determine how that possibility is interpreted and whether it can move towards action.

M2 — Motivation: The Push and Pull

Once Media has created awareness, what happens to it? Motivation in this study is not a simple positive force that either exists or does not. It is shaped by factors that are partly internal and partly social, and it may be weakened by social expectations before it translates into action.

Motivation is conceptualized here as a combination of individual dispositions and the social environment in which students operate. At the individual level, it includes attitude toward entrepreneurship, personal inclination, curiosity about building something, perceived self-efficacy—the belief that one is capable of execution—and willingness to accept risk. These characteristics vary across students. Some participants expressed a strong and relatively spontaneous interest in entrepreneurship, while others were clearly uninterested. A third group occupied an intermediate position: they became curious about entrepreneurship following media exposure but remained uncertain about whether they would eventually pursue it.

At the social level, Motivation is shaped by norms that extend beyond the university. The preference for stable government employment—the *sarkari naukri*—appeared not merely as an alternative career option but as an important social expectation in students' narratives. Entrepreneurship was often associated with uncertainty and risk, whereas government or corporate employment was viewed as providing greater stability and security. The extent to which entrepreneurial motivation can be sustained therefore depends not only on individual inclination but also on the surrounding social environment, including family expectations, financial circumstances, and the presence of supportive people. Motivation and Mastery operate in parallel: neither is a prerequisite for the other, and neither alone is sufficient to translate intention into action.

M3 — Mastery: The Capability Gap

Even students with clear entrepreneurial motivation may encounter a barrier when they consider how to execute their ideas. The student narratives contain numerous entrepreneurial ideas, but they also reveal uncertainty about the technical and practical knowledge required to implement them. This is what Mastery represents: a perceived gap between having an entrepreneurial idea and possessing the knowledge and capabilities needed to execute it.

Mastery is conceptualized as the technical knowledge, practical expertise, and operational capabilities required to initiate and develop a venture. It includes manufacturing knowledge, digital competencies such as website development and automation, AI tool proficiency, and the practical know-how involved in developing a product or service platform. Students from non-science and non-technical backgrounds particularly described difficulties related to technical and domain-level knowledge. They could identify business opportunities but often perceived a gap between what they wanted to create and what they knew how to build.

This distinction is important because it points towards a different type of intervention. If the barrier were primarily a confidence problem, interventions could focus mainly on motivation, encouragement, role models, and confidence building. The narratives, however, indicate that many perceived barriers concern knowledge and skills required for execution. Addressing Mastery therefore requires practical exposure, skill development, demonstrations, collaboration, and access to appropriate technological tools.

The post-AI narratives further indicate that some aspects of this Mastery gap have changed. AI-assisted tools can help non-technical students with activities such as website development, content creation, business planning, idea screening, and other early-stage entrepreneurial tasks. The barrier has therefore not disappeared, but its nature appears to have shifted. In some cases, the challenge is no longer simply the absence of technical capability but limited awareness of available tools and uncertainty about how to apply them effectively. This highlights the importance of guidance, demonstrations, and hands-on learning in helping students use technology to overcome selected capability gaps.

Mastery therefore operates alongside Motivation rather than after it. Students do not necessarily need to overcome every capability limitation before considering action; instead, they may seek ways of bridging particular gaps through learning, technological assistance, or collaboration with others.

M4 — Mobilization: The Intention–Action Bridge

Mobilization represents the point at which entrepreneurial intention and perceived capability can move towards concrete action. It addresses a central issue emerging from the student narratives: having an entrepreneurial idea and motivation does not necessarily mean knowing what to do next. Students may express interest in entrepreneurship and recognize the skills they need, yet remain uncertain about the first practical step. Rather than being a fixed stage that automatically follows Motivation and Mastery, Mobilization is conceptualized as an action-enabling process. It occurs when the gap between what students currently possess and what entrepreneurial action requires can be bridged through available mechanisms. These mechanisms may include access to resources, technological tools, social support, practical guidance, networks, or opportunities for experiential learning.

The narratives suggest that mobilization can occur through the combination of complementary capabilities. A student may possess entrepreneurial motivation but lack technical expertise, while another may possess technical skills but lack an entrepreneurial idea or motivation. Collaboration can therefore enable students to combine different forms of capability. Similarly, resources such as financial support, incubation facilities, institutional guidance, or access to external expertise help students obtain capabilities that they do not possess themselves.

A further pathway involves self-bridging, where students attempt to close their own capability gaps through learning, experimentation, and repeated practice. The post-AI narratives suggest that technological tools can support this process by reducing the time, cost, or technical difficulty associated with some early-stage entrepreneurial activities. However, access to a tool does not automatically produce action; students also require awareness of its applicability, confidence in using it, and clarity about how it fits into the entrepreneurial task.

Mobilization is conceptualized as the process of connecting and channeling the resources, guidance, complementary skills, entrepreneurial networks, alumni support, institutional linkages, and technological tools required to bridge the gap between entrepreneurial intention and action. It represents an enabling mechanism through which existing motivation and capability can be connected with the resources required for entrepreneurial action.

Six Themes Across Two Data Sources

The thematic analysis of the 50 student narratives—comprising 25 pre-AI and 25 post-AI responses—resulted in six recurring themes. The themes were evident across both groups, indicating substantial continuity in students' entrepreneurial intentions, motivations, learning preferences, and perceived barriers. Each theme is presented below with representative quotations from the student narratives, reproduced verbatim where available. The six themes map onto and elaborate the four dimensions of the 4M Framework: Media, Motivation, Mastery, and Mobilization. These themes indicate that the underlying pattern of entrepreneurial perceptions remained largely consistent across the two groups. Students in both groups described similar motivational, cultural, procedural, and capability-related barriers. At the same time, the post-AI narratives indicated that certain activities associated with early-stage entrepreneurship—particularly digital content

creation, marketing, advertising, and aspects of learning and business preparation—had become easier or more accessible through AI-enabled tools. These differences are not treated as separate themes; rather, they are examined as cross-group variations within the recurring themes. Section 6 analyses the extent and nature of these variations in detail.

Theme 1: Shark Tank India and the media trigger

Shark Tank India emerged as the most prominent media-based trigger of entrepreneurial interest across the student narratives, with its influence particularly evident in the pre-AI group. In the post-AI group, students also referred to a wider range of entrepreneurial reality programmes, including *IdeaBaaz*, *Pitch to Get Rich*, and the international *Shark Tank/Dragons' Den* format. However, unlike the pre-AI group, their references were more dispersed across different programmes rather than being concentrated primarily around *Shark Tank India*. Nonetheless, *Shark Tank India* appeared to have the strongest influence, particularly because of its popularity and visibility within students' everyday media environment.

The significance of *Shark Tank India* extended beyond simple entertainment or inspiration. Students described how the programme made entrepreneurship more visible and understandable by showing what entrepreneurial activity looked like in practice. The logic of a pitch, the language of market validation, the interaction with investors, and the process of presenting a business idea became more familiar through repeated exposure. For students who had limited exposure to business owners or entrepreneurial activity within their immediate social environment, this represented an important shift in how entrepreneurship was perceived: it became something that could be observed, discussed, and potentially pursued.

The influence of media was also strengthened by the social context in which it was consumed. Student narratives indicated that entrepreneurial programmes become subjects of discussion among peers and within families. One student described watching *Shark Tank India* with their father and brother at the dinner table. It places entrepreneurship inside the household — not as a distant aspiration but as a shared conversation between people who matter to the student. In this way, media exposure can move entrepreneurship from an individual thought into a shared conversation. This social dimension is important because several students came from backgrounds where entrepreneurship was not a routine topic of discussion and where stable employment remained the more familiar career expectation. Two participants noted that the programme is changing how Indian society perceives entrepreneurs. One participant put it plainly: the programme has made students more respectful toward founders.

The pedagogical implication is particularly relevant to the Media dimension of the 4M Framework. For some students, exposure to entrepreneurial media created curiosity that subsequently encouraged them to engage with entrepreneurship education. In such cases, media did not provide the knowledge or skills required to start a venture; rather, it created the initial interest and intention to explore entrepreneurship further. The findings therefore suggest that popular entrepreneurial media can function as an entry condition by making entrepreneurship visible, relatable, and discussable, particularly for students who have limited direct exposure to entrepreneurial role models. The novelty that the programme demonstrates — that entrepreneurship talk can and should be a regular part of daily conversation among students, families, and peers — is what most students' environments currently lack.

Theme 2: Fear of the first step — the procedural mastery barrier

The most consistent finding across both student groups is procedural: students do not know how to begin. This is not simply a motivational deficit. Students who expressed genuine interest in entrepreneurship and had specific ideas they believed in described the same difficulty at the point of action—not necessarily because they doubted their ideas, but because the first concrete step was unclear.

What do I register first? Do I need a company? What does a GST number involve? Who do I talk to? In the post-AI group, students were somewhat more comfortable with this initial stage, as AI tools enabled them to plan their businesses, analyse their ideas, obtain feedback, and conduct preliminary market research. These questions are not sophisticated. They represent the basic procedural literacy of starting a business, yet students

indicated that such practical knowledge was largely absent from their formal education. The entrepreneurship courses they had taken addressed areas such as opportunity recognition and business models, but students still lacked clarity about what to do on Day One.

The procedural gap is therefore closeable. It requires practical guidance that translates entrepreneurial knowledge into a concrete sequence of initial actions. This finding connects the procedural barrier to both Mastery and Mobilization within the 4M Framework: students may possess entrepreneurial interest but still require the knowledge and guidance needed to convert that interest into a first step.

This pattern is not unique to the present sample. Barriers of a similarly procedural kind — knowing what to register, whom to approach, and how to take a first visible step — have been documented among undergraduates in Malaysia (Ng et al., 2025) and modelled directly as constraints on the intention-to-action transition among postgraduate management students across India, Singapore, and Malaysia (Trivedi, 2023), reinforcing the reading offered here that this is a solvable knowledge gap rather than a deeper unwillingness to act.

Theme 3: The technical knowledge gap — the domain mastery barrier

Students from non-science and non-technical disciplines—Commerce, Tourism, Humanities, Pharmaceutical Sciences, and related fields—identified a domain-level barrier that sits beneath the procedural one: they lack the technical knowledge required for execution. Website development, product manufacturing, platform design, point-of-sale systems, and related activities are not necessarily skills provided through their formal curriculum. Students therefore experienced their absence as a substantial barrier when considering how to implement an entrepreneurial idea.

This finding holds, but with an important partial revision in the post-AI group. AI tools have materially reduced several areas within this barrier. Marketing, advertising, poster creation, and content generation—activities that previously required either design skills or a budget to outsource—are now more accessible to students across disciplines. Students in the post-AI group reported greater comfort with the idea of promoting a product or service, not because their design skills had necessarily changed but because the tools available to them had changed. Time, which students identified as a constraint alongside skill, has also been reduced for some of these activities: tasks that previously required considerably more time can now be completed more quickly.

The manufacturing gap is different. The post-AI narratives did not indicate a comparable reduction in barriers related to physical production. A student who wants to produce a physical product still faces knowledge requirements concerning production processes, supply chains, material sourcing, and production costing. This distinction—between the digital mastery gap, where AI has reduced some barriers, and the physical production gap, where such change is much less evident—is discussed in detail in the following section.

The value of closing this gap through experiential rather than purely classroom learning is well established: structured internships have been shown to raise both entrepreneurial intent and self-efficacy among university students in comparable settings (Botha & Bignotti, 2016), and formal business-incubation support, when combined with entrepreneurship education, has a similar effect (Anjum, Díaz Tautiva, Zaheer, & Heidler, 2024). This supports the practical implication developed later in this paper that domain-specific Mastery is better built through doing than through instruction alone.

Theme 4: The pull toward stable employment

The preference for stable employment emerged as a strong counter-force to entrepreneurship across the student narratives. Most students preferred the security of a stable salaried job over starting their own business. Within this preference for stability, government employment was particularly attractive, especially among female students. For many female students, a government job represented not only employment security but also social status, family acceptance, and a career path perceived as relatively stable and respectable. The preference for government employment was also evident among students from Commerce, Geography, and

other non-technical and non-professional backgrounds. In the social context described by students from Haryana's rural and semi-rural settings, the *sarkari naukri* carries a strong sense of security, status, and family approval. Thus, entrepreneurship was not necessarily rejected; rather, it was often positioned below a career option that was perceived as safer, more predictable, and more socially rewarded. Even when students expressed a preference for salaried employment over entrepreneurship, government employment was frequently preferred over other forms of stable employment.

Among students from technical and professional courses such as MCA, Computer Science, and Engineering, the preference for stable employment was also evident, but the preferred form of employment differed. These students more frequently referred to corporate employment, placements, and professional careers rather than government service. The distinction therefore suggests that the counter-pull against entrepreneurship is broadly shared, but its preferred form varies across students: government employment is particularly prominent among female and non-technical students, whereas corporate employment is more prominent among students from technical and professional backgrounds.

These findings place employment security within the Motivation dimension of the 4M Framework. Entrepreneurial motivation does not operate independently of students' perceived career alternatives; it is shaped by the relative attractiveness, risk, security and social acceptability of the secure employment options available to them.

The pull of stable employment identified here echoes findings from other Indian samples in which motivational factors such as security and predictability compete directly with autonomy and achievement-based motives for entrepreneurship (Joseph, 2013), and in which this competition has been shown to moderate, rather than simply coexist with, the relationship between entrepreneurial motivation and eventual behaviour (Nayak, Nayak, & Joshi, 2025). Institutional and regional infrastructure appear to matter here as well: perceived gender discrimination and regional institutional support have both been found to shape how strongly this pull operates on entrepreneurial intention in the Indian context (Kumar & Das, 2019).

Theme 5: Learning by doing and the demonstration imperative

This theme requires less elaboration than the others because it is the clearest and most consistent finding in the study. Students in both cohorts — before and after AI — expressed the same preference, in different words but with the same intent: they want to see entrepreneurship done in front of them, not described.

This preference did not change between the two groups. AI tools did not alter what students wanted from the learning environment. They wanted proximity, concreteness, demonstration, and practical exposure. The technological environment has evolved, but the students' preference for experiential and demonstration-based learning has remained consistent. The finding is directly relevant to the Mastery and Mobilization dimensions of the 4M Framework. Students were not asking only for theoretical knowledge; they wanted to observe how entrepreneurial activities are performed and to understand how ideas, skills, tools, and resources are brought together in practice.

Theme 6: Selling aversion, agrarian identity and limited entrepreneurial exposure

A recurring pattern in the student narratives was that entrepreneurship was often not considered a realistic career option in the first place, particularly among students from non-professional courses and rural backgrounds. Rather than describing a conscious rejection of entrepreneurship, several students indicated that they had simply had little exposure to it. Where entrepreneurship was absent from family experience, local economic life, or everyday conversations, students were less likely to develop an initial interest in pursuing it. The relevant codes were limited entrepreneurial exposure. This suggests that, for some students, the absence of entrepreneurial intention reflected limited exposure rather than a lack of capability or an explicit negative attitude towards entrepreneurship.

A related pattern emerged around the commercial and public-facing nature of entrepreneurship. Some rural students described greater familiarity with farming than with activities such as approaching customers,

negotiating prices, promoting products, and selling in the market. This appeared as discomfort with selling and unfamiliarity with commercial activity. Course-selection narratives reinforced this limited engagement: some students enrolled in entrepreneurship because it was compulsory or because they considered it easier than other electives, while a few explicitly expressed a low willingness to take risks and therefore did not see entrepreneurship as a career they would pursue. Taken together, these narratives suggest that entrepreneurial interest can be shaped by what students have encountered in their social and educational environment. A visible entrepreneurial role model, practical experience, or classroom activity can therefore make entrepreneurship a more imaginable career possibility.

AI tools have addressed one practical dimension of this aversion. Before their availability, the visible, public-facing requirements of selling — creating advertising materials, building an online presence, writing promotional content — demanded either technical skills or money to outsource this work. Both were barriers. Students who felt hesitant about selling found the additional technical complexity of self-promotion compounding that hesitance. With AI tools now available, poster creation, social media content, and basic advertising are within reach for any student regardless of technical background. The psychological barrier around selling has not dissolved. However, the practical barrier that amplified it has been reduced to some extent.

This pattern of limited exposure and selling aversion among rural and non-metropolitan students is consistent with findings from other Indian samples: entrepreneurial desire and knowledge, not perceived control alone, have been shown to shape entrepreneurial intention among rural college students specifically (Tadi, Aneesh, Neethu, & Sia, 2023), while cultural background, gender, and self-esteem interact to shape who considers entrepreneurship a realistic option in the first place (Rajar, Khoso, & Qureshi, 2022; Krishna & Agrawal, 2026). Cross-cultural comparisons within India point in the same direction, showing that perceived barriers to entrepreneurship differ by gender and region even within a single state (L. Sharma, 2018).

Before AI and After AI: Entrepreneurial Intention, Motivation, and Barriers

The two student cohorts in this study were separated not by a planned curriculum reform or policy intervention, but by a broader technological shift. Between the collection of the first and second sets of narratives, generative AI tools became widely accessible to university students. The two cohorts comprise different students and are therefore not treated as a longitudinal before-and-after sample. The purpose of the comparison is exploratory: to examine which patterns of entrepreneurial intention, motivation, capability, and perceived barriers appear similar across the two cohorts and which are differently expressed in the post-AI context.

The comparison is presented below through the dimensions most relevant to the 4M Framework and the intention–action gap. Rather than interpreting every difference as an effect of AI, the analysis distinguishes between barriers that appear more amenable to technological support, barriers that remain largely unchanged, and new capability requirements that emerge in the post-AI environment.

Table 3. Cross-Group Comparison of Entrepreneurial Intention, Motivation, Capability, and Perceived Barriers

Dimension	Element	Pre-AI cohort (n=25)	Post-AI cohort (n=25)	Change
Entrepreneurial intention	Confidence in early-stage articulation	Students with entrepreneurial intent often struggled to describe how an idea could be translated into a concrete product, service, or first action.	Students described some ideas with greater early-stage detail, including possible product presentation, promotional material, and initial steps.	Partially improved
Motivation	Desire to build	A desire to create or start something was present among some students but was often accompanied by uncertainty about feasibility and career security.	The underlying desire to build remained broadly similar. AI exposure did not appear to generate entrepreneurial motivation where it was absent.	Largely unchanged



Motivation	Motivation sustained by visible feasibility	Students' motivation weakened when they could not see how an idea could be practically developed or where to begin.	Some early entrepreneurial tasks appeared more reachable because students could obtain immediate assistance with planning, content, research, and other initial activities.	Partially improved
Motivation	Commercial self-efficacy	Students' narratives contained limited discussion of earning independently by monetising existing skills.	A small subset reported using or combining existing skills in tutoring, content creation, research assistance, and marketing to generate income, with AI supporting some activities.	Emergent
Motivation	Selling aversion and agrarian identity	Selling and self-promotion were associated with discomfort for some students, particularly where commercial activity was not familiar within the family or community.	AI could reduce the effort involved in preparing promotional material, but discomfort with selling itself remained.	Largely unchanged
Mastery	Website and digital platform development	Non-technical students perceived website and digital platform development as requiring coding expertise or costly external assistance.	AI-assisted coding and no-code tools made basic digital development more accessible to students without formal technical training.	Barrier reduced
Mastery	Marketing, advertising, and content creation	Professional promotional material was perceived as requiring design skills, time, or financial resources.	AI-enabled design and content tools reduced the time and technical effort required to produce promotional material.	Barrier substantially reduced
Mastery	Business-plan drafting and structuring	Students often lacked clarity about the structure and content of a business plan, making the starting point itself a barrier.	AI tools helped students organise existing ideas, identify missing elements, and produce initial structured drafts.	Barrier reduced
Mastery	Market research and idea evaluation	Students reported limited access to methods and information for evaluating markets, competitors, and the feasibility of an idea.	AI tools provided accessible support for preliminary information gathering, competitor comparison, and idea screening.	Barrier partially reduced
Mastery	Manufacturing and physical production knowledge	Students with physical-product ideas described substantial gaps in production processes, machinery, materials, supply chains, and costing.	AI could provide general information but did not substitute for practical production expertise, machinery, supplier relationships, or embedded technical knowledge.	Unchanged
Mastery	AI-tool application proficiency	Generative AI was not a salient entrepreneurial capability or barrier in the pre-AI narratives.	Students were aware of AI tools but some lacked knowledge of how to apply them systematically to entrepreneurial tasks.	New capability gap
Mobilization	Business registration and legal procedures	Registration, GST, and other administrative procedures were perceived as difficult to understand, with students uncertain about the first formal step.	Procedural information became more accessible through interactive AI assistance, although information access did not necessarily translate into actual action.	Partially improved
Mobilization	First-step clarity	Students frequently struggled to identify the first concrete action required to begin a venture.	AI could help students break an idea into possible steps and clarify what could be done initially, but the action gap remained.	Partially improved

Structural context	Family preference for government/corporate employment	Stable government or corporate employment was often perceived as safer and more desirable than uncertain entrepreneurship.	The preference remained evident despite greater access to entrepreneurial information and tools.	Unchanged
Structural context	Absence of proximal entrepreneurial role models	Students from non-business backgrounds often reported limited exposure to people in their immediate surroundings who had started ventures.	AI provided information and examples but did not replace the influence of relatable, proximal role models and personal networks.	Unchanged
Structural context	Access to initial capital	Students described even small amounts of capital as a constraint for registration, prototyping, and initial experimentation.	AI reduced the need to purchase some services, but did not materially change students' access to financial capital.	Unchanged
Learning environment	Experiential and demonstration-based learning	Students consistently expressed a preference for practical exposure, demonstrations, projects, and learning by doing.	The preference remained evident; access to AI tools did not eliminate the perceived need for practical demonstration and guided experience.	Persistent

Source: Researchers' compilation based on thematic analysis of the pre-AI and post-AI student narratives.

AI-sensitive barriers and early-stage capability

The clearest difference between the two cohorts concerns tasks that students previously saw as requiring considerable knowledge or technical skill but that can now be supported by easily accessible digital tools. Website development, marketing and content creation, business plan preparation, and preliminary market research were described as more approachable by students in the post-AI cohort. These differences are mainly located in the Mastery dimension of the 4M Framework. The important point is not that AI removes the need for entrepreneurial knowledge. Rather, it reduces the amount of specialised knowledge or technical skill that students may need to complete some early-stage tasks on their own.

A similar pattern can be seen in how students described their ideas and the first steps towards developing them. Students in the post-AI cohort appeared more able to explain how an idea could be presented, tested, or developed. Access to immediate procedural and creative assistance may therefore have made the first steps feel more manageable. However, this represents a partial improvement rather than a complete resolution of the intention–action gap. Having access to a tool does not necessarily mean that a student will take the next step.

An emergent post-AI pattern: proto-entrepreneurial income generation

One new pattern appeared in the post-AI narratives that was largely absent from the pre-AI cohort. A small number of students described earning income independently by using skills they already had — tutoring younger students, offering research or writing help, creating social media content, and providing small design or marketing services to local businesses or acquaintances — with AI tools helping them take on, extend, or deliver some of this work. This study labels this pattern proto-entrepreneurial income generation: activity that shares some features with entrepreneurship, most notably the independent, self-directed conversion of a skill into income outside a formal employment contract, without yet involving the risk-taking, capital investment, or venture-building that would be needed to call it entrepreneurship in the conventional sense.

The scale of this activity in the dataset was modest. Students who described it typically framed it as occasional or supplementary rather than as a serious income source, and none used the language of business ownership. It sits on a continuum between paid student work and entrepreneurship, closer in character to what the labour-market literature calls hybrid work — combining study with informal, skill-based income and, for some, an entrepreneurial aspiration — than to a formal side venture (Folta, Delmar, & Wennberg, 2010). It resembles the broader phenomenon of hybrid entrepreneurship, in which individuals test entrepreneurial activity

alongside an existing primary occupation before committing to it fully, and it has been helped along by the wider growth of platform-mediated freelance which has lowered the threshold for finding a paying client for a skill without formal business registration or infrastructure (Ashford, Caza, & Reid, 2018).

Within the 4M Framework, this experience of earning own income is theorised as feeding back into Motivation, by making entrepreneurship seem more personally credible and less abstract, and into Mastery, by giving students a first, low-stakes experience of tasks — pricing a service, communicating with a client, delivering to a deadline — that also underpin more conventional venture creation. The distinction matters for how the finding should be read: proto-entrepreneurial income generation is the activity itself, while commercial self-efficacy is the belief that this activity may leave behind. The present data cannot establish whether this activity typically leads students toward more substantial entrepreneurial engagement or instead functions as a self-contained form of supplementary income that does not progress further. Both outcomes are plausible, and distinguishing between them would require following the same individuals over time, which this cross-sectional comparison cannot do. This finding is discussed further, including its implications for the 4M Framework and is proposed in Section 9 as a specific direction for future longitudinal research.

Barriers that remain largely unchanged

Not all barriers appeared to change with the availability of new technology. The preference for stable government or corporate employment remained evident across both cohorts. Students also continued to express discomfort with selling, while entrepreneurship remained relatively absent from the everyday conversations and experiences of some students. The lack of nearby entrepreneurial role models and limited access to initial capital also persisted as important concerns.

These findings point to an important distinction. AI can make some entrepreneurial tasks easier, but it does not automatically change the social and economic conditions in which students make career decisions. Family expectations, attitudes towards selling, access to money, and the presence of people who can provide entrepreneurial guidance are not easily replaced by a digital tool. These barriers therefore appear more deeply rooted in students' social environment and available resources.

What the comparison suggests for the 4M Framework

Taken together, the comparison suggests that the most visible difference between the two cohorts lies in the Mastery dimension, with some implications for Motivation and Mobilization. AI appears to make certain skills and early entrepreneurial tasks more accessible and, in some cases, helps students see a possible first step more clearly. At the same time, the findings do not suggest that access to technology creates entrepreneurial motivation where it was previously absent.

This supports the non-linear nature of the 4M Framework. A technology can help bridge a capability gap, but it does not remove the need for motivation, financial resources, social support, practical experience, or entrepreneurial networks. In other words, AI can make some parts of the journey easier without determining whether a student chooses to begin the journey in the first place.

This distinction has implications for university entrepreneurship support. AI tools should not be treated as replacements for experiential learning, mentoring, entrepreneurial role models, network development, or efforts to build students' confidence and entrepreneurial exposure. They can instead complement these forms of support by reducing some of the technical and procedural difficulties that students face at the early stages.

DISCUSSION AND IMPLICATIONS

The 4M Framework: Reframing the Entrepreneurial Journey

The principal contribution of this study is the development of the 4M Framework—Media, Motivation, Mastery, and Mobilization, which provides a student-centred explanation of how entrepreneurial awareness and intention may develop towards entrepreneurial action. Rather than viewing entrepreneurial intention as the

outcome of a set of psychological variables, the framework brings together the sources of awareness, motivation, capability, and action that emerged from students' narratives. The framework is not intended as a linear sequence; rather, the four dimensions interact, and a gap in one dimension may constrain movement towards action.

Existing entrepreneurship research has identified several factors that influence entrepreneurial intention. The Theory of Planned Behaviour (Ajzen, 1991) explains entrepreneurial intention through attitude, subjective norms, and perceived behavioural control, while subsequent studies have supported its application in entrepreneurial contexts (Krueger, Reilly, & Carsrud, 2000). Another stream of research has examined barriers to entrepreneurship, including financial constraints, institutional support, social norms, and risk perception. Although some studies, such as (Lüthje & Franke, 2003), have examined entrepreneurial intention and barriers together, these strands of research generally address them as related determinants rather than examining how students experience the movement from entrepreneurial interest towards action.

This distinction is important because entrepreneurial intention does not automatically result in entrepreneurial behaviour. Research has consistently shown that individuals may possess entrepreneurial intentions without subsequently starting a business (Bird, 1988; Kautonen et al., 2013). Existing theories help explain how intention develops, but they provide less detail on the practical and contextual difficulties that may intervene between intention and action. The present findings suggest that students may experience this gap through a combination of limited exposure, fragile motivation, insufficient knowledge or skills, and difficulty identifying or mobilising the resources needed to begin.

The 4M Framework brings these dimensions together within a single interpretive framework. Media represents the external exposure through which entrepreneurship becomes visible and imaginable; Motivation captures the desire to pursue entrepreneurship and the extent to which that desire can be sustained; Mastery represents the knowledge, skills, and perceived capability required to undertake entrepreneurial activities; and Mobilization represents the movement from intention and capability towards concrete action through resources, people, networks, and other forms of support. The framework therefore provides a way of identifying where students experience difficulty and what type of support may be relevant to that difficulty.

The framework extends the existing discussion in three important ways. First, it highlights Media as an entry condition for entrepreneurial awareness, particularly through popular entrepreneurial content such as *Shark Tank India*. In the present study, media exposure appeared to make entrepreneurship visible and discussable for students who did not come from business-oriented family backgrounds. Second, the framework distinguishes between procedural and technical aspects of Mastery. Students may know that they want to start something but remain uncertain about the first procedural steps, while others may understand the process but lack technical capabilities in areas such as website development, digital marketing, automation, or manufacturing. These different forms of difficulty may require different forms of support and may also respond differently to technological change. Third, the post-AI cohort revealed an emerging form of commercial self-efficacy, in which some students used existing skills to generate small amounts of income, sometimes with AI supporting or extending those activities. While this does not constitute evidence of established entrepreneurship, it suggests a potentially important link between perceived capability, economic experience, and motivation that warrants further investigation.

The framework has diagnostic value. It helps in recognizing what type of different problems, students may encounter at different points in their entrepreneurial journey. A student who has not encountered entrepreneurship through meaningful external exposure may require awareness-building and role models, whereas a student who is motivated but lacks technical or procedural knowledge may require practical training and guided support. Similarly, a student with sufficient knowledge may still require access to networks, resources, or opportunities to take the first concrete step. The 4M Framework therefore offers both a conceptual lens for understanding entrepreneurial development and a practical way to think about the different forms of support that students may require.

Theoretical Positioning: The 4M Framework in Relation to Existing Models of Entrepreneurial Intention

This section explains the relation of the proposed 4M Framework to the theories of entrepreneurial intention and clarifies the contribution of the 4M Framework. It is not a replacement for the existing theories, but it is an extension of the existing theories by capturing the contextual, motivational, and action-related processes, which are the four dimensions of it: Media, Motivation, Mastery, and Mobilization. Four points of reference are most relevant here: the Theory of Planned Behaviour (Ajzen, 1991), Bandura's (1986) Social Cognitive Theory, Bird's (1988) model of entrepreneurial intentionality, and the competing-models analysis of Krueger, Reilly, and Carsrud (2000).

The Theory of Planned Behaviour explains intention as a result of attitude toward the behaviour, subjective norms, and perceived behavioural control. It is a general model of planned behaviour applied to entrepreneurship, and it states these three factors as relatively stable, measurable inputs that in their combination predict intention. Social Cognitive Theory adds the concept of self-efficacy which is a person's confidence in his or her ability to engage in a series of actions, and Bandura (1986) considers self-efficacy to be central to the question of whether or not intention is translated into action. Bird (1988) shifted the importance from prediction to process, arguing that entrepreneurial intentionality is a result of both analytical thinking and intuitive, holistic thinking. Bird (1988) emphasizes that this intentionality can not be assumed to persist automatically after formation rather it needs to be maintained and sustained. Krueger, Reilly, and Carsrud (2000) compare these theories against one another and concluded that perceived feasibility (which is similar to self-efficacy) predicted intention more strongly than perceived desirability (which is more closely related to attitudinal preferences), supporting empirical support to Bandura's focus on capability beliefs over attitudinal preference alone.

These models share two features that the present findings suggest are limiting in explaining entrepreneurial intention and action. First, they are largely variance-based: attitude, norms, control, and self-efficacy are treated as inputs to a prediction of intention, typically measured through structured survey instruments at a single point in time. Second, with the partial exception of Bird's process framing, they say comparatively little about where these inputs come from in the first place, particularly for someone with no prior exposure to entrepreneurship. A student's subjective norms, attitude, and perceived behavioural control did not appear out of nowhere in the narratives analysed here; participants repeatedly traced them back to a specific originating condition — most often exposure to entrepreneurial content through media, family conversation, or an entrepreneur they knew of even if they did not know personally. None of the three theories models this originating condition directly; media, where it appears at all, is folded into the unspecified sources of attitude or normative belief.

The 4M Framework does not compete with these theories in the sense of proposing an alternative account of the same variables. It occupies a different explanatory position, one step earlier and one step later than most variance-based models. Media, as used here, corresponds to the pre-conditions that generate the attitudes, norms, and self-referential beliefs that the Theory of Planned Behaviour and Social Cognitive Theory take as given inputs; it asks not only whether a student holds a favourable attitude toward entrepreneurship, but where that attitude came from and how it might be produced in someone who currently lacks it. Motivation and Mastery in the 4M Framework map more directly onto existing constructs — Motivation resembles attitude and subjective norms combined with the push-pull dynamics familiar from the labour-market literature, and Mastery closely parallels self-efficacy and perceived behavioural control. The framework's clearest departure from the existing models lies in Mobilization, which addresses what happens after intention has formed. The Theory of Planned Behaviour, Social Cognitive Theory, and the Krueger et al. (2000) comparison of competing models are all, explicitly, models of intention formation; none of them specifies the mechanism by which a formed intention is converted into the practical work of starting a venture. Bird's (1988) framework comes closest, treating intentionality as an active, sustained state, but it does not describe the resource-mobilisation process — finding collaborators, accessing networks, securing initial support — through which that sustained intention becomes visible action. Mobilization in the present framework names this missing

mechanism directly, drawing on participants' own accounts of how they connected with the people, platforms, and resources that complemented what they could not do alone.

The theoretical contribution of the 4M Framework is therefore best understood as a reordering and extension of existing constructs. It proposes that entrepreneurial intention, as explained by the Theory of Planned Behaviour, Social Cognitive Theory, and related models, is itself downstream of an exposure process (Media) that has received comparatively little theoretical attention in entrepreneurship research, and that intention formation is not the end point of the process but is followed by a distinct, under-theorised phase (Mobilization) in which capability and desire are converted into coordinated action. In this sense, the 4M Framework is not a relabelling of attitude, norms, control, and self-efficacy under new names; it is an attempt to specify what precedes and what follows the intention-formation process that these established theories describe well but do not, on their own, fully account for. Because this claim rests on a single exploratory qualitative study, it should be read as a proposition for further testing rather than as an established theoretical advance; Section 9 outlines how this comparative claim could be examined empirically alongside the established models discussed here.

This account of a distinct post-intention phase is also consistent with empirical work that treats the intention-action gap as something with its own identifiable causes rather than as simple inaction. Procrastination, for example, has been shown to independently increase the gap between entrepreneurial intention and entrepreneurial action among university students (Alam, Tahmid, Hasan, Nabi, & Masroor, 2026). A conceptual model developed to explain the intention-behaviour gap in sustainable entrepreneurship also treats it as a separate stage with its own explanatory factors, rather than a residue left over after explaining intention (Dixit, Agrawal, & Agarwal, 2024). Mobilization, in the present framework, is an attempt to give that separate stage the same explicit theoretical status these studies argue it deserves.

Entrepreneurial Awareness Beyond the Classroom: Media, Social Norms, and Cultural Change

One of the important findings of this study is that entrepreneurial awareness frequently originated outside formal educational settings. The *Shark Tank India* finding deserves more sustained policy attention than it has received, because it points to something with which government scheme or university incubation center has struggled to produce at scale: the normalisation of entrepreneurship as a topic of ordinary conversation. While universities provide entrepreneurship courses, incubation centres, and startup support programmes, many participants attributed their initial interest in entrepreneurship to informal influences, particularly *Shark Tank India*, digital media, entrepreneurial role models, and discussions with family members and peers. Among these influences, *Shark Tank India* emerged repeatedly as an important catalyst for entrepreneurial awareness.

The significance of this finding extends beyond the popularity of a television programme. Rather, it demonstrates how media can normalise entrepreneurship within households and communities where business ownership has traditionally not been viewed as a viable career option. Several participants described watching entrepreneurial programmes with parents and siblings, leading to conversations about business ideas, investment, innovation, and entrepreneurship that had never previously occurred within their families. For many first-generation university students, entrepreneurship became imaginable only after it became visible. Media therefore functioned not merely as a source of information but as a mechanism for reducing psychological distance between students and entrepreneurial careers.

This mechanism has a digital-era counterpart. Among Indian business students specifically, exposure and engagement through social media has been shown to build a distinct form of digital self-efficacy that shapes internet-based entrepreneurship intention independently of formal education (Kivuyo, Das, & Mbarak, 2025), and perceived business feasibility generated through this kind of exposure has itself been linked to stronger entrepreneurial intention among Indian university students (Chaudhary & Biswas, 2024). Both findings support the argument advanced here that Media, broadly defined to include social platforms as well as broadcast television, functions as a distinct entry condition rather than incidental background noise.

However, media exposure alone was insufficient to sustain entrepreneurial motivation. The study simultaneously identified powerful social, cultural, and psychological barriers that continued to discourage entrepreneurial action. Family preference for stable government employment, agrarian occupational identities,

selling aversion, limited entrepreneurial role models, and fear of financial uncertainty remained dominant influences, particularly among students. These findings suggest that entrepreneurial intention develops within a broader socio-cultural environment rather than solely within educational institutions.

Taken together, these findings indicate that entrepreneurship education begins much earlier than university classrooms. Entrepreneurial culture is first shaped through media exposure, peer discussions, household conversations, and community norms before formal entrepreneurship education becomes relevant. Consequently, entrepreneurship policies should complement incubation support with broader awareness-building initiatives that engage students and their families, thereby strengthening the social legitimacy of entrepreneurship as a career choice.

The policy implication is not that governments or universities should produce more reality television. It is that the informal, inducing environment in day-to-day conversations, media-driven pathway to entrepreneurial awareness is more powerful and more scalable than formal institutional intervention— and that policy should take it seriously as a model. What Shark Tank India achieves through entertainment — making entrepreneurial reasoning visible, relatable, and discussable — is what entrepreneurship education has been attempting. The question for policymakers is how to produce or strengthen informal channels deliberately.

Generative AI: Transforming Mastery but Not Motivation and Cultural Change

The emergence of generative artificial intelligence represents significant contextual changes. The comparison between students' experiences before and after the widespread availability of generative AI demonstrates that AI has substantially reduced several barriers traditionally associated with entrepreneurial capability. This is encouraging, because several of the technical barriers that the pre-AI cohort described as closed are now open. It is uncomfortable because the barriers that matter most — the ones that determine whether entrepreneurial intention forms and survives — are entirely unchanged. Participants reported using AI for idea generation, business planning, market research, content creation, marketing, coding support, and learning entrepreneurial concepts. As a result, many technical tasks that previously required specialised expertise have become significantly more accessible, particularly for digital and service-oriented ventures.

Despite these developments, the findings also demonstrate that AI has primarily transformed mastery rather than motivation. Students who actively used AI for entrepreneurial activities were generally those who already possessed entrepreneurial aspirations in one way or another. AI enabled them to progress more quickly from ideas to implementation, but it rarely created entrepreneurial motivation where none previously existed. Similarly, AI did not address structural barriers such as limited financial resources, institutional constraints, family expectations, social norms, entrepreneurial networks, or perceived risk. These barriers remained largely unchanged irrespective of technological advancements. This is consistent with evidence that structural barriers to entrepreneurship are reduced only when education actively targets them, rather than receding automatically as a side effect of improved access to technology or information — a pattern also documented for barriers to social entrepreneurship specifically (Shahverdi, Ismail, & Qureshi, 2018).

The study further identified a pattern labelled here as proto-entrepreneurial income generation (Section 6.2), whereby students generated income independently through AI-assisted tutoring, content creation, freelance services, and small digital jobs, without engaging in venture creation as conventionally understood. Although these activities fall short of entrepreneurship in the formal sense, they resemble the hybrid and gig-based work arrangements documented in the broader labour-market literature (Ashford, Caza, & Reid, 2018; Folta, Delmar, & Wennberg, 2010), in which individuals test income-generating activity alongside their main occupation — in this case, being a student — before any decision to pursue it further. The theoretical significance of this pattern lies in the self-generated evidence it provides: rather than being told that entrepreneurship is feasible, students experienced, through their own actions, that a skill they held could be converted into income. This finding suggests that AI may function as an intermediate pathway through which students gradually accumulate this kind of experiential evidence before considering formal ventures, though the present exploratory data cannot confirm whether this pathway is typically followed to completion.

However, artificial intelligence appears to have shortened the distance between entrepreneurial intention and taking a visible first step; it has not necessarily created the underlying desire to pursue entrepreneurship. The students in the post-AI cohort who reported using AI tools for early entrepreneurial activities—such as developing simple platforms, creating promotional materials—were generally those who already demonstrated an interest in entrepreneurship. This suggests that AI can facilitate the translation of an existing entrepreneurial interest into concrete action, but its availability alone may not be sufficient to generate entrepreneurial motivation among students who do not initially consider entrepreneurship as a career option.

Universities can therefore deliberately employ AI tools in two complementary ways: to enhance the productivity and effectiveness of students who already demonstrate an interest in entrepreneurship, and to stimulate curiosity and interest among students who have not yet considered entrepreneurship as a career option. AI is therefore relevant to both groups, although its role may differ. For interested students, it can accelerate the translation of entrepreneurial ideas into tangible activities, while for less-interested students, it can provide accessible opportunities for experimentation and exploration that may help develop an initial interest in entrepreneurship.

Practical Implications

The findings have several important implications for universities and policymakers. First, entrepreneurship education should extend beyond classroom instruction by strengthening entrepreneurial awareness through media engagement, alumni interaction, role models, and experiential learning. Second, universities should provide early-stage mentoring, interdisciplinary collaboration, and networking opportunities that enable students to mobilize entrepreneurial resources before they possess complete entrepreneurial competence. Third, generative AI should be integrated into entrepreneurship education as a venture creation tool rather than being limited to academic applications. Finally, entrepreneurship policies should recognise that entrepreneurial culture develops not only within educational institutions but also through households, peer networks, and digital media. Strengthening these informal pathways alongside formal entrepreneurship support may substantially improve the translation of entrepreneurial aspirations into entrepreneurial action. Opportunity-recognition training in particular has been shown to strengthen entrepreneurial intention among Indian university students when paired with entrepreneurship education, more so than either element alone (Hassan, Saleem, Anwar, & Hussain, 2020), suggesting that universities seeking to act on the Media and Mastery dimensions of the present framework should pair awareness-building activity with structured opportunity-recognition exercises rather than treating them as separate tracks.

LIMITATIONS

Although the study identified clear patterns that supported the development of the proposed 4M Framework, its qualitative and exploratory design limits the extent to which the findings can be generalized. The study is based on open-ended narratives from students in a single state university in Haryana and is intended primarily to generate conceptual insights rather than statistically test theoretical relationships. Entrepreneurship is a heterogeneous phenomenon influenced by educational background, discipline, gender, socioeconomic conditions, geographical location, and institutional environment. The present sample may therefore not fully represent the diversity of entrepreneurial experiences across technical and non-technical, professional and non-professional programmes, or across urban and rural settings. Future studies using larger and more diverse samples could enable more meaningful comparisons across these groups.

Another limitation concerns the rapidly changing technological environment, particularly the emergence of generative AI. The Before-AI and After-AI comparison provides useful exploratory insights into how students perceive and use AI in entrepreneurial activities, but it does not establish causal effects of AI adoption on entrepreneurial behaviour. Moreover, students' perceptions and uses of AI may continue to change as the technology develops. Future research should therefore examine these changes through longitudinal and comparative designs.

This study examines entrepreneurial aspirations, perceived barriers, and emerging forms of entrepreneurial activity rather than following students into actual venture creation. Consequently, the extent to which the

identified factors translate into sustained entrepreneurial behaviour remains unclear. Longitudinal research following students from entrepreneurial intention through venture creation would provide stronger evidence on how Motivation, Mastery, and Mobilization develop and interact over time.

FUTURE RESEARCH AGENDA

Present findings indicate that students need access to peers, mentors, institutional connections, financial resources, and other forms of support to bridge gaps in knowledge and resources. Future studies should identify which types of networks and support mechanisms are most effective in facilitating entrepreneurial action and whether their influence differs across student groups.

Further research should also investigate gender, urban–rural, socioeconomic, and geographical differences in entrepreneurial barriers and opportunities. In particular, comparative studies across different districts of Haryana could reveal how local economic conditions, institutional support, family backgrounds, and entrepreneurial ecosystems shape students' entrepreneurial aspirations and actions.

The study also identified a smaller group of students whose entrepreneurial aspirations were connected with broader social objectives, including poverty alleviation, women's empowerment, community development, and sustainability. Future research should therefore examine the formation of social and sustainability-oriented entrepreneurial intentions, including the individual, educational, institutional, and contextual factors that encourage such aspirations and their eventual translation into venture creation.

The proposed 4M Framework—Media, Motivation, Mastery, and Mobilization—also requires further empirical validation. Replication across private, central, technical, and other types of higher-education institutions, as well as across different regions of India, would help assess the broader applicability of the proposed framework. Future studies should develop measurement scales for its dimensions and test the framework using larger and more diverse samples. Quantitative studies could examine the relationships among the four dimensions and their ability to explain entrepreneurial intention and action, while qualitative research could further refine the meanings and boundaries of each dimension. Comparative research with established entrepreneurship theories would also help determine the framework's distinctive explanatory contribution.

Finally, future research should examine the transition from entrepreneurial intention to actual venture creation. Particular attention should be given to the skills, mentoring, networks, financial resources, institutional mechanisms, and technological tools that help students overcome the first-step barrier and convert entrepreneurial aspirations into sustained entrepreneurial activity. Longitudinal research would be especially valuable in understanding how the four dimensions of the framework evolve throughout this transition.

CONCLUSION

This study sought to understand student entrepreneurship by listening to students before theorizing. Rather than testing predetermined hypotheses, it explored students' intentions, perceived barriers and learning needs through open-ended qualitative inquiry. The consistency of themes emerging from student responses led to the identification of recurring patterns and barriers, and the development of a simple yet comprehensive framework.

The principal contribution of the study is the proposed 4M Framework—Media, Motivation, Mastery, and Mobilization—which offers a student-centred perspective on the development of entrepreneurial intention and action. Media functions as the entry condition by creating awareness, exposure, aspiration, and the initial desire to consider entrepreneurship. Beyond this entry point, the framework is non-linear: motivation and mastery may be developed individually or distributed across people, networks, capital, and technological tools, while mobilization represents the process through which these gaps are bridged and resources are brought together for entrepreneurial action. Thus, entrepreneurship is not viewed simply as a linear movement from intention to action but as a process shaped by exposure, motivation, capability, resources, and social context.

A key finding is the influential role of popular media, particularly *Shark Tank India*, in generating initial entrepreneurial interest among students, especially those without business backgrounds. Entrepreneurial awareness was often shaped by media exposure, family discussions, and role models rather than formal entrepreneurship education. This highlights the importance of creating early entrepreneurial exposure alongside formal training, incubation, and startup support.

The study also identifies several persistent barriers to entrepreneurial action. Fear of taking the first step, limited domain-specific mastery among students, selling aversion, preference for stable government and corporate employment, agrarian identity, and the absence of an entrepreneurial culture within families and peer groups continue to constrain entrepreneurial engagement. These findings suggest that entrepreneurial intention is strongly influenced by the surrounding environment and that individual capability alone may not be sufficient to generate entrepreneurial action.

The pre-AI and post-AI comparison indicates that generative AI has reduced barriers related to idea generation, content creation, marketing, business planning, market research, and other digital entrepreneurial activities. The emergence of AI-assisted content and marketing services among the post-AI cohort also points to an early form of income generation and potentially developing commercial self-efficacy. However, this activity remains small in scale and concentrated in specific digital and service-based areas. AI has not substantially changed barriers related to manufacturing infrastructure, capital requirements, or established cultural preferences. Generative AI should therefore be viewed as an enabling tool rather than a substitute for broader entrepreneurial support.

This study contributes to entrepreneurship research by proposing an empirical framework that connects entrepreneurial exposure, motivation, capability, and resource mobilization. It distinguishes between barriers that may be reduced through technological advancements and those that continue to require educational, institutional, financial, cultural, and network-based interventions. For universities, entrepreneurship development should therefore extend beyond conventional entrepreneurship courses to include meaningful exposure, experiential learning, capability development, mentoring, networking, and access to resources.

Since this is an exploratory qualitative study based on student narratives, the findings and proposed 4M Framework require further validation. Future research should use larger samples and structured quantitative approaches to examine the relationships proposed by the framework. Particular attention should be given to the role of entrepreneurial networks in enabling mobilization, gender and geographic differences in entrepreneurial barriers across Haryana, and the determinants of social and sustainability-oriented entrepreneurial intentions. Future research should also examine how students move from entrepreneurial intention to actual venture creation and the role of skills, mentoring, networks, financial support, and institutional mechanisms that facilitate this transition. Student entrepreneurship does not begin with venture creation. It begins with exposure that creates awareness and aspiration, followed by the development of motivation, mastery, and the ability to mobilize people and resources. The 4M Framework provides a student-centred perspective for understanding this process and can help universities and policymakers design entrepreneurial ecosystems that better translate aspirations into meaningful action.

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REFERENCES

1. Ahmed, I., Nawaz, M. M., Ahmad, Z., Shaukat, M. Z., Usman, A., Rehman, W., & Ahmed, N. (2010). Determinants of students' entrepreneurial career intentions: Evidence from business graduates. *European Journal of Social Sciences*, 15(2), 14–22.

2. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
3. Al-Qadasi, N., Zhang, G., & Al-Jubari, I. (2021). Attitude of youth towards self-employment: Evidence from university students in Yemen. *PLOS ONE*, 16(9), e0257358. <https://doi.org/10.1371/journal.pone.0257358>
4. Alam, N., Tahmid, S. M., Hasan, S. S., Nabi, M. N. U., & Masroor, I. (2026). Bridging the gap between intention and action: How procrastination alters entrepreneurial intention among university students? *Qualitative Research Journal*. <https://doi.org/10.1108/qrj-10-2025-0379>
5. Albatran, A. A., & Atikbay, T. (2025). Entrepreneurship education in fragile contexts: Bridging the intention–action gap through psychological and contextual pathways. *Sustainability*, 17(16), 7447. <https://doi.org/10.3390/su17167447>
6. Alqazlan, L., Fang, Z., Castelle, M., & Procter, R. (2025). A novel, human-in-the-loop computational grounded theory framework for big social data. *Big Data & Society*, 12(2). <https://doi.org/10.1177/20539517251347598>
7. Amani, D., Ismail, I. J., Makona, A., Changelima, I. A., & Kazungu, I. (2024). Extending the mediation role of entrepreneurial self-efficacy on enhancing students' entrepreneurial intentions: A moderated mediation model. *The International Journal of Management Education*, 22. <https://doi.org/10.1016/j.ijme.2023.100915>
8. Amankwaa, L. (2016). Creating protocols for trustworthiness in qualitative research. *Journal of Cultural Diversity*, 23(3), 121–127.
9. Anjum, T., Díaz Tautiva, J. A., Zaheer, M. A., & Heidler, P. (2024). Entrepreneurial intentions: Entrepreneurship education programs, cognitive motivational factors of planned behavior, and business incubation centers. *Education Sciences*, 14(9), 983. <https://doi.org/10.3390/educsci14090983>
10. Arafat, M. Y., Saleem, I., & Dwivedi, A. K. (2020). Understanding entrepreneurial intention among Indian youth aspiring for self-employment. *International Journal of Knowledge and Learning*, 13(3). <https://doi.org/10.1504/IJKL.2020.109882>
11. Ashford, S. J., Caza, B. B., & Reid, E. M. (2018). From surviving to thriving in the gig economy: A research agenda for individuals in the new world of work. *Research in Organizational Behavior*, 38, 23–41. <https://doi.org/10.1016/j.riob.2018.11.001>
12. Athikalam, T. (2020). Entrepreneurship intentions of students and young graduates in India [Master's thesis, National College of Ireland]. NORMA@NCI Library. <https://norma.ncirl.ie/id/eprint/4646>
13. Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.
14. Belwal, R., Al Balushi, H., & Belwal, S. (2015). Students' perception of entrepreneurship and enterprise education in Oman. *Education + Training*, 57(8/9), 924–947. <https://doi.org/10.1108/ET-12-2014-0149>
15. Bharti, K., Agarwal, R., Satsangi, A. K., & Rajwanshi, R. (2024). Analyzing the influence of university support and entrepreneurial culture on solar entrepreneurial intentions among Indian students. *The International Journal of Management Education*, 22. <https://doi.org/10.1016/j.ijme.2024.100991>
16. Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. *Academy of Management Review*, 13(3), 442–453.
17. Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research*, 26(13), 1802–1811. <https://doi.org/10.1177/1049732316654870>
18. Bosma, N., Hessels, J., Schutjens, V., Van Praag, M., & Verheul, I. (2012). Entrepreneurship and role models. *Journal of Economic Psychology*, 33(2), 410–424. <https://doi.org/10.1016/j.joep.2011.03.004>
19. Botha, M., & Bignotti, A. (2016). Internships enhancing entrepreneurial intent and self-efficacy: Investigating tertiary-level entrepreneurship education programmes. *South African Journal of Entrepreneurship and Small Business Management*, 8(1). <https://doi.org/10.4102/sajesbm.v8i1.45>
20. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
21. Braun, V., & Clarke, V. (2019). To saturate or not to saturate? Questioning data saturation as a useful concept for thematic analysis and sample-size rationales. *Qualitative Research in Sports, Health and Exercise, Psychology*. <https://doi.org/10.1080/2159676X.2019.1704846>

22. Braun, V., & Clarke, V. (2022). Toward good practice in thematic analysis: Avoiding common problems and becoming a knowing researcher. *International Journal of Transgender Health*, 24(1), 1–6. <https://doi.org/10.1080/26895269.2022.2129597>
23. Chaudhary, M., & Biswas, A. (2024). Igniting the flames of entrepreneurial intentions: Unravelling the dynamics of perceived business feasibility, self-perceived altruism, innovativeness and uncertainty among university students. *Global Business Review*. <https://doi.org/10.1177/09721509241288008>
24. Chien-Chi, C., Sun, B., Yang, H., Zheng, M., & Li, B. (2020). Emotional competence, entrepreneurial self-efficacy, and entrepreneurial intention: A study based on China college students' social entrepreneurship project. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.547627>
25. Cleary, M., Horsfall, J., & Hayter, M. (2014). Data collection and sampling in qualitative research: Does size matter? *Journal of Advanced Nursing*, 70(3), 473–475. <https://doi.org/10.1111/jan.12163>
26. Coenen, M., Stamm, T. A., Stucki, G., & Cieza, A. (2012). Individual interviews and focus groups in patients with rheumatoid arthritis: A comparison of two qualitative methods. *Quality of Life Research*, 21(2), 359–370. <https://doi.org/10.1007/s11136-011-9943-2>
27. Colorafi, K. J., & Evans, B. (2016). Qualitative descriptive methods in health science research. *HERD: Health Environments Research & Design Journal*, 9(4), 16–25. <https://doi.org/10.1177/1937586715614171>
28. Connelly, L. M. (2016). Trustworthiness in qualitative research. *MEDSURG Nursing*, 25(6), 435–436.
29. Cope, D. G. (2014). Methods and meanings: Credibility and trustworthiness of qualitative research. *Oncology Nursing Forum*, 41(1), 89–91. <https://doi.org/10.1188/14.ONF.89-91>
30. Costa, A. P. (2025). AI as a co-researcher in the qualitative research workflow. *International Journal of Qualitative Methods*, 24, 16094069251383739. <https://doi.org/10.1177/16094069251383739>
31. Currie, G., Singh, C., Nelson, T., Nabasenja, C., Al-Hayek, Y., & Spuur, K. (2023). ChatGPT in medical imaging higher education. *Radiography*, 29(4), 792–799. <https://doi.org/10.1016/j.radi.2023.05.011>
32. De Paoli, S. (2024a). Performing an inductive thematic analysis of semi-structured interviews with a large language model: An exploration and provocation on the limits of the approach. *Social Science Computer Review*, 42(4), 997–1019. <https://doi.org/10.1177/08944393231220483>
33. De Paoli, S. (2024b). Further explorations on the use of large language models for thematic analysis: Open-ended prompts, better terminologies and thematic maps. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 25(3). <https://doi.org/10.17169/fqs-25.3.4196>
34. Dixit, J. K., Agrawal, V., & Agarwal, S. (2024). Sustainable entrepreneurship: Exploring the intention–behavior gap. *Management Decision*. <https://doi.org/10.1108/md-01-2024-0056>
35. Dwivedi, Y. K., et al. (2023). “So what if ChatGPT wrote it?” Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management*, 71, 102642. <https://doi.org/10.1016/j.ijinfomgt.2023.102642>
36. Enworo, O. C. (2023). Application of Guba and Lincoln’s parallel criteria to assess trustworthiness of qualitative research on indigenous social protection systems. *Qualitative Research Journal*, 23(4), 372–384. <https://doi.org/10.1108/QRJ-08-2022-0116>
37. Fadzil, N. A. F. M., Jamaluddin, M. R., Rahman, F. B. A., & Loon, K. W. (2025). A recent systematic review of key factors influencing students’ entrepreneurial intentions. *International Journal of Social Science Research*, 13(1), 169.
38. Fayolle, A. (2007). *Entrepreneurship and new value creation: The dynamic of the entrepreneurial process*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511488689>
39. Folta, T. B., Delmar, F., & Wennberg, K. (2010). Hybrid entrepreneurship. *Management Science*, 56(2), 253–269. <https://doi.org/10.1287/mnsc.1090.1094>
40. Guest, G., Namey, E., & McKenna, K. (2017). How many focus groups are enough? Building an evidence base for nonprobability sample sizes. *Field Methods*, 29(1), 3–22. <https://doi.org/10.1177/1525822X16639015>
41. Gulzar, S. S., & Rashid, I. (2025). Management students' entrepreneurial intentions: Mediating role of personal attitude, subjective norms, and perceived behavioural control. *Colombo Business Journal*, 16(2). <https://doi.org/10.4038/cbj.v16i2.213>

42. Gunawan, J. (2015). Ensuring trustworthiness in qualitative research. *Belitung Nursing Journal*, 1(1), 10–11.
43. Hall, S., & Liebenberg, L. (2024). Qualitative description as an introductory method to qualitative research for master's-level students and research trainees. *International Journal of Qualitative Methods*, 23. <https://doi.org/10.1177/16094069241242264>
44. Hassan, A., Anwar, I., Saleem, A., Alalyani, W. R., & Saleem, I. (2021). Nexus between entrepreneurship education, motivations, and intention among Indian university students: The role of psychological and contextual factors. *Industry and Higher Education*, 36(5), 539–555. <https://doi.org/10.1177/09504222211053262>
45. Hassan, A., Saleem, I., Anwar, I., & Hussain, S. A. (2020). Entrepreneurial intention of Indian university students: The role of opportunity recognition and entrepreneurship education. *Education + Training*. <https://doi.org/10.1108/ET-02-2020-0033>
46. Hennink, M. M., Kaiser, B. N., & Weber, M. B. (2019). What influences saturation? Estimating sample sizes in focus group research. *Qualitative Health Research*, 29(10), 1483–1496. <https://doi.org/10.1177/1049732318821692>
47. Horton, D., & Wohl, R. R. (1956). Mass communication and para-social interaction: Observations on intimacy at a distance. *Psychiatry*, 19(3), 215–229. <https://doi.org/10.1080/00332747.1956.11023049>
48. Huang, J., & Tan, M. (2023). The role of ChatGPT in scientific communication: Writing better scientific review articles. *American Journal of Cancer Research*, 13(4), 1148–1154.
49. Isik, O. (2026). Comparative approaches to qualitative data analysis: A conceptual review of reflexive thematic, interpretative phenomenological, and narrative methods. *Journal of Humanities and Education Development*. <https://doi.org/10.22161/jhed.8.1.2>
50. Iwu, C. G., Opute, A. P., Nchu, R. M., Babatunde, A. A., Iwu, C. H., & Eze, I. F. (2020). The antecedents of university students' entrepreneurship intention: The theory of planned behaviour viewpoint. *Journal Der Hochschuldidaktischen Beratung und Reflexion*. <https://doi.org/10.48132/HDBR.305>
51. Jahnavi, M., Reddy, N. N., & Bung, P. (2025). Fostering entrepreneurial mindsets: Analyzing the influence of higher education on entrepreneurial intentions among Indian youth. 456–470. <https://doi.org/10.48001/978-81-980647-7-6-11>
52. Joseph, N. (2013). Motivational factors relating to entrepreneurial intention: A study of postgraduate management students in India. *ABAC Journal*.
53. Kautonen, T., Van Gelderen, M., & Fink, M. (2015). Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions. *Entrepreneurship Theory and Practice*, 39(3), 655–674. <https://doi.org/10.1111/etap.12056>
54. Kivuyo, R. B., Das, R., & Mbarak, K. S. (2025). Social media capital, facilitating conditions, and digital self-efficacy: An integrated model of internet entrepreneurship intention in India. *Cogent Education*, 12. <https://doi.org/10.1080/2331186x.2025.2587492>
55. Krishna, S. M., & Agrawal, S. (2026). Entrepreneurial intentions: The role of gender and culture in entrepreneurial education. *Administrative Sciences*, 16(1), 38. <https://doi.org/10.3390/admsci16010038>
56. Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5–6), 411–432. [https://doi.org/10.1016/S0883-9026\(98\)00033-0](https://doi.org/10.1016/S0883-9026(98)00033-0)
57. Kumar, S., & Das, S. (2019). An extended model of theory of planned behaviour: Entrepreneurial intention, regional institutional infrastructure and perceived gender discrimination in India. *Journal of Entrepreneurship in Emerging Economies*. <https://doi.org/10.1108/JEEE-09-2018-0089>
58. Kumar, S., Paray, Z. A., & Dwivedi, A. K. (2020). Students' entrepreneurial orientation and intentions: A study across gender, academic background, and regions. *Higher Education, Skills and Work-Based Learning*, 11(1), 78–91. <https://doi.org/10.1108/HESWBL-01-2019-0009>
59. Laukkanen, M. (2000). Exploring alternative approaches in high-level entrepreneurship education: Creating micromechanisms for endogenous regional growth. *Entrepreneurship & Regional Development*, 12(1), 25–47. <https://doi.org/10.1080/089856200283072>
60. Le, T. T., Doan, X., & Duong, C. D. (2023). A serial mediation model of the relation between cultural values, entrepreneurial self-efficacy, intentions and behaviors: Does entrepreneurial education matter?

- A multi-group analysis. *Journal of Open Innovation: Technology, Market, and Complexity*. <https://doi.org/10.1016/j.joitmc.2023.100064>
61. Li, Y., Ring, J. K., Jin, D., & Bajaba, S. (2025). Elevating entrepreneurship with generative artificial intelligence. *Journal of Innovation & Knowledge*, 10(6), 100820. <https://doi.org/10.1016/j.jik.2025.100820>
62. Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.
63. Luong, G. T. H. (2025). Exploring student assessment practices in Vietnamese teacher training universities through naturalistic inquiry. *Vietnam Journal of Education*. <https://doi.org/10.52296/vje.2025.426>
64. Lüthje, C., & Franke, N. (2003). The ‘making’ of an entrepreneur: Testing a model of entrepreneurial intent among engineering students at MIT. *R&D Management*, 33(2), 135–147.
65. Morse, J. M. (2015). Critical analysis of strategies for determining rigor in qualitative inquiry. *Qualitative Health Research*, 25(9), 1212–1222. <https://doi.org/10.1177/1049732315588501>
66. Mukasa, S., Dennis, N., Ekosse, E., & Sangwa, S. (2025). From education to enterprise: Redefining entrepreneurship education to enhance venture creation in Rwanda's private higher learning institutions. *Asian Journal of Education and Social Studies*, 51(8), 177–193. <https://doi.org/10.9734/ajess/2025/v51i82233>
67. Nabi, G., Liñán, F., Fayolle, A., Krueger, N., & Walmsley, A. (2017). The impact of entrepreneurship education in higher education: A systematic review and research agenda. *Academy of Management Learning & Education*, 16(2), 277–299. <https://doi.org/10.5465/amle.2015.0026>
68. Namey, E., Guest, G., McKenna, K., & Chen, M. (2016). Evaluating bang for the buck: A cost-effectiveness comparison between individual interviews and focus groups based on thematic saturation levels. *American Journal of Evaluation*, 37(3), 425–440. <https://doi.org/10.1177/1098214016630406>
69. Nayak, P. M., Nayak, M., & Joshi, H. G. (2025). Extending the theory of planned behaviour: Entrepreneurial motivation as a moderator of intention–behaviour link in emerging economies. *Industry and Higher Education*. <https://doi.org/10.1177/09504222251375615>
70. Ng, W. S., Gadi, P. D., Zhao, S., Sidan, R., Ruixuan, S., Zain, M. I., Fauzie, M. F. S. B. M., Kee, D. M. H., & Ali, A. J. (2025). Entrepreneurial issues and barriers among undergraduate university students in Malaysia. *Journal of Community Development in Asia*, 8(3). <https://doi.org/10.32535/jcda.v8i3.4174>
71. Player, V. V., van der Lubbe, S. C., Goh, L. H., & Valderas, J. M. (2024). Harnessing ChatGPT for thematic analysis: Are we ready? *Journal of Medical Internet Research*, 26, e54974. <https://doi.org/10.2196/54974>
72. Polit, D. F., & Beck, C. T. (2016). *Nursing research: Generating and assessing evidence for nursing practice* (10th ed.). Wolters Kluwer/Lippincott Williams & Wilkins.
73. Prescott, M. R., Yeager, S., Ham, L., Rivera Saldana, C. D., Serrano, V., Narez, J., Paltin, D., Delgado, J., Moore, D. J., & Montoya, J. (2024). Comparing the efficacy and efficiency of human and generative AI: Qualitative thematic analyses. *JMIR AI*, 3, e54482. <https://doi.org/10.2196/54482>
74. Raghavendra, & Shivaprasad. (2024). Entrepreneurial intentions of Indian university students: A framework of individual, contextual, and educational factors. *International Journal of Research - Granthaalayah*, 12(11). <https://doi.org/10.29121/granthaalayah.v12.i11.2024.5840>
75. Rajar, A. H., Khoso, I. U., & Qureshi, M. B. (2022). Determinants of entrepreneurial intentions: Impact of culture, gender, self-esteem, and self-efficacy on university students. *Journal of Entrepreneurship, Management, and Innovation*, 4(1). <https://doi.org/10.52633/jemi.v4i1.187>
76. Roberson, Q. M. (2026). Artificial intelligence and responsible research at AMJ. *Academy of Management Journal*, 69(2), 207–211.
77. Roy, R., Akhtar, F., & Das, N. (2017). Entrepreneurial intention among science & technology students in India: Extending the theory of planned behavior. *International Entrepreneurship and Management Journal*, 13. <https://doi.org/10.1007/s11365-017-0434-y>
78. Salimi, A., & Saheb, H. (2023). Large language models in ophthalmology scientific writing: Ethical considerations: Blurred lines or not at all? *American Journal of Ophthalmology*, 254, 177–181. <https://doi.org/10.1016/j.ajo.2023.06.004>

79. Semrl, N., Feigl, S., Taumberger, N., Bracic, T., Fluhr, H., Blockeel, C., & Kollmann, M. (2023). AI language models in human reproduction research: Exploring ChatGPT's potential to assist academic writing. *Human Reproduction*, 38(12), 2281–2294. <https://doi.org/10.1093/humrep/dead105>
80. Shahverdi, M., Ismail, K., & Qureshi, M. I. (2018). The effect of perceived barriers on social entrepreneurship intention in Malaysian universities: The moderating role of education. *Management Science Letters*, 8(5). <https://doi.org/10.5267/j.msl.2018.4.014>
81. Sharma, L. (2018). Entrepreneurial intentions and perceived barriers to entrepreneurship among youth in Uttarakhand state of India: A cross-cultural investigation across genders. *International Journal of Gender and Entrepreneurship*, 10(3). <https://doi.org/10.1108/IJGE-02-2018-0009>
82. Sharma, P. (2018). Influence of gender and culture on entrepreneurial motivation: A study of Indian youth. *Journal of Entrepreneurship and Innovation in Emerging Economies*, 4(2), 141–158.
83. Shrivastava, U., & Acharya, S. R. (2021). Entrepreneurship education intention and entrepreneurial intention amongst disadvantaged students: An empirical study. *Journal of Enterprising Communities: People and Places in the Global Economy*, 15(3), 313–333. <https://doi.org/10.1108/JEC-04-2020-0072>
84. Shukla, S., & Kumar, R. (2024). Venturing into a new business: Do self-efficacy and risk-taking propensity help? *Vikalpa: The Journal for Decision Makers*. <https://doi.org/10.1177/02560909241234226>
85. Singh, P., & Yadav, D. K. (2023). Who wants to be an entrepreneur? Inside the minds of Indian students: 2023 survey report (1st ed., Highlights). GUESSS India. <https://guesssindia.in/wp-content/uploads/2025/05/5.-Highlights-WHO-WANTS-TO-BE-AN-ENTREPRENEUR.pdf>
86. Švab, I., Klemenc-Ketiš, Z., & Zupanič, S. (2023). New challenges in scientific publications: Referencing, artificial intelligence, and ChatGPT. *Zdravstveno Varstvo*, 62(3), 109–112. <https://doi.org/10.2478/sjph-2023-0015>
87. Tadi, P. K., Aneesh, A., Neethu, P. S., & Sia, S. K. (2023). Entrepreneurial intention of rural college students: Role of perceived behavioural control, entrepreneurial desire and entrepreneurial knowledge. *International Journal of Rural Management*, 19. <https://doi.org/10.1177/09730052231207176>
88. Tandon, V., Jain, D., Joseph, D., & James, B. V. (2024). The mediating role of self-efficacy and networks in entrepreneurial intentions. In *Advances in entrepreneurship research* (Chapter 5). IGI Global. <https://doi.org/10.4018/979-8-3693-5426-1.ch005>
89. Thomas, E., & Magilvy, J. K. (2011). Qualitative rigor or research validity in qualitative research. *Journal for Specialists in Pediatric Nursing*, 16(2), 151–155. <https://doi.org/10.1111/j.1744-6155.2011.00283.x>
90. Trivedi, R. H. (2023). Entrepreneurial-intention constraint model: A comparative analysis among post-graduate management students in India, Singapore and Malaysia. <https://doi.org/10.5281/zenodo.8005846>
91. Usman, M. B., Braimah, I., Oduro-Ofori, E., & Kessey, K. D. (2025). The entrepreneurial journey: Levels, dimensions, and dynamics of action among Ghanaian university students. *South Asian Journal of Social Studies and Economics*, 22(10), 43–66. <https://doi.org/10.9734/sajsse/2025/v22i101174>
92. Zhang, H., Wu, C., Xie, J., Lyu, Y., Cai, J., & Carroll, J. M. (2023). Redefining qualitative analysis in the AI era: Utilizing ChatGPT for efficient thematic analysis. *arXiv Preprint, arXiv:2309.10771*.