Entrepreneurial Intention Among IT Students Through Entrepreneurship Development Education: A Case Study of a Mahalaxmi Polytechnic Institution in Nepal

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Article Info

Abstract

Entrepreneurship development education (EDE) promotes entrepreneurship and boosts economic growth and employment. The comprehensive educational effort aims to foster students' entrepreneurial intentions. In Nepal, the Council for Technical Education and Vocational Training (CTEVT) has integrated the EDE course curriculum into all diploma programs in engineering, including the Diploma in Information Technology (DIT) program, with the aim of enhancing students' entrepreneurial knowledge and skills. Based on this context, the objective of this study was to explore the experiences of final-year diploma in information technology students about their entrepreneurial intentions through an EDE course. The study employs a qualitative case study methodology to investigate the experiences of final-year DIT students. The study selected sixteen students, ten of whom were male and six of whom were female. Data collection involved conducting semi-structured face-to-face interviews and document analysis. The analysis of the students' interviews and the document analysis yielded three major themes: entrepreneurial attitude, entrepreneurial behavior, and entrepreneurial knowledge, along with twelve subthemes. The current study's findings were consistent with planned behavior theory, which acts as a moderator for DIT students' entrepreneurial intentions. The results of this study conclude that EDE plays a crucial role in fostering entrepreneurial intentions among IT students. The program enhances their attitudes, behaviors, and knowledge of entrepreneurship; therefore, we recommended that CTEVT Nepal incorporate the EDE curriculum for all TVET programs.

1. Introduction

Entrepreneurship Development Education (EDE) as a strategic tool for promoting entrepreneurship, leading to increased economic growth and job creation. Li and Wu (2019) describe it as a comprehensive educational effort that aims to foster students' entrepreneurial intentions. Educational institutions have the potential to play a

crucial role in encouraging entrepreneurship (Rauch & Hulsink, 2015; Thomas & Wulf, 2021). There are a variety of EDE programs available to students at educational institutions such as multi-level universities, community colleges, vocational colleges, high schools, and primary schools. These programs are designed to assist students in developing their entrepreneurial ability and understanding. Despite these differences, the main objective of EDE programs is to educate and skill students to develop them as entrepreneurs (Heinonen & Poikkijoki, 2006).

The Council for Technical Education and Vocational Training (CTEVT) in Nepal is a national independent authority dedicated to cultivating the technical and skilled workforce necessary for the country (CTEVT, 2020; Thapa, 2023). Recognizing the significance of entrepreneurship development in the nation, CTEVT has initiated several programs to promote entrepreneurship education within the education system, aiming to cultivate graduates equipped with entrepreneurial competencies. The EDE course curriculum incorporates all engineering subjects, including the diploma in information technology (DIT) program, to develop students' entrepreneurial knowledge and skills. CTEVT also introduces activities such as school production units, start-up programs, and incubator opportunities to students who are interested in becoming entrepreneurs.

The DIT program's EDE curriculum aims to equip students with the necessary knowledge and skills to formulate business plans and manage small businesses. The entire course deals with assessing, acquiring, and developing entrepreneurial attitudes, skills, and tools essential for initiating and managing businesses. (CTEVT, 2022). Individual courses that focus on new business growth or creating a business plan can effectively provide entrepreneurship education. Furthermore, incorporating a cohesive curriculum that covers several subjects such as business plan formulation, competitive analysis, marketing, and finance can make it all-encompassing (Charney & Libecap, 2000).

It is essential to teach students in engineering how to recognize marketable challenges and approach their design or product from the viewpoint of the consumer (Karim, 2016). A proper entrepreneurial development course can achieve these goals. Graduates who have studied or taken entrepreneurship courses gain entrepreneurial orientations. According to Hylton et al. (2020) and Murugesan and Jayavelu (2015), graduates who have studied or taken entrepreneurship courses develop entrepreneurial orientations. Various researches indicate that engineering students possess a significant potential for entrepreneurship, with many opting to start their own businesses after graduation (Huang-Saad et al., 2020; Tretyakova et al., 2020).

Entrepreneurial intention is the mental attitude that ultimately motivates an individual to come up with a new business idea and start their own entrepreneurial journey (Chhabra et al., 2020). Bird et al. (2002) define entrepreneurial intention as the mental representation of the necessary actions to establish a new venture or generate fresh value within existing companies. On the other hand, Krueger et al. (2000) describe entrepreneurial intention as a straightforward dedication to initiating a new business. Entrepreneurial intention is a person's tendency and readiness to start a new business and see it through in the future (Maheshwari, 2021; Alammari et al., 2019). Various studies showed that entrepreneurship education enhances students' entrepreneurial intentions (Alakaleek et al., 2023; Lerisoy et al., 2021; Li & Wu, 2019; Maheshwari, 2021; Rauch & Hulsink, 2015; Thomas & Wulf, 2021; Thomas, 2023).

In the Nepalese context, most studies on entrepreneurship and entrepreneurial intentions target university-level students (Khadka & Khadka, 2023; Khanal & Prajapati, 2023; Shrestha et al., 2024), with little or no consideration for diploma-level TVET students in Nepal. A different study in the field of entrepreneurship education revealed varying effects on students' behavior, attitude, subjective norms, and, ultimately, their entrepreneurial goals. Students see entrepreneurship studies as crucial in fostering strong entrepreneurial intentions. According to several studies (Khadka & Khadka, 2023; Khanal & Prajapati, 2023; Shrestha et al., 2024), students view entrepreneurship studies as crucial in fostering strong entrepreneurial intentions. This research contributes to the field of entrepreneurship by exploring the question, "How can an entrepreneurship development course enhance students' entrepreneurial intentions?" The aim of this study is to explore the experience of students of the Diploma in Information Technology program about EDE programs in TVET polytechnic institutions.

2. Research Methodology

This study employs a qualitative case study methodology, as case studies are essential for investigating contemporary, real-life events that are limited by time or space. Case study research primarily examines a situation, problem, or event from the perspective of the individuals involved in the natural setting (Creswell, 2013; Denzin & Lincoln, 2011; Yin, 2018). The case for this study is a Mahalaxmi Polytechnic Institute (MPI), a CTEVT-constituted school. We conducted semi-structured interviews with the participants to delve into their experiences, and we also collected data using document review tools like student reports, logbooks, and university curricula. We obtained informed consent from each participant and provided them with an information leaflet that detailed the study's goal and nature.

The researchers developed an interview guide based on a literature review and conversations. We pilot tested the interview guide with two students. We recorded their comprehension of the enquiries and their replies. We

excluded their responses from the final analysis. Of the 28 students, two participated in the pilot testing of the guide. Sixteen students participated in face-to-face interviews according to our interview guide. The remaining students were unavailable for interviews due to their workplace placements. We conducted the interviews at Mahalaxmi Polytechnic Institute, where the students studied from April 2020 to May 2023. The second and third authors trained the interviewers in qualitative approaches. The first and Third authors conducted the interviews, with the second author acting as an observer.

The two authors documented each interview using a smart mobile phone. The researchers conducted sixteen interviews in Nepali and transcribed them in the same language. An English language expert, fluent in Nepali, confirmed the translation of the text into English and transcribed the data into Microsoft Word files. Researchers generated and designated an individual file for each participant. We gave the participants copies of their individual transcripts, allowing them to evaluate, clarify, or elaborate on their opinions. We conducted member checking and aligned the research technique with Yin's five stages of analysis and case study design. We employed an inductive methodology to derive the codes and themes.

Braun and Clarke's (2022) guidelines guided the thematic analysis. Researchers carefully transcribed the interviews and coded each transcription; they then read each text line by line and named the meaning units. Researchers regularly confirmed each theme and its corresponding categories against the data to ensure a consistent pattern within each theme and to ensure that detected quotes remained in context. Researchers discussed and assessed all thematic categories, ultimately identifying and assessing themes.

In terms of ethical considerations, researchers obtained informed written consent from each participant and provided them with an information sheet that outlined the study's goal and nature. Researchers informed the study participants they might withdraw from the study at any moment without affecting their education or classes. Researchers maintained the right to privacy and confidentiality throughout the study

3. Results

This paper draws key findings from the experiences of sixteen final-year student participants who had completed their ED course. The study led to the development of three key themes. These major themes, which consist of entrepreneurial attitude, entrepreneurial behavior, and entrepreneurial knowledge with twelve subthemes, play a crucial role in enhancing entrepreneurial intentions. We describe the themes in detail below.

3.1 Entrepreneurial Attitude

The first theme that emerged from face-to-face interviews with students was an entrepreneurial attitude. An entrepreneurial attitude, as defined by Kurczewska (2011), is a predisposition that encompasses three key domains: cognitive, affective, and conative. It motivates individuals to discover, establish, and implement innovative ways to integrate technology and products, enhance efficiency, and provide excellent service in order to generate a more substantial profit. An entrepreneurial attitude yields four subthemes: the development of passion and interest, enhancement of self-confidence, the improvement of quality consciousness, and proactiveness.

3.1.1 Development of Passion and Interest

The first subtheme of the entrepreneurial attitude is the development of passion and interest. All participants agree that EDE is helpful to the students in developing passion and interest. Entrepreneurship is a journey that entails self-discovery, exploration, and cultivation. Entrepreneurial education serves as a catalyst for the development of entrepreneurial passion and interest by providing individuals with the knowledge, experiences, and sense of purpose needed to embark on entrepreneurial journeys with enthusiasm and determination. According to participant F1,

"We increased passion and interest, especially in business, by actively participating in practical activities like self-discovery, investigation, and company idea development."

During EDE coursework, students engaged in a wide range of practical activities such as SWOT analysis, business planning, market planning, and product planning, exploring different interests and passions.

3.1.2 Self-confidence Enhancement

Enhancing self-confidence is another subtheme, and it is crucial for fostering an entrepreneurial attitude and succeeding in entrepreneurship. Twelve participants (75%) state that the EDE enhances their self-confidence after completing the course. They build their confidence through their regular practical and theoretical sessions. They conduct various simulated business activities and take time to imagine themselves achieving their entrepreneurial goals. That can help students build confidence and create a clear mental image of their desired outcomes. Through these activities, they analyzed the failures, extracted lessons from the event, and utilized them for growth. According to participant M10.

"We gain confidence through regular practical and theoretical sessions. We simulate commercial operations by visualizing entrepreneurial success. We may analyze what went wrong, learn from it, and develop stronger."

Self-confidence is an important characteristic for an entrepreneur, as they frequently face responsibilities and decisions that demand a significant level of belief in their own abilities. Mentors, peers, and supporters provide constructive feedback and encouragement that can help boost students' confidence.

3.1.3 Improvement of Quality Consciousness

Concern for high quality refers to a commitment and dedication to delivering products, services, or experiences of exceptional standards. Entrepreneurs prioritize excellence, innovation, customer happiness, and long-term value development in all aspects of their business endeavors due to their strong commitment to high quality. Fourteen participants (87.5%) state that students were able to prioritize the importance of delivering products and services of superior quality that not only meet but exceed established standards of excellence while also striving for efficiency and cost-effectiveness through their EDE sessions. According to participant M3,

"We learned from our EDE session that entrepreneurs must engage in research, development, and testing to guarantee their goods meet or exceed customer expectations."

EDE provides students with continuous improvement and innovation. Students must be able to understand information about customers and market trends and iterate on their products or services to enhance quality and stay ahead of the competition. They learn to satisfy customers and exceed their expectations. They said customer input helps them improve quality and products.

3.1.4 Proactiveness

Eleven participants (68.75%) stated proactivity is a key trait in the entrepreneurial attitude, driving individuals to take initiative, anticipate opportunities, and act decisively to create value. Here's how proactivity manifests in entrepreneurial endeavors: Proactivity is a defining characteristic of the entrepreneurial attitude, empowering individuals to take ownership of their destinies, seize opportunities, and drive meaningful change in the world. According to student participant M8,

"We learn how to be proactive in the entrepreneurial field. An entrepreneur has taken the initiative to identify potential gaps in the market, anticipate customer needs, and develop innovative solutions to address them."

Proactive entrepreneurs view challenges as opportunities for growth and innovation. Rather than waiting for problems to arise, they actively seek out solutions and take preemptive action to mitigate risks.

3.2 Entrepreneurial Behaviors

The second important theme is entrepreneurial behavior. Entrepreneurial behaviors refer to the various actions and practices that individuals undertake to identify, establish, and oversee new business initiatives. These behaviors are crucial to the successful initiation and expansion of entrepreneurial firms. In this study, the intention of entrepreneurial behavior generates important subthemes such as risk-taking, initiatives, persistence, assertiveness, creativity, and innovative thinking capacity.

3.2.1 Risk Taking

Entrepreneurs are those who make ambiguous judgments and are therefore willing to take risks. However, effective businesses will always prefer to take on risks that they can handle. Entrepreneurial education greatly contributes to the development of risk-taking abilities in entrepreneurs by equipping them with the necessary knowledge, mindset, and methods to effectively evaluate, handle, and exploit risks. Entrepreneurial education has a significant role in improving and developing risk-taking entrepreneurial skills. All participants state that entrepreneurial education teaches aspiring entrepreneurs about the principles and techniques of risk management. They learn how to identify, assess, prioritize, and mitigate various types of risks, including financial, market, operational, and strategic.

Entrepreneurship education enhances the capacity of students to assess risk-reward ratios during the decision-making process. Entrepreneurial education assists them in shifting their mindset toward failure, perceiving it as a great chance for learning rather than a hindrance. EDE enhances their risk-taking abilities and resilience by accepting failures and extracting valuable lessons from them. A participant, F5, mentioned.

"When making decisions, entrepreneurship education helps us analyze risk-reward ratios. We assess the advantages and disadvantages of an opportunity and determine whether the benefits outweigh the drawbacks. EDE helps us learn from failure rather than give up."

Entrepreneurial education plays an important role in nurturing and enhancing students' risk-taking skills by providing them with the knowledge, mindset, and experiences necessary to effectively assess, manage, and embrace risk.

3.2.2 Initiatives

An entrepreneur is known for his initiative and his preference for taking action on various duties and assignments. It further denotes that he is able and willing to do more than what is required or expected of him in a job. The initiative of an entrepreneur is helpful in identifying opportunities, taking action, and driving their business forward.

Twelve participants in this study said that entrepreneurial education enhances our mindset for undertaking entrepreneurial efforts by actively searching for possibilities in the market through trend analysis, identification of unmet demands, and identification of gaps or inefficiencies. We understand that entrepreneurs proactively seize opportunities and make resolute decisions to pursue their objectives, rather than passively waiting for them to present themselves. A participant, M7, mentioned.

"Entrepreneurs take initiative in monitoring and measuring their progress towards their goals. They track key metrics, analyze performance data, and make data-driven decisions to ensure they stay on course and achieve success."

An entrepreneur's initiative is characterized by a proactive approach and strong motivation to create opportunities and propel their business toward success.

3.2.3 Persistence

Entrepreneurial persistence is another theme under entrepreneurial behavior; it refers to their unwavering motivation in the face of seemingly insurmountable hurdles, their willingness to persevere when faced with setbacks, and their acceptance that they alone are responsible for making their dreams a reality. From the perspective of students, entrepreneurial education imparts knowledge to potential students regarding the obstacles and setbacks they are likely to encounter during their entrepreneurial endeavors. Student participant M11 asserts that entrepreneurial education cultivates a growth mentality, highlighting the idea that commitment and effort can enhance skills and intellect. This shift in viewpoint encourages entrepreneurs to perceive failures as chances for development and education instead of as insuperable barriers.

"Entrepreneurial education promotes a growth mentality, which holds that hard work may improve intelligence and abilities. We can network with mentors, advisors, and industry experts through entrepreneurial education. These relationships can help us enhance our entrepreneurial intentions."

Entrepreneurial education offers individuals the chance to connect with stakeholders. These connections can provide invaluable assistance, direction, and inspiration during difficult periods, aiding entrepreneurs in maintaining their motivation and determination to achieve their objectives.

3.2.4 Assertiveness

Assertiveness is a subtheme of an entrepreneur's behavior that involves confidently asserting their rights or points of view without being overly aggressive or meek. Most successful entrepreneurs are predominantly forceful.

Student participants agree that entrepreneurial education plays a vital role in fostering assertiveness among entrepreneurs by equipping them with the knowledge, skills, and confidence needed to assert themselves effectively in various business situations. Entrepreneurial education teaches students how to effectively manage conflicts and disagreements in the workplace. Students can address issues constructively, assert their needs, and maintain positive relationships with colleagues, clients, and stakeholders by learning techniques for assertive conflict resolution. A participant, M4, mentioned

"Entrepreneurial education teaches workplace dispute resolution. Through assertive conflict resolution, we can constructively resolve conflicts and advocate for their needs while maintaining strong relationships with coworkers, clients, and stakeholders."

Assertiveness is an essential characteristic that allows students to communicate effectively, establish boundaries, make confident decisions, resolve conflicts in a constructive manner, negotiate successfully, lead with integrity, adapt to change, and maintain confidence and self-belief throughout their entrepreneurial journey.

3.2.5 Innovation and Creativity

Innovation is the behavioral tendency of an individual who possesses a keen interest and strong motivation to actively pursue and implement improvements to procedures within their operations, as long as they are realistic and possible. An entrepreneur's creativity encompasses the capacity to approach familiar tasks in innovative ways or devise novel solutions.

Student participants agree that entrepreneurial education plays a significant role in enhancing students' creativity and innovation skills by fostering a culture of exploration, experimentation, and problem-solving. Entrepreneurial education encourages students to explore new ideas, industries, and opportunities. By exposing

students to diverse perspectives and experiences, entrepreneurial education stimulates curiosity and inspires creative thinking.

Entrepreneurial education provides students with a nurturing environment in which to engage in innovation and take risks. Entrepreneurial education fosters an atmosphere of creativity by motivating students to experiment with creative ideas, take well-thought-out risks, and derive knowledge from both achievements and difficulties. According to participant F3,

"Entrepreneurial education promotes creativity through experimentation and risk-taking. Entrepreneurship education encourages students to try new things, take calculated chances, and learn from their mistakes. It teaches pupils to accept failure as part of learning."

Entrepreneurial education fosters resilience and tenacity in students by promoting the idea that failure is a good learning opportunity. It cultivates an entrepreneurial mindset and empowers students to think creatively, identify opportunities, and take initiative to bring their ideas to life.

3.3   Entrepreneurial Knowledge

Diplomas in engineering, including those in information technology, are part of the entrepreneurship development curriculum and aim to provide students with the expertise and competencies required for formulating business plans and managing small businesses. The course focuses on evaluating, obtaining, and cultivating the entrepreneurial attitudes, skills, and tools essential for initiating and managing a small business. The analysis of their curriculum, practical records, and face-to-face interviews yields three subthemes: generating business ideas, formulating business plans, and enhancing legal knowledge about business.

3.3.1 Generating Business Ideas

Entrepreneurial education often encourages individuals to generate a wide range of business ideas by providing interactive learning experiences and expert mentorship. A successful business starts with a successful business idea. Participants in this study discovered that using their own experiences, brainstorming with peers, and information related to our subject, i.e., information and technology, they can generate business ideas. We conducted an investigation into our environment and facilitated brainstorming sessions among our students. We discovered that there is a clear understanding of the products, services, or goods we intend to offer, as well as the location, method, and target audience for these sales. A participant, F2, told

 "We generated business ideas by analyzing client needs. Required or desired. Which client demand will our business meet? What will our company sell? Our business sells to whom? What marketing strategy will your company use?"

Positive, creative thinking identifies business ideas. Business ideas can originate from various sources, including local resources, needs, and activities, but they must align with what customers' desire and can afford. A participant, M12, added.

"A successful business idea is based on the needs of customers. If a business makes a fantastic product but nobody needs it, the business will be a failure."

A solid idea for a business is one that takes into account the requirements of the target market. EDE helped students generate business ideas based on local needs.

3.3.2 Developing a Business Plan

A business plan is a documented overview of a prospective enterprise. It encompasses specifics regarding plans, operations, financial aspects, identified opportunities, and strategies. This plan acts as a road map for business owners, directing them through the process of launching, managing, and expanding their companies. According to the curriculum requirements, the preparation of a business plan constitutes a significant portion of the practical component. The students' practical records and assignments related to business plan preparation demonstrate that they have acquired the necessary skills to prepare an effective business plan. A participant, M9, mentioned

"As per our curriculum, we studied the business plan, and our teacher guided us to create one in a practical class. He taught us how to prepare one. Accordingly, we developed a business plan, which enabled us to become capable of constructing a business plan".

A business plan is a changing, dynamic document. Business planning requires consideration of factors such as product or service design, market dynamics, financial management, human resource management, technical aspects, and infrastructure. A participant, M1, adds.

"We learn about business planning that requires product or service design, market, financial management, human resource management, technical considerations, and infrastructure."

The students' practice records demonstrated that they used the business's marketing and sales strategies to attract and retain customers. It includes details such as pricing strategy, distribution channels, promotional tactics, customer acquisition and retention plans, and sales forecasts. They adhere to the four Ps for marketing

strategy, which are product, price, place, and promotion. Similarly, they made a production plan that describes the operational aspects of the business, including the organizational structure, key personnel, roles, and responsibilities; production processes; supply chain management; facilities; equipment; and technology requirements.

Similarly, their report highlights their expertise in creating a human resource plan, as well as their successful financial plan for their business. This plan encompasses the financial aspects of the business, such as initial costs, revenue forecasts, expenses, cash flow projections, break-even analysis, and financial milestones. It should demonstrate the financial feasibility and viability of the business concept.

3.3.3 Legal Knowledge in Business

Entrepreneurial education often includes aspects of legal knowledge that are vital for running a business effectively and ethically. The entrepreneurial education curriculum contains different business structures like sole proprietorships, partnerships, corporations, etc. This knowledge helps entrepreneurs choose the right legal structure for their business, considering factors like liability, taxation, and management.

After analyzing the EDE curriculum, student**s** often learn about intellectual property laws. Understanding these laws helps them protect their innovations, brands, and creative works, as well as avoid infringing on others' intellectual property rights. Entrepreneurial education covers a wide range of regulations and compliance requirements relevant to specific industries and jurisdictions. This knowledge helps entrepreneurs ensure their businesses operate within the legal framework, avoiding penalties and legal disputes. A student participant, M5, mentions

"We studied about intellectual property laws. Understanding these regulations helps us learn more about brands and creative work. EDE involves industry- and jurisdiction-specific rules and compliance. This understanding helps us know about penalties and legal issues in business."

This knowledge helps them create fair employment practices, maintain a positive work environment, and avoid legal issues related to employment disputes. Entrepreneurial education often covers the basic principles of business taxation, and deductions.

This study generates three themes from twelve subthemes related to entrepreneurial intention. The first theme, entrepreneurial attitude, encompasses subthemes such as the development of passion and interest, self-confidence, and enhancement. The second theme encompasses the enhancement of quality consciousness, proactiveness, assertiveness, innovation, and creativity. The second theme focuses on entrepreneurial behavior, risk-taking, initiative, and persistence. The third theme generates entrepreneurial knowledge, which includes generating business ideas, developing a business plan, and legal knowledge in business.

4. Discussion

Entrepreneurial attitude, entrepreneurial behavior, and entrepreneurial knowledge are the main themes extracted from students' experiences and document analyses. Prior empirical research provides evidence that early career goals are generally reliable indicators of future occupational choices. It is plausible to assume that college students who express a desire for entrepreneurship are more likely to pursue self-employment. Recently, there has been a notable focus among entrepreneurship specialists on examining the elements that impact entrepreneurial tendencies, especially among students.

According to the theory of planned behavior (Ajzen, 1991), three distinct factors shape intentions: attitudes toward the behavior, perceived behavioral control, and subjective norms. The results of this study are consistent with the theory of planned behavior, indicating that entrepreneurial education can improve two aspects: the entrepreneurial attitude and actual entrepreneurial behaviors. Ajzen's (1991) theory of planned behavior moderates the entrepreneurial goals of DIT students. Furthermore, Bae et al. (2014) and Rauch and Hulsink (2015) observe that entrepreneurial development education (EDE) plays a crucial role in cultivating entrepreneurial attitudes and behaviors among students who are considered potential entrepreneurs. Furthermore, EDE's training equips students with the entrepreneurial knowledge and skills they need to advance their intentions (Thomas, 2023).

The findings of this study confirm the influence of EDE in the DIT program on students' entrepreneurial intentions. Researchers should also concentrate on elucidating the role of constructs within the theory of planned behavior (TPB), as they serve as beneficial mediators in the association between the EDE curriculum and entrepreneurial intention. This aligns with the findings of Aliedan et al. (2022), which indicate that higher education supports students' entrepreneurial intentions.

This study identifies entrepreneurial attitude as the first theme, exploring how students cultivate positive attitudes through EDE. Krueger et al. (2000) assert that three primary aspects impact the intention to become an entrepreneur. The first aspect is an individual's attitude toward having a favorable or negative impression of being an entrepreneur (Ajzen, 2011). External factors such as qualities, skills, time restrictions, and task complexity influence attitude (Ajzen, 1991; Lee & Wong, 2004). EDE is an illustration of an external factor that might influence

entrepreneurial intention. Therefore, we can consider it a determinant of entrepreneurial intention (Rauch & Hulsink, 2015).

The second theme delves into the exploration of entrepreneurial behavior, which in turn enhances entrepreneurial intentions. The concept refers to the perceived level of difficulty in commencing a business venture. This characteristic encompasses both the perception of having the ability to start a business and the perception of having control over that behavior (Ajzen, 2011). Enhancing knowledge and skills can increase perceived feasibility, hence increasing perceived behavior control (Krueger et al., 2000; Lián, 2008).

The socio-cultural aspect, a blend of social and cultural elements, is another important factor that influences students' entrepreneurial intentions. Notably, socio-cultural factors enhance entrepreneurial motivations and achievements. However, positive social rewards inspire entrepreneurs to pursue elevated objectives, such as the need for achievement, risk propensity, and entrepreneurial endeavors. Negative social rewards discourage entrepreneurial motives and activities, which ultimately reduces the likelihood of entrepreneurial success. (Subedi & Gautam, 2024). We found there was a lack of content on the socio-cultural aspect in the EDE curriculum. Therefore, there is a need for the incorporation of socio-cultural content in the EDE curriculum of the DIT program in Nepal.

The third theme is that EDE improves entrepreneurial knowledge in students and enhances entrepreneurial intention. EDE enhances students' knowledge and skills, which in turn influences their intentions (Lián, 2008). According to Thomas (2023), "knowledge and skills" reflect rational "learning" in entrepreneurial education, which is part of an academic institution's teaching mission. In this role, students learn the fundamentals of business. The data strongly support perceived knowledge and abilities as mediators of EDE and venture startup ambition. Several academics in the field of entrepreneurship have posited a theoretical connection between entrepreneurial education (EE) and the acquisition of advanced knowledge and skills (Bae et al., 2014; Ismail et al., 2019; Lipan, 2008; Thomas & Wilf, 2021). Similarly, Chen (2013) studied the entrepreneurial intentions of college students in IT (information technology). The results showed that students' expected outcomes, social influence, and self-efficacy directly determine their IT entrepreneurial intention. The study concluded by recommending the need for entrepreneurial education in higher education.

5. Conclusion

This study aims to explore the entrepreneurship intentions and experiences of final-year diploma students in information technology, particularly in relation to their exposure to entrepreneurship development education. The key themes derived from the analysis of students' experiences and documents are entrepreneurial mindsets, entrepreneurial behavior, and entrepreneurial knowledge.

This study concludes that entrepreneurial development education (EDE) plays a crucial role in fostering entrepreneurial intentions among IT students. It achieves this by strengthening their attitudes, behaviors, and knowledge about entrepreneurship through a combination of practical activities and theoretical studies. The results of this study contribute to the Theory of Planned Behavior by confirming the impact of an external influence on the entrepreneurial intention to start a new business.

6. Limitations and recommendations

This study was conducted at a single TVET institution in the Lalitpur district of Nepal, which is a limitation. This study exclusively addresses the experiences of the students. Secondly, we did not evaluate the experiences of instructors and TVET leaders. Another limitation of this study is the constrained availability of time and financial resources. A recommendation for future research is to undertake a quantitative analysis with a bigger sample size in alternative TVET institutions and programs. This study's conclusions recommend that CTEVT, the apex body of the TVET sector in Nepal, incorporate the EDE curriculum into all other TVET courses to enhance the entrepreneurial intent of TVET graduates.

7. Implications of the study

Engaging in entrepreneurship is crucial for graduates to achieve future financial independence. This research contributes theoretically by augmenting the literature on EI with a theory of planned behavior. This research offers significant implications for policymakers and CTEVT top management, who have a crucial role in curriculum design and course delivery. They should recognize how entrepreneurial development education might influence EI. Based on the current research, the CTEVT curriculum department should take necessary initiatives to incorporate the EDE curriculum into each diploma-level TVET program, thereby enhancing students' EI in their respective professions.

Conflict of Interest

Authors declare that there is no conflict of interest regarding the publication of the paper.

Author Contribution

The authors confirm contribution to the paper as follows: **Writing original draft, Methodology, data collection:** *Harish Singh Thapa;* **provided substantial revisions, formal analysis and contributed to writing the findings:** *Suresh Gautam;* **Writing review & editing:** *Suman Poudel;* **data collection and draft manuscript preparation:** *Jeena Pokharel. All authors reviewed the results and approved the final version of the manuscript.*

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (2011). *Attitudes, personality and behavior.* Open University Press.

Alakaleek, W., Harb, Y., & Harb, A. A. (2023). The impact of entrepreneurship education: A study of entrepreneurial outcomes. *The International Journal of Management Education, 21*(2), 100800, https://doi.org/10.1016/j.ijme.2023.100800

Alammari, K., Newbery, R., Haddoud, M.Y., & Beaumont, E. (2019). Post-materialistic values and entrepreneurial intention: The case of Saudi Arabia. *Journal of Small Business and Enterprise Development, 26*(1), 158-179, https://doi.org/10.1108/JSBED-03-2018-0086

Aliedan, M. M., Elshaer, I. A., Alyahya, M. A., & Sobaih, A. E. E. (2022). Influences of university education support on entrepreneurship orientation and entrepreneurship intention: Application of theory of planned behavior. *Sustainability, 14*(20), 13097, https://doi.org/10.3390/su142013097

Bae, T. J., Qian, S., Miao, C., & Fiet, J. O. (2014). The relationship between entrepreneurship education and entrepreneurial intentions: A meta–analytic review. *Entrepreneurship Theory and Practice, 38*(2), 217-254. https://doi.org/10.1111/etap.12095

Bird, B., Jelinek, M., & Krueger, M. F. (2002). The operation of entrepreneurial intentions. *Entrepreneurship: Critical Perspectives on Business and Management, 2*(2), 292.

Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide.* Sage.

Charney, A., & Libecap, G. D. (2000). The impact of entrepreneurship education: An evaluation of the Berger Entrepreneurship Program at the University of Arizona, 1985-1999. *Social Science Research Network.* https://doi.org/10.2139/ssrn.1262343

Chhabra, S., Raghunathan, R., & Rao, N.M. (2020). The antecedents of entrepreneurial intention among women entrepreneurs in India. *Asia Pacific Journal of Innovation and Entrepreneurship, 14*(1), 76-92. https://doi.org/10.1108/APJIE-06-2019-0034

Chen, L. (2013). IT entrepreneurial intention among college students: An empirical study. *Journal of Information Systems Education, 24*(3), 233-244.

Council for Technical Education and Vocational Training. (2020). *A glimpse of TVET in Nepal.* http://ctevt.org.np

Council for Technical Education and Vocational Training. (2022). *Curriculum, diploma in information technology* (3rd to 6th Semester). http://ctevt.org.np/curriculum/diplomapcl

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Sage Publications.

Denzin, N. K., & Lincoln, Y. S. (2011). *The Sage handbook of qualitative research* (4th ed.). Sage Publications.

Heinonen, J., & Poikkijoki, S. A. (2006). An entrepreneurial-directed approach to entrepreneurship education: Mission impossible? *Journal of Management Development, 25*(1), 80-94. https://doi.org/10.1108/02621710610637981

Huang-Saad, A., Bodnar, C., & Carberry, A. (2020). Examining current practice in engineering entrepreneurship education. *Entrepreneurship Education and Pedagogy, 3*(1), 4-13. https://doi.org/10.1177/2515127419890828

Hylton, B., Mikesell, D. R., Yoder, J. D., & Leblanc, H. (2020). Working to instill the entrepreneurial mindset across the curriculum. *Entrepreneurship Education and Pedagogy, 3*(1), 86–106. https://doi.org/10.1177%2F2515127419870266

İlerisoy, Z. Y., Аусı, А., Аусı, H., & Kınacı, E. B. (2021). Impacts of architectural education on entrepreneurial intention: a case study of senior architects from six universities in Turkey. *Archnet-IJAR: International Journal of Architectural Research*, *15*(3), 719-737, https://doi.org/10.1108/ARCH-11-2020-0269

Ismail, A., Adnan, W. N., Masek, A., Hassan, R., Hashim, S., & Ismail, M. E. (2019). Effectiveness of entrepreneurship programmes in developing entrepreneurship skills towards quality TVET graduates. *Journal of Technical Education and Training*, *11*(1). https://doi.org/10.30880/jtet.2019.11.01.010

Karim, M. S. A. (2016). Entrepreneurship education in an engineering curriculum. *Procedia Economics and Finance*, *35*, 379-387, https://doi.org/10.1016/S2212-5671(16)00047-2

Khadka, S., & Khadka, A. K. (2023). Entrepreneurship education and business intention: Study from Kathmandu, Nepal. *Change Management: An International Journal, 23(*2), https://doi.org/10.5281/zenodo.8158979

Khanal, K., & Prajapati, B. (2023). Entrepreneurship intention among Nepalese MBA graduates: Impact of entrepreneurial ecosystem factors. *International Journal of Social Research & Innovation*, *7*(2), 1-19

Krueger Jr, 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

Kurczewska, A. (2011). Entrepreneurship as an element of academic education-international experiences and lessons for Poland. *International Journal of Management and Economics*, *30*.

Lee, S.H., & Wong P.K. (2004). An exploratory study of technopreneurial intentions: A career anchor perspective. *Journal of Business Venturing 19*(1), 7–28. https://doi.org/10.1016/S0883-9026(03)00003-3

Li, L., & Wu, D. (2019). Entrepreneurial education and students' entrepreneurial intention: Does team cooperation matter? *Journal of Global Entrepreneurship Research*, *9*(1), 1-13, https://doi.org/10.1186/s40497-019-0157-3

Liñán, F. (2008) Skill and value perceptions: How do they affect entrepreneurial intentions? *International Entrepreneurship and Management Journal, 4*(3), 257–272, https://doi.org/10.1007/s11365-008-0093-0

Maheshwari, G. (2021). Factors influencing entrepreneurial intentions the most for university students in Vietnam: Educational support, personality traits or TPB components? *Education+ Training*, *63*(7/8), 1138-1153. https://doi.org/10.1108/et-02-2021-0074

Murugesan, R., & Jayavelu, R. (2015). Testing the impact of entrepreneurship education on business, engineering and arts and science students using the theory of planned behaviour: A comparative study. *Journal of Entrepreneurship in Emerging Economies*, *7*(3), 256-275. https://doi.org/10.1108/JEEE-12-2014-0053

Rauch, A., & Hulsink, W. (2015). Putting entrepreneurship education where the intention to act lies: An investigation into the impact of entrepreneurship education on entrepreneurial behavior. *Academy of Management Learning & Education*, *14*(2), 187-204. https://doi.org/10.5465/amle.2012.0293

Shrestha, A., Bhattarai, S. K., Arayal, S., & Mishra, P. (2024). A study on entrepreneurial inclination and characteristics of students of civil engineering in Nepal: A case study of Himalayan Institute of Science and Technology (HIST), Nepal. *Journal of Women Entrepreneurship & Business Management*, 1-20

Subedi, D., & Gautam, P. K. (2024). Entrepreneurial success factors of small and medium size women enterprises in Kathmandu. *The Spectrum*, *2*(1), 67-89. https://doi.org/10.3126/spectrum.v2i1.64770

Thapa, H. S. (2023). Work-based learning through school production unit in polytechnic institutes. *Journal of Technical and Vocational Education and Training*, *17*(1), 65–73. https://doi.org/10.3126/tvet.v17i1.52421

Thomas, O., & Wulf., T. (2019). Entrepreneurship education and the intention to start a business: The moderating role Sof cognitive biases. *International Journal of Entrepreneurial Venturing 11*(5), 413–439. https://doi.org/10.1504/IJEV.2019.102260

Thomas, O. (2023). Entrepreneurship education: Which educational elements influence entrepreneurial intention? *Industry and Higher Education*, *37*(3), 328-344. https://doi.org/10.1177/09504222221121065

Tretyakova, N. V., Lyzhin, A. I., Chubarkova, E. V., & Lukiyanova, M. N. (2020). Focus on practical disciplines as a method of developing entrepreneurial mindset. *Journal of Entrepreneurship Education*, *23*(1), 1-9.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage Publications.