

Entrepreneurial competencies and motivation for entrepreneurial venture among senior high school students

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Abstract

Aim: This study examined the entrepreneurial competencies and motivation for entrepreneurial venture among Grade 12 Senior High School students at Liceo de Cagayan University, with emphasis on their implications for entrepreneurship education and curriculum development. Specifically, it assessed students' levels of self-efficacy, adaptability, need for achievement, risk-taking, and interpersonal skills; determined their motivation for entrepreneurial venture; examined differences across academic strands; and identified competencies that significantly predicted entrepreneurial motivation.

Methodology: A descriptive-correlational and predictive research design was employed. Data were collected from 342 Grade 12 students across ABM, STEM, HUMSS, ICT, and Arts and Design strands using stratified random sampling. A researcher-made questionnaire administered through Google Forms served as the primary instrument. Data were analyzed using descriptive statistics, analysis of variance (ANOVA), Pearson correlation, and multiple regression analysis.

Results: The findings revealed high levels of entrepreneurial competencies and entrepreneurial motivation among students. Need for achievement emerged as the strongest competency, while adaptability was the weakest. Significant differences were observed across academic strands, with HUMSS obtaining the highest competency level. Entrepreneurial competencies were significantly and positively related to motivation, with need for achievement, interpersonal skills, and risk-taking identified as significant predictors explaining a substantial portion of the variance in motivation.

Conclusion: Entrepreneurial competencies significantly predicted students' motivation toward entrepreneurship. The findings highlight the need to strengthen adaptability and support the integration of competency-based and experiential learning approaches in Senior High School entrepreneurship education to enhance students' readiness for dynamic entrepreneurial environments.

Keywords: *Entrepreneurial competencies, entrepreneurial motivation, senior high school students, entrepreneurship education*

INTRODUCTION

Entrepreneurship education has become increasingly important in preparing learners for the demands of a rapidly changing global economy. It is no longer viewed only as preparation for business ownership but also as a means of developing future-ready competencies such as creativity, innovation, problem-solving, adaptability, initiative, and resilience. As labor markets continue to change due to globalization, technological advancement, and economic uncertainty, schools are expected to provide learning experiences that equip students with both academic knowledge and practical life skills. In this context, entrepreneurship education serves as an important platform for helping learners develop the confidence, motivation, and competencies needed to recognize opportunities, respond to challenges, and create value in their communities.

At the secondary education level, entrepreneurship education plays an essential role in shaping students' attitudes, skills, and readiness for future career and business opportunities. Senior High School learners are at a stage where they begin to make decisions about higher education, employment, and possible entrepreneurial pathways.

Thus, entrepreneurship learning should not be limited to business concepts and theories but should also involve intentional teaching strategies that promote active, collaborative, and performance-based learning. Activities such as business simulations, product development, market research, selling activities, feasibility studies, customer feedback analysis, and reflective tasks may help students strengthen entrepreneurial competencies and increase their motivation toward entrepreneurial ventures.

Entrepreneurial competencies refer to the knowledge, skills, attitudes, and personal qualities that enable individuals to perform entrepreneurial tasks effectively. In this study, these competencies include self-efficacy, adaptability, need for achievement, risk-taking, and interpersonal skills. Self-efficacy reflects students' belief in their ability to accomplish entrepreneurial tasks, while adaptability refers to their capacity to respond to change and uncertainty. Need for achievement represents their drive to accomplish goals, risk-taking involves their willingness to make decisions despite possible challenges, and interpersonal skills enable them to communicate, collaborate, negotiate, and build positive relationships. When developed through appropriate classroom instruction, these competencies may improve students' entrepreneurial readiness and strengthen their interest in entrepreneurial activities.

In the Philippine educational context, entrepreneurship education is embedded in the Senior High School curriculum under the Kindergarten to Grade 12 (K-12) Basic Education Program (Department of Education, 2013). The curriculum emphasizes practical, applied, and career-oriented skills that prepare learners for employment, entrepreneurship, middle-level skills development, or higher education. Entrepreneurship subjects provide students with opportunities to understand business concepts, identify market needs, develop products or services, and experience entrepreneurial planning and implementation. However, the effectiveness of entrepreneurship education depends not only on the prescribed curriculum but also on how teachers design and deliver instruction. Thus, curriculum innovation and instructional design are necessary to make entrepreneurship learning meaningful, experiential, and responsive to learners' needs.

Teachers play a crucial role in transforming entrepreneurship education into a learner-centered and competency-based learning experience. Instructional design should provide opportunities for students to apply entrepreneurial concepts in real-life or simulated business situations. Instead of relying mainly on lecture-based instruction, entrepreneurship classes may be strengthened through experiential learning, project-based learning, collaborative tasks, community-based activities, and reflective assessments. These approaches allow learners to connect classroom lessons with actual entrepreneurial practice and may help develop stronger motivation, confidence, creativity, adaptability, and resilience.

Although entrepreneurship education has been widely recognized as important, there remains a need to examine how students' entrepreneurial competencies are associated with their motivation toward entrepreneurial ventures. Many studies focus on entrepreneurship as an economic or career-oriented outcome, while fewer studies explicitly examine how entrepreneurial competencies may inform teaching strategies, curriculum innovation, and instructional design in the Senior High School setting. This gap is important because students' motivation to engage in entrepreneurial ventures may be influenced by how their competencies are developed through classroom instruction and school-based entrepreneurial experiences.

Thus, this study examined the entrepreneurial competencies and motivation toward entrepreneurial ventures among Senior High School students. Specifically, it determined the levels of entrepreneurial competencies in terms of self-efficacy, adaptability, need for achievement, risk-taking, and interpersonal skills, as well as the students' level of motivation toward entrepreneurial ventures. It also examined the relationship between entrepreneurial competencies and motivation and identified which competencies significantly predicted students' motivation. The findings may provide evidence-based inputs for improving entrepreneurship teaching strategies, strengthening curriculum innovation, and enhancing instructional design in Senior High School entrepreneurship education.

The results of this study may be useful to teachers, curriculum planners, school administrators, and future researchers. For teachers, the findings may guide the selection of instructional strategies that strengthen students' entrepreneurial competencies and motivation. For curriculum planners and school administrators, the study may serve as a basis for designing more responsive entrepreneurship programs, performance tasks, business simulations, and experiential learning activities. Overall, this study highlights the importance of aligning entrepreneurial competencies with meaningful teaching strategies, innovative curriculum practices, and effective instructional design to better prepare learners for future entrepreneurial opportunities.

Review of Related Literature and Studies

Entrepreneurship education has increasingly been treated as an important educational response to changing labor-market demands, youth employability concerns, and the broader need to develop innovation-oriented learners. Recent scholarship showed that entrepreneurship education did not merely transmit business knowledge; it also shaped entrepreneurial competencies, aspirations, and behavioral readiness through curricular design, active learning, and supportive learning environments. A systematic review by Branca et al. (2025) found that entrepreneurship education strengthened key entrepreneurial qualities such as self-efficacy, risk-taking, creativity, and innovativeness, especially when experiential and active learning approaches were used. In secondary education, Ho et al. (2024) likewise reported that a theory-informed learning management system enhanced students' entrepreneurial attributes and aspirations, particularly when learners were meaningfully engaged and had prior entrepreneurial exposure. Similarly, Diepolder et al. (2025) found that competence-based sustainable entrepreneurship education positively affected secondary school students' entrepreneurial intention and related antecedents, including attitude and perceived behavioral control. These findings suggested that entrepreneurship education in school settings was most effective when it deliberately targeted measurable competencies and motivational outcomes rather than content acquisition alone (Branca et al., 2025; Diepolder et al., 2025; Ho et al., 2024).

Among the competencies most consistently associated with entrepreneurial development, self-efficacy remained central. Recent studies showed that entrepreneurial self-efficacy shaped how students interpreted entrepreneurial tasks, assessed their readiness, and translated knowledge into intention or behavior. Mack and Honig (2024) found that entrepreneurial self-efficacy among post-secondary learners was influenced by educational experiences, entrepreneurial exposure, and social background, although the specific predictors differed across academic and technical-vocational groups. In a Philippine study, Relente and Capistrano (2024) reported that entrepreneurial self-efficacy, together with innovation self-efficacy and entrepreneurial knowledge, formed part of a broader framework that influenced the entrepreneurial intentions of young Filipino students. Wang et al. (2025) further demonstrated that self-efficacy, entrepreneurship education, and creative thinking significantly shaped students' entrepreneurial behavior through entrepreneurial mindset. Collectively, these studies indicated that self-efficacy functioned not only as a personal belief but also as an educationally responsive construct that could be strengthened through learning experiences, exposure, and contextualized support (Mack & Honig, 2024; Relente & Capistrano, 2024; Wang et al., 2025).

Adaptability also emerged as a significant entrepreneurial competence because entrepreneurship required learners to respond to uncertainty, changing contexts, and new opportunities. Although adaptability had not always been examined as a stand-alone variable in school-based entrepreneurship research, recent literature increasingly treated adaptive capacity, agility, and resilience as necessary dimensions of entrepreneurial readiness. Chen (2026) found that entrepreneurship learning environments designed around interaction, contextualized knowledge, and trust enhanced students' adaptability, innovation, and persistence under uncertainty and risk. Hasan (2025) similarly argued that entrepreneurial readiness could not be adequately explained by self-efficacy alone, because students also needed adaptive resources such as agility in order to cope with uncertainty. In secondary education, Ho et al. (2024) showed that engagement and prior experience strengthened entrepreneurial attributes and aspirations, suggesting that entrepreneurial learning benefited from environments that helped students process complexity and adjust their thinking. These studies implied that adaptability should be understood as a pedagogically relevant competence, particularly in entrepreneurship education that aimed to prepare learners for dynamic and uncertain conditions (Chen, 2026; Hasan, 2025; Ho et al., 2024).

Need for achievement continued to receive attention as a motivational trait linked to entrepreneurial intention and goal-directed behavior. Dzomonda and Mhlongo (2023) found a positive and significant relationship between need for achievement and entrepreneurial intention among university students, while also showing that entrepreneurial attitudes mediated this relationship. Their findings reinforced the view that students with stronger achievement motivation tended to evaluate entrepreneurship more favorably and were more likely to consider entrepreneurial action. Recent literature also suggested that achievement-oriented learners were more inclined to approach entrepreneurship as a domain for challenge, accomplishment, and self-directed success. In Philippine Senior High School research, Apolonio (2025) reported that learners demonstrated high competence in the achievement cluster, although planning-related competencies were less developed. This pattern suggested that students may already possess strong internal motivational drivers, yet still require educational support in translating such motivation into more strategic and action-oriented entrepreneurial capacities (Apolonio, 2025; Dzomonda & Mhlongo, 2023).

Risk-taking remained another widely recognized entrepreneurial characteristic, particularly because entrepreneurial action involved ambiguity, uncertainty, and decision-making under incomplete information. Branca et

al. (2025) identified risk-taking as one of the core competencies most frequently developed in entrepreneurship education, especially through experiential and active pedagogies. In a more recent model of student entrepreneurial intention, Al Lawati et al. (2026) found that entrepreneurship education significantly shaped attitudes and perceived behavioral control, both of which influenced entrepreneurial intention. Although that study did not isolate risk-taking as a single predictor, its findings supported the broader argument that educational experiences could strengthen students' willingness to engage with uncertainty and entrepreneurial possibility. Chen (2026) also linked entrepreneurship learning with adaptability and persistence under uncertainty, reinforcing the educational value of helping learners manage entrepreneurial risk rather than avoid it. These findings suggested that risk-taking in educational settings was best framed as informed and supported engagement with uncertainty, not as recklessness, and that entrepreneurship instruction should include activities that cultivate judgment, resilience, and decision-making confidence (Al Lawati et al., 2026; Branca et al., 2025; Chen, 2026).

Interpersonal skills were likewise important in entrepreneurship because entrepreneurial activity required communication, collaboration, networking, negotiation, and relationship-building. Recent work in entrepreneurship and management education emphasized that students needed more than technical or business knowledge; they also needed teamwork, communication, and interpersonal capabilities to function effectively in dynamic entrepreneurial contexts. Ilyas et al. (2024) argued that the educational needs of students were evolving toward a broader set of skills needed in a digital and changing world, and these included communication- and collaboration-oriented competencies. In a local Senior High School study, Jambo et al. (2025) found that students demonstrated strengths in several entrepreneurial areas but still experienced challenges in networking, presenting business plans, and financial literacy, indicating that soft-skill-related aspects of entrepreneurial readiness required further educational intervention. These findings aligned with the view that interpersonal skills should be treated as an essential dimension of entrepreneurial competence, particularly in school contexts where learners were still developing confidence in presenting ideas, building networks, and working with others (Ilyas et al., 2024; Jambo et al., 2025).

Recent Philippine and international studies therefore consistently supported the educational relevance of entrepreneurial competencies such as self-efficacy, adaptability, need for achievement, risk-taking, and interpersonal skills. However, important gaps remained in the literature. First, many recent studies concentrated on entrepreneurial intention in higher education, vocational education, or broad program evaluation, rather than on competency-based analyses among Senior High School students. Second, several studies examined one or two predictors, but fewer studies investigated multiple entrepreneurial competencies simultaneously to determine which ones most strongly influenced entrepreneurial motivation. Third, although recent local studies described the entrepreneurial competencies of Senior High School students, they often focused on general skill profiles or demographic differences rather than on the relationship between specific competencies and motivation for entrepreneurial venture. This gap was also evident in the present study's context, which specifically examined Grade 12 students from different academic strands and focused on self-efficacy, adaptability, need for achievement, risk-taking, and interpersonal skills as possible influences on motivation for entrepreneurial venture.

In synthesis, the reviewed literature showed that entrepreneurship education had increasingly shifted toward competency-based and learner-centered approaches, and that entrepreneurial development among students was shaped by both educational experiences and personal competencies. The evidence supported the importance of self-efficacy, adaptability, need for achievement, risk-taking, and interpersonal skills in strengthening entrepreneurial readiness, intention, and behavior. Nevertheless, there remained a limited number of studies that examined these competencies together within a Senior High School setting and across multiple academic strands, particularly in the Philippine context. The present study was therefore necessary because it addressed this gap by determining the levels of specific entrepreneurial competencies among Grade 12 students, comparing these across strands, and identifying which competencies significantly predicted motivation for entrepreneurial venture. In doing so, the study contributed context-specific evidence that may inform entrepreneurship instruction, curriculum enrichment, and school-based interventions for Senior High School learners.

Theoretical Framework

The study was primarily anchored on Experiential Learning Theory, which explains that learning occurs through a continuous cycle of experience, reflection, conceptualization, and application. This theory was appropriate because entrepreneurship education requires students to learn not only through classroom discussion but also through direct participation in entrepreneurial tasks. In this study, entrepreneurial competencies such as self-efficacy, adaptability, need for achievement, risk-taking, and interpersonal skills were viewed as learner capacities that may be developed through meaningful entrepreneurial experiences.

In the context of Senior High School entrepreneurship education, the first stage, experience, may occur when students participate in activities such as business simulations, product development, market research, selling activities, feasibility studies, and customer interaction. The second stage, reflection, allows learners to examine the results of their actions, identify challenges, and recognize areas for improvement. The third stage, conceptualization, helps students connect their experiences with entrepreneurial concepts such as opportunity recognition, innovation, risk management, communication, and goal setting. The fourth stage, application, allows learners to use their new understanding in future entrepreneurial tasks or improved business-related activities.

Through this cycle, students may strengthen their entrepreneurial competencies and motivation for entrepreneurial venture. Self-efficacy may be developed when learners successfully perform entrepreneurial tasks, while adaptability may be enhanced when they adjust to changing business conditions. Need for achievement may be strengthened when students set goals and evaluate their progress. Risk-taking may be improved when learners make informed decisions despite uncertainty, and interpersonal skills may be developed through communication, collaboration, and customer interaction.

To support the primary theory, the study also considered entrepreneurship-related frameworks. The Hybrid Model of Entrepreneurial Competence explained entrepreneurial competence as a combination of knowledge, skills, attitudes, and abilities. The Entrepreneurial Ecosystems Framework emphasized the role of the educational and institutional environment in developing entrepreneurial readiness. The Action-Oriented Model of Entrepreneurial Competence highlighted the importance of active engagement and practical learning, while the Cognitive Flexibility and Entrepreneurial Competence Model emphasized adaptability, resilience, and problem-solving in uncertain entrepreneurial situations.

Taken together, these theories guided the study by explaining how entrepreneurial competencies may be associated with students' motivation for entrepreneurial venture. They also supported the interpretation of the findings by framing entrepreneurial motivation as an outcome of competency development, educational exposure, and experiential learning in Senior High School entrepreneurship education.

Conceptual Framework

The conceptual framework of the study illustrated the relationship between the independent variables and the dependent variable. The independent variables consisted of the five entrepreneurial competencies examined in the study, namely self-efficacy, adaptability, need for achievement, risk-taking, and interpersonal skills. The dependent variable was motivation for entrepreneurial venture. The framework assumed that these entrepreneurial competencies were associated with the level of motivation of Senior High School students to engage in entrepreneurial activities or ventures. This structure was consistent with the study's statement of the problem, which sought to determine the level of entrepreneurial competencies, the level of motivation for entrepreneurial venture, the significant relationship between the variables, and the competencies that significantly predicted motivation.

More specifically, the framework proposed that students with stronger entrepreneurial competencies were more likely to demonstrate higher motivation for entrepreneurial venture. Self-efficacy represented students' confidence in their ability to perform entrepreneurial tasks. Adaptability referred to their capacity to respond to change and uncertainty. Need for achievement reflected their internal drive to accomplish goals and succeed. Risk-taking referred to their willingness to make decisions under uncertain conditions, while interpersonal skills pertained to their ability to communicate, collaborate, and build productive relationships. These competencies were treated as distinct yet related dimensions of entrepreneurial readiness that could influence students' entrepreneurial motivation in varying degrees.

The conceptual framework was also supported by the study's findings, which showed that entrepreneurial competencies were positively related to motivation for entrepreneurial venture. Among the variables, need for achievement, interpersonal skills, and risk-taking emerged as significant predictors of entrepreneurial motivation, while adaptability was identified as the weakest entrepreneurial competency across strands. These results suggested that motivation for entrepreneurial venture was not shaped by a single factor alone but by a combination of specific competencies that contributed differently to students' entrepreneurial orientation.

The diagram showed that the five entrepreneurial competencies served as predictors of students' motivation for entrepreneurial venture. In conceptual terms, the framework suggested that stronger entrepreneurial competencies were associated with stronger entrepreneurial motivation. This model provided the basis for the organization of the variables, the construction of the research instrument, and the statistical analysis used to determine relationships and predictive influence among the variables.

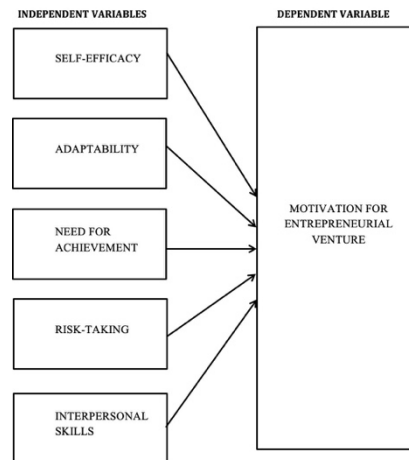


Figure 1. Schematic Diagram

Statement of the Problem

Entrepreneurship education has become increasingly important in preparing Senior High School students for innovation, self-reliance, and future economic participation. Despite the growing recognition of entrepreneurship as an educational priority, limited empirical evidence exists on the entrepreneurial competencies and motivation for entrepreneurial venture among Filipino Senior High School students. This gap is particularly evident in strand-based educational settings, where learners from different academic tracks may demonstrate varying levels of entrepreneurial readiness. In this context, it is necessary to examine the entrepreneurial competencies of Grade 12 students in terms of self-efficacy, adaptability, need for achievement, risk-taking, and interpersonal skills, as well as their motivation for entrepreneurial venture. Identifying competency strengths, gaps, strand-based differences, and the relationship between entrepreneurial competencies and motivation can provide evidence for more targeted educational interventions and improved entrepreneurship instruction in Senior High School education.

General Objective

To examine the entrepreneurial competencies and motivation for entrepreneurial venture among Grade 12 Senior High School students.

Specific Objectives

This study aims to:

1. Determine the level of entrepreneurial competencies of the participants in terms of self-efficacy, adaptability, need for achievement, risk-taking, and interpersonal skills.
2. Determine the level of motivation for entrepreneurial venture of the participants.
3. Examine the differences in entrepreneurial competencies across academic strands.
4. Determine the relationship between entrepreneurial competencies and motivation for entrepreneurial venture.
5. Identify which entrepreneurial competencies significantly predicted motivation for entrepreneurial venture.

Research Questions

1. What is the level of entrepreneurial competencies of the participants in terms of:
 - a. self-efficacy;
 - b. adaptability;
 - c. need for achievement;
 - d. risk-taking; and
 - e. interpersonal skills?
2. What is the level of motivation for entrepreneurial venture of the participants?
3. What differences exist in entrepreneurial competencies across academic strands?

4. Is there a significant relationship between entrepreneurial competencies and motivation for entrepreneurial venture?
5. Which entrepreneurial competencies significantly predicted motivation for entrepreneurial venture?

Hypotheses

H₀₁: There is no significant relationship between entrepreneurial competencies and motivation for entrepreneurial venture.

H₀₂: None of the entrepreneurial competencies significantly predicted motivation for entrepreneurial venture.

METHODOLOGY

Research Design

The study employed a descriptive-correlational and predictive research design. The descriptive component was used to determine the levels of entrepreneurial competencies and motivation for entrepreneurial venture among Grade 12 Senior High School students across different academic strands. The correlational component was used to examine whether significant relationships existed between entrepreneurial competencies and students' motivation for entrepreneurial venture. This design was appropriate because the study sought to describe the variables and determine the degree of association between them.

The predictive component was used to identify which entrepreneurial competencies significantly predicted students' motivation for entrepreneurial venture. This was suitable because the study used multiple regression analysis to determine the extent to which self-efficacy, adaptability, need for achievement, risk-taking, and interpersonal skills contributed to students' motivation. Since the study was non-experimental, it did not establish direct causality; rather, it provided evidence on the predictive contribution of entrepreneurial competencies to motivation for entrepreneurial venture.

Population and Sampling

The participants of the study were 342 Grade 12 Senior High School students from Liceo de Cagayan University. They came from the ABM (Accountancy, Business, and Management), STEM (Science, Technology, Engineering, and Mathematics), HUMSS (Humanities and Social Sciences), ICT (Information and Communication Technology), and Arts and Design strands. These students were selected because they represented the relevant Senior High School population across varied academic strands. Grade 12 students were appropriate participants because they were preparing for higher education, employment, or possible entrepreneurial engagement, and had taken or were taking Entrepreneurship as part of the Senior High School curriculum.

The study used stratified random sampling to ensure adequate representation of each academic strand. The Grade 12 student population was first divided into five strata based on strand, with a total population of 3,038 students. The sample size of 342 respondents was then determined using the Raosoft Sample Size Calculator and proportionately distributed across the identified strata. This approach was appropriate because it minimized sampling bias and ensured that all strands were represented in the study.

As shown in the table, the majority of the participants came from the STEM strand with 202 respondents (59.1%), followed by HUMSS with 57 respondents (16.7%) and ABM with 45 respondents (13.2%). The Arts and Design and ICT strands had the smallest representation, with 19 respondents (5.6%) each. This distribution reflected the actual strand composition of the Grade 12 Senior High School population during the conduct of the study and allowed for meaningful comparison of entrepreneurial competencies and motivation across academic strands.

Distribution of the Participants of the Study by Strand

Stratum Size (P ₂)	Number of Population in Strata (N)	Strata Sample Size (n)
ABM	399	45
ARTS AND DESIGN	161	19
ICT	173	19
HUMSS	508	57
STEM	1,797	202
TOTAL	3,038	342

Research Instruments

Data were collected using a researcher-developed survey questionnaire administered through Google Forms. The instrument was purely original, but its constructs were based on the study's conceptual framework and related



entrepreneurship education literature. It measured entrepreneurial competencies in terms of self-efficacy, adaptability, need for achievement, risk-taking, and interpersonal skills, as well as motivation for entrepreneurial venture. In this study, self-efficacy referred to students' confidence in performing entrepreneurial tasks; adaptability referred to their ability to adjust to changes and uncertainties; need for achievement referred to their drive to accomplish entrepreneurial goals; risk-taking referred to their willingness to make decisions despite uncertainty; and interpersonal skills referred to their ability to communicate, collaborate, and build relationships in entrepreneurial activities.

The questionnaire contained 90 items using a 5-point Likert scale, ranging from Strongly Agree (5) to Strongly Disagree (1). It was organized into seven parts: Part 1 identified the respondents' academic strand; Parts 2 to 6 measured the five entrepreneurial competencies; and Part 7 measured motivation for entrepreneurial venture. Specifically, the questionnaire included 15 items for self-efficacy, 15 for adaptability, 14 for need for achievement, 14 for risk-taking, 15 for interpersonal skills, and 15 for motivation.

Content Validation

The instrument underwent face and content validation prior to actual administration. Face validity was established to ensure that the questionnaire items appeared to measure the intended constructs from the respondents' perspective. For content validation, the instrument was evaluated by three subject-matter experts, consisting of the Chairperson of the School of Business, Management, and Accountancy, a faculty member of the School of Business, Management, and Accountancy, and another faculty member of the School of Business, Management, and Accountancy. Each validator possessed at least a master's degree and had extensive experience in instruction and curriculum evaluation. The validators assessed the instrument in terms of relevance, clarity, alignment with the study variables, and suitability for the target respondents. Based on their comments and recommendations, the necessary revisions were incorporated into the questionnaire. After the review and refinement process, all items under the six variables were considered acceptable and valid for use in the study.

Reliability Testing

The validated questionnaire was pilot tested among 30 students who were not included in the actual study. Reliability was assessed using Cronbach's alpha, and the instrument demonstrated high internal consistency across all variables: self-efficacy ($\alpha = .921$), adaptability ($\alpha = .890$), need for achievement ($\alpha = .912$), risk-taking ($\alpha = .872$), interpersonal skills ($\alpha = .919$), and motivation for entrepreneurial venture ($\alpha = .963$). These results indicated that the instrument was reliable for actual data collection.

Data Collection Procedure

Data were collected at Liceo de Cagayan University from Grade 12 Senior High School students after institutional permission had been secured from the Principal of the Senior High School Department. The instrument was administered following the approved procedure. Distribution, instruction, and retrieval of the questionnaire were conducted a few weeks after approval, and an online recorded orientation was uploaded through Google Classroom to explain the purpose of the study and the procedures for answering the questionnaire.

The questionnaire was administered through Google Forms and required approximately 15–20 minutes to complete. Only the respondents' academic strand was recorded in order to maintain anonymity. During administration, assistance was made available by the designated personnel to clarify instructions and address respondents' concerns when necessary. After retrieval, the responses were reviewed and prepared for statistical analysis.

Treatment of Data

The data were analyzed using both descriptive and inferential statistical tools. Frequency and percentage were used to describe the strand profile of the participants. Mean and standard deviation were used to determine the levels of entrepreneurial competencies and motivation for entrepreneurial venture. Analysis of Variance (ANOVA) was used to examine differences in entrepreneurial competencies across academic strands, while Pearson product-moment correlation was used to test the relationship between entrepreneurial competencies and motivation for entrepreneurial venture. Multiple regression analysis was employed to determine which among the entrepreneurial competencies significantly predicted motivation for entrepreneurial venture. Prior to the use of parametric tests, the data were reviewed to ensure that the assumptions of normality, linearity, independence, and absence of serious multicollinearity were reasonably satisfied. These procedures were appropriate because the study aimed to describe variable levels, compare groups, test relationships, and identify predictors.

Equivalent weights of 1 to 5 were assigned to the responses gathered, with 1 as the lowest and 5 as the highest, along with their corresponding verbal interpretations.

Table 1*Interpretation of the 5-Point Likert Scale*

Scale	Range	Descriptive Rating	Verbal Interpretation
5	4.51 – 5.00	Strongly Agree	Very High
4	3.51 – 4.50	Agree	High
3	2.51 – 3.50	Neutral	Moderate
2	1.51 – 2.50	Disagree	Low
1	1.00 – 1.50	Strongly Disagree	Very Low

Ethical Considerations

Prior to data collection, the study obtained ethical clearance from the university's research ethics committee. Institutional permission was also secured from the Principal of the Senior High School Department before the administration of the questionnaire. Participants were provided with a consent letter and informed consent form, which explained the purpose of the study, the voluntary nature of participation, and their right to withdraw at any time without penalty.

Confidentiality and anonymity were strictly observed throughout the study. No personal identifiers were disclosed in any report or publication, and only the academic strand of each respondent was recorded. The collected data were securely handled and were accessible only to the researcher, research adviser, statistician, and other authorized personnel. The information gathered was used solely for academic purposes. No incentives or reimbursements were given, and participation involved no financial cost to the respondents.

RESULTS AND DISCUSSION**Level of Entrepreneurial Competencies**

Table 2 presents the level of entrepreneurial competencies of the participants in terms of self-efficacy, adaptability, need for achievement, risk-taking, and interpersonal skills.

Table 2*Summary of Mean Scores for the Participants' Level of Entrepreneurial Competencies*

Entrepreneurial Competencies	Mean	SD	Description	Interpretation
Self-Efficacy	3.88	0.88	Agree	High
Adaptability	3.51	0.93	Agree	High
Need for Achievement	3.93	0.96	Agree	High
Risk-taking	3.70	0.94	Agree	High
Interpersonal Skills	3.80	0.93	Agree	High
Overall Mean	3.76	0.93	Agree	High

Legend: Strongly Agree (4.51 – 5.00) Agree (3.51 – 4.50) Neutral (2.51 – 3.50) Disagree (1.51 – 2.50) Strongly Disagree (1.00 – 1.50)

The findings showed that the participants had a high level of entrepreneurial competencies ($M = 3.76$, $SD = 0.93$). Among the indicators, need for achievement obtained the highest mean, suggesting that students were generally goal-oriented and motivated to accomplish entrepreneurial tasks. This finding supports Dzomonda and Mhlongo (2023), who found that need for achievement was positively associated with entrepreneurial intention, and Apolonio (2025), who reported that Senior High School learners demonstrated strength in achievement-related entrepreneurial competencies. This implies that teachers may build on students' goal orientation through performance-based tasks, business planning, pitching activities, and reflective goal-setting exercises. Meanwhile, adaptability obtained the lowest mean, although it was still interpreted as high. This suggests that students may need more support in responding to uncertainty, customer feedback, market changes, and unexpected business challenges. This finding is consistent with Hasan (2025) and Chen (2026), who emphasized that entrepreneurial readiness requires adaptability, agility, resilience,

and learning environments that expose students to uncertainty. Thus, entrepreneurship instruction should include simulations, product revision, short-term selling activities, and customer feedback analysis to strengthen adaptability through experiential learning.

Level of Motivation Toward Entrepreneurial Venture

Table 3 presents the participants' level of motivation toward entrepreneurial venture.

Table 3
Participants Level of Motivation Toward Entrepreneurial Venture

Entrepreneurial Competencies	Mean	SD	Description	Interpretation
Overall Mean	3.80	0.93	Agree	High

Legend: Strongly Agree (4.51 – 5.00) Agree (3.51 – 4.50) Neutral (2.51 - 3.50) Disagree (1.51 – 2.50) Strongly Disagree (1.00 – 1.50)

The participants demonstrated a high level of motivation toward entrepreneurial venture (M = 3.80, SD = 0.93). This indicates that students had a positive orientation toward entrepreneurship and were inclined to view entrepreneurial activity as a possible future pathway. This supports Ho et al. (2024), who found that secondary students' entrepreneurial aspirations improved when they were engaged in meaningful entrepreneurship learning experiences. Similarly, Branca et al. (2025) emphasized that entrepreneurship education strengthens entrepreneurial qualities when active and experiential learning strategies are used. This finding suggests that students' existing motivation may be enhanced through instructional design that moves beyond lecture-based discussion. Teachers may use feasibility studies, business simulations, selling projects, enterprise fairs, and reflective assessments to transform motivation into entrepreneurial readiness. School leaders may also strengthen students' motivation by providing mentoring, industry exposure, and school-based entrepreneurial activities.

Entrepreneurial Competencies by Academic Strand

Table 4 presents the level of entrepreneurial competencies of the participants when grouped according to academic strand.

Table 4
Level of entrepreneurial competencies in terms of academic strand

Strand	Self-Efficacy	Adaptability	Need for Achievement	Risk taking	Interpersonal Skills	Motivation	Entrepreneurial Competencies
ABM	Mean: 3.8993 N: 45 SD: .59605	3.5719 45 .66065	3.9984 45 .69277	3.7127 45 .67153	3.8104 45 .70352	4.1215 45 .82294	3.7985 45 .59010
ARTS DESIGN	Mean: 3.8070 N: 19 SD: .34988	3.4175 19 .42271	4.0827 19 .44369	3.8609 19 .47647	3.8386 19 .37404	3.7193 19 .61887	3.8014 19 .29342
HUMSS	Mean: 3.9532 N: 57 SD: .60421	3.6795 57 .69903	3.9674 57 .60550	3.7794 57 .61863	3.9135 57 .64586	4.0152 57 .69041	3.8586 57 .56566
ICT	Mean: 3.5860 N: 19 SD: .59279	3.3193 19 .65718	3.5977 19 .66078	3.4962 19 .61881	3.4807 19 .64925	3.6140 19 .85073	3.4960 19 .59365
STEM	Mean: 3.8888 N: 202 SD: .65652	3.4851 202 .67962	3.9229 202 .66608	3.6832 202 .66599	3.8066 202 .64506	3.8772 202 .87968	3.7573 202 .58398

The findings showed that entrepreneurial competencies varied across academic strands, with HUMSS obtaining the highest overall mean and ICT obtaining the lowest. Across strands, need for achievement remained the strongest competency, while adaptability remained the weakest. This indicates that students across strands were generally achievement-oriented but differed in entrepreneurial readiness and in their capacity to adjust to uncertain entrepreneurial situations.

These results support the need for strand-responsive entrepreneurship instruction. As Jambo et al. (2025) noted, Senior High School students may demonstrate entrepreneurial strengths but still need support in areas such as networking, business presentation, and applied entrepreneurial skills. Therefore, curriculum developers and teachers

may design differentiated entrepreneurship activities based on strand contexts. For example, HUMSS students may be engaged in social enterprise and communication-based ventures, while ICT students may be supported through digital business models, technology-based products, and online market testing.

Relationship Between Entrepreneurial Competencies and Motivation

Table 5

Results of Pearson R Correlation Analysis for the significant relationship between Entrepreneurial Competencies and Level of Participants' Motivation

Variables	n	r	Effect Size	P-value	Interpretation
Self-Efficacy	342	.541	Large	.000	Significant
Adaptability	342	.496	Moderate	.000	Significant
Need for Achievement	342	.644	Large	.000	Significant
Risk-Taking	342	.582	Large	.000	Significant
Interpersonal Skills	342	.603	Large	.000	Significant
Entrepreneurial Competencies	342	.649	Large	.000	Significant

Legend:

Correlation Coefficient Range Effect Size/Strength of Relationship (Cohen, 1988)
 .50 and Above Strong/Large Correlation
 .30 to .49 Moderate Correlation
 .10 to .29 Weak/Small Correlation

The results revealed a significant positive relationship between entrepreneurial competencies and motivation toward entrepreneurial venture. Among the competencies, need for achievement showed the strongest relationship, followed by interpersonal skills and risk-taking. This means that students with stronger entrepreneurial competencies tended to demonstrate higher motivation toward entrepreneurial venture.

This finding is consistent with Wang et al. (2025), who found that self-efficacy, entrepreneurship education, and creative thinking contributed to students' entrepreneurial behavior through entrepreneurial mindset. It also supports Relente and Capistrano (2024), who emphasized the role of entrepreneurial self-efficacy and entrepreneurial knowledge in shaping young Filipinos' entrepreneurial intentions. These results imply that entrepreneurship education should not focus only on business concepts but should intentionally develop learners' confidence, communication, collaboration, risk management, and achievement motivation through competency-based instruction.

Predictive Contribution of Entrepreneurial Competencies to Motivation

Table 6

Results of Multiple Regression Analysis for the Variables that Predict Motivation for Entrepreneurial Venture of Senior High School Students

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Interpretation
	B	Std. Error	Beta			
(Constant)	.198	.228		.868	.386	Not Significant
Self-Efficacy	.213	.148	.160	1.43	.153	Not Significant
Need for Achievement	.604	.130	.472	4.62	.000	Significant
Risk-taking	.319	.153	.248	2.08	.037	Significant
Interpersonal Skills	.456	.132	.353	3.46	.001	Significant
Entrepreneurial Competencies	-.639	.443	-.438	-1.44	.150	Not Significant
R=.68 R ² =.463 F(5, 336)=57.90 Sig=.000						

These findings are aligned with Branca et al. (2025), who identified risk-taking, self-efficacy, creativity, and innovativeness as competencies strengthened through entrepreneurship education. They also support Ilyas et al. (2024), who emphasized the need for communication, collaboration, and broader skills development in

entrepreneurship and management education. For teachers, the findings suggest the need to integrate goal-setting activities, collaborative enterprise projects, pitching tasks, market validation, and guided decision-making exercises. For school leaders and curriculum developers, the results support the design of entrepreneurship programs that are experiential, competency-based, and responsive to students' readiness for higher education, employment, and entrepreneurial engagement.

Overall, the findings show that entrepreneurial competencies are closely connected with students' motivation toward entrepreneurial venture. The study supports recent literature emphasizing that entrepreneurship education is most effective when it uses active, experiential, and competency-based learning approaches. Thus, strengthening adaptability, achievement motivation, interpersonal skills, and informed risk-taking may help Senior High School students become more prepared for dynamic entrepreneurial environments and future career opportunities.

Conclusions

The study concluded that Grade 12 Senior High School students demonstrated high entrepreneurial competencies and a high level of motivation for entrepreneurial venture. The findings revealed that need for achievement, interpersonal skills, and risk-taking significantly predicted students' entrepreneurial motivation, while adaptability remained the least developed competency. These results contribute to educational research by providing evidence that entrepreneurial competencies are important predictors of students' motivation and readiness for entrepreneurship. The study highlights the importance of integrating competency-based and experiential learning approaches in entrepreneurship education to enhance students' ability to respond to dynamic and uncertain environments. Furthermore, the findings offer practical insights for teachers, curriculum developers, and school leaders by emphasizing the need for targeted instructional strategies, strand-responsive curriculum design, and school-based interventions that support the development of key entrepreneurial competencies.

Recommendations

Based on the findings of the study, the following recommendations were proposed to strengthen entrepreneurial competencies and motivation for entrepreneurial venture among Senior High School students. These recommendations focused on practical strategies that may be adopted by teachers, school administrators, curriculum planners, and education leaders to enhance entrepreneurship education in the Philippine context.

- Senior High School teachers may strengthen students' adaptability by integrating simulations, product revision tasks, customer feedback activities, and short-term entrepreneurial projects into entrepreneurship classes, as adaptability was identified as the weakest competency.
- School administrators may establish partnerships with entrepreneurship organizations such as Go Negosyo Youthpreneur to provide mentoring, entrepreneurial talks, and pitching activities that enhance students' need for achievement, interpersonal skills, and risk-taking (Go Negosyo, 2025).
- Schools may adopt experiential learning programs such as Junior Achievement Philippines' Entrepreneurial Skills Pass (ESP) or mini-company activities to provide hands-on entrepreneurial experiences that develop multiple competencies simultaneously (Junior Achievement of the Philippines, Inc., n.d.).
- Curriculum developers and education leaders may design and implement competency-based entrepreneurship curricula that integrate experiential, collaborative, and real-world learning approaches aligned with national education goals.
- Teacher education institutions may incorporate entrepreneurship pedagogy and competency-based instruction into pre-service and in-service training programs to better equip teachers in facilitating entrepreneurial learning.

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