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PROMOTING SUSTAINABLE ENTREPRENEURIAL COMPETENCIES: A STRATEGIC BUSINESS IMPLEMENTATION APPROACH FOR BS ENTREPRENEURSHIP STUDENTS

PROMOVENDO COMPETÊNCIAS EMPREENDEDORAS SUSTENTÁVEIS: UMA ABORDAGEM ESTRATÉGICA DE IMPLEMENTAÇÃO DE NEGÓCIOS PARA ESTUDANTES DE BS EM EMPREENDEDORISMO

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Abstract
Entrepreneurship is a vital driver of economic growth, innovation, and sustainable development. This study assessed the entrepreneurial preparedness of Bachelor of Science in Entrepreneurship (BSE) students at the Eulogio "Amang" Rodriguez Institute of Science and Technology (EARIST), focusing on their knowledge, skills, and attitudes, as well as the challenges they face in developing sustainable entrepreneurial competencies. A descriptive research design was employed to capture perceptions from 332 students across all year levels and 13 faculty members using a validated structured questionnaire. Results showed that students demonstrated strong knowledge in management, corporate social responsibility, intellectual property, and value chain concepts. Skills were rated at an overall weighted mean of 4.02/5.00, with strengths in adaptability, task delegation, and communication, but gaps in negotiation, financial planning, and strategic marketing. Attitudinally, students exhibited high levels of perseverance, resilience, and passion, though confidence in creativity and innovation was less evident. Faculty and student assessments were consistent, suggesting shared perceptions of

Resumo
O empreendedorismo é um impulsionador vital do crescimento econômico, da inovação e do desenvolvimento sustentável. Este estudo avaliou a preparação empreendedora de alunos do Bacharelado em Ciências em Empreendedorismo (BSE) do Instituto de Ciência e Tecnologia Eulogio "Amang" Rodriguez (EARIST), com foco em seus conhecimentos, habilidades e atitudes, bem como nos desafios que enfrentam no desenvolvimento de competências empreendedoras sustentáveis. Um delineamento de pesquisa descritivo foi empregado para capturar as percepções de 332 alunos de todos os anos letivos e 13 docentes, utilizando um questionário estruturado validado. Os resultados mostraram que os alunos demonstraram sólidos conhecimentos em gestão, responsabilidade social corporativa, propriedade intelectual e conceitos de cadeia de valor. As habilidades foram avaliadas com uma média ponderada geral de 4,02/5,00, com pontos fortes em adaptabilidade, delegação de tarefas e comunicação, mas lacunas em negociação, planejamento financeiro e marketing estratégico. Em termos de atitude, os alunos demonstraram altos níveis de perseverança,

preparedness. Students also cited barriers such as financial limitations, managerial competence gaps, psychological pressures, and teamwork issues. To address these challenges, a sustainable business implementation plan was proposed, integrating experiential learning, mentorship, industry immersion, and sustainability-focused training. The findings provide actionable insights for educators, students, and policymakers, highlighting the need to strengthen entrepreneurial competencies that contribute to individual career success, national development, and the achievement of Sustainable Development Goals, particularly SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth).

Keywords: BS Entrepreneurship. Business Implementation Plan. Entrepreneurial Preparedness. Sustainable Entrepreneurship. Entrepreneurial Competencies.

resiliência e paixão, embora a confiança na criatividade e na inovação tenha sido menos evidente. As avaliações de docentes e alunos foram consistentes, sugerindo percepções compartilhadas de preparação. Os alunos também citaram barreiras como limitações financeiras, lacunas de competência gerencial, pressões psicológicas e problemas de trabalho em equipe. Para enfrentar esses desafios, foi proposto um plano de implementação de negócios sustentáveis, integrando aprendizagem experiencial, mentoria, imersão na indústria e treinamento com foco em sustentabilidade. Os resultados fornecem insights práticos para educadores, estudantes e formuladores de políticas, destacando a necessidade de fortalecer as competências empreendedoras que contribuem para o sucesso profissional individual, o desenvolvimento nacional e o alcance dos Objetivos de Desenvolvimento Sustentável, particularmente o ODS 4 (Educação de Qualidade) e o ODS 8 (Trabalho Decente e Crescimento Econômico).

Palavras-chave: *Empreendedorismo BS. Plano de Implementação de Negócios. Preparação Empreendedora. Empreendedorismo Sustentável. Competências Empreendedoras.*

1 INTRODUCTION

Entrepreneurship is widely recognized as a vital driver of economic growth, social transformation, and sustainable development, fostering innovation, job creation, and inclusive progress (Acs et al., 2018). Entrepreneurship has been consistently promoted as a cornerstone of national development, particularly in addressing poverty and limited employment opportunities. Initiatives such as *Go Negosyo* and the *Kapatid Mentor Me Project* highlight government efforts to cultivate entrepreneurial capacities among Filipinos, especially the youth (Department of Trade and Industry [DTI], 2021). These initiatives underscore the recognition that entrepreneurial education is not only about fostering business creation but also about equipping students with competencies that promote long-term sustainability and resilience.

The contemporary business landscape is shaped by rapid technological advancements, globalization, and shifting market demands, presenting both opportunities and challenges for emerging entrepreneurs. As Drucker (2014) emphasized,

entrepreneurship extends beyond starting businesses to identifying and exploiting opportunities for innovation in dynamic environments. However, while many students demonstrate creativity in conceptualizing business ideas, the transition from ideation to successful and sustainable implementation remains a persistent challenge. Recent studies highlight that this competency gap necessitates structured educational approaches that develop not only technical knowledge but also entrepreneurial mindsets, values, and adaptive capacities.

Research on entrepreneurial competencies reveals their multidimensional nature, spanning cognitive, behavioral, and affective domains (Bird, 2019). Competencies such as opportunity recognition, resilience, ethical decision-making, and sustainability orientation are increasingly regarded as critical to entrepreneurial success in today's volatile markets (Rippa & Secundo, 2019). Despite this recognition, few studies specifically examine how Bachelor of Science in Entrepreneurship (BSE) students acquire, apply, and sustain these competencies in practice. While much of the literature has focused on entrepreneurial intentions, there remains a limited body of work exploring preparedness for actual business implementation and sustainability-oriented practices among undergraduates.

This study addresses that research gap by examining the preparedness of BS Entrepreneurship students to implement sustainable business ventures. Anchored in Schumpeter's Innovation Theory of Entrepreneurship (Śledzik, 2013) and enriched with contemporary sustainability perspectives, the study positions entrepreneurs as agents of transformative change who must balance innovation with social responsibility and environmental stewardship. Specifically, it assesses the knowledge, skills, and attitudes of students, offering actionable insights into how entrepreneurship education can better align with the practical and sustainability-driven demands of modern enterprises.

The purpose of this study is twofold: to evaluate the level of preparedness of BS Entrepreneurship students in applying entrepreneurial competencies; and to propose a strategic framework that promotes sustainable business implementation. Its significance extends to multiple stakeholders: students benefit from improved competency development, educators gain insights to enhance pedagogy, and policymakers can strengthen initiatives that foster innovation-driven and sustainability-oriented entrepreneurship. In doing so, this research not only contributes to academic discourse but also supports national development priorities and the attainment of the United Nations

Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth).

2 METHODOLOGY

2.1 Research design

This study employed a descriptive research design to determine the entrepreneurial preparedness of BS Entrepreneurship students in terms of knowledge, skills, and attitudes. The descriptive approach was deemed appropriate because it allowed the researcher to systematically collect, classify, analyze, and interpret information about existing conditions and practices. This design provided an accurate snapshot of the respondents' preparedness levels while also generating insights that may inform future improvements in entrepreneurship education.

2.2 Participants and sampling technique

The participants of this study consisted of 332 BS Entrepreneurship students from first year to fourth year, and 13 faculty members teaching entrepreneurship-related courses at the Eulogio "Amang" Rodriguez Institute of Science and Technology (EARIST). Both full-time and part-time instructors were represented. The study utilized purposive sampling, guided by inclusion criteria such as: students currently enrolled in the BS Entrepreneurship program, and faculty members actively teaching entrepreneurship-related courses. Exclusion criteria included students not enrolled during the data collection period and faculty members without entrepreneurship-related teaching assignments. This ensured that only individuals who could meaningfully contribute to the study's objectives were included, thereby capturing diverse perspectives from both students and educators.

2.3 Research instrument

The primary instrument for data collection was a structured survey questionnaire that measured entrepreneurial preparedness in three domains: knowledge, skills, and

attitudes. The questionnaire consisted of key indicators under each domain but was summarized in the methodology for conciseness. The complete list of items is provided in the Appendix. Responses were rated using a five-point Likert scale, with verbal interpretations specific to each domain (e.g., “Highly Knowledgeable,” “Highly Skillful,” “Highly Evident”).

To establish validity, the instrument underwent expert evaluation by specialists in entrepreneurship education, followed by pilot testing with a smaller group of respondents. Feedback was used to refine the instrument. Reliability was assessed through internal consistency, with Cronbach’s alpha values of 0.89 for knowledge, 0.91 for skills, and 0.87 for attitudes, indicating high reliability across all domains.

2.4 Data gathering procedure

The data collection process began with the preparation and validation of the instrument. After obtaining approval from the institution, the researcher coordinated with administrators and faculty for the distribution of questionnaires. Standardized instructions were provided, and respondents were given adequate time to complete the survey. Completed questionnaires were collected, checked for completeness, and encoded. Data were then organized according to respondent groups and domains (knowledge, skills, and attitudes) for systematic analysis.

2.5 Data analysis procedure

Both quantitative and qualitative methods were used in analyzing the data. Descriptive statistics (frequency, mean, and standard deviation) summarized the responses, while independent-samples t-tests were applied to determine significant differences between students and faculty responses across domains. Results indicated no significant differences, suggesting consistent perceptions across groups.

For qualitative data, thematic analysis was employed. Responses were coded manually, with initial codes grouped into broader categories to identify emerging themes. To enhance trustworthiness, coding procedures were reviewed, and inter-coder agreement was sought through peer debriefing with a fellow researcher. Triangulation between quantitative and qualitative findings strengthened the credibility of results.

2.6 Ethical considerations

Ethical standards were strictly observed throughout the research process. Informed consent was secured from all participants, who were assured of their right to withdraw without penalty. Confidentiality and anonymity were maintained by excluding personal identifiers and reporting results in aggregate form. Data were securely stored in password-protected files, with disposal scheduled after completion of the study.

Institutional approval was obtained from EARIST to conduct the study. While a formal ethics review board clearance was not required by the institution at the time of the study, academic protocols were followed to ensure adherence to ethical principles. The researcher declared no conflicts of interest, and the findings were intended solely for academic purposes and the advancement of entrepreneurship education.

3 RESULTS AND DISCUSSION

This study yielded significant findings that reinforce the importance of entrepreneurial preparedness in shaping sustainable entrepreneurial competencies among Bachelor of Science in Entrepreneurship students. The subsections—knowledge, skills, attitude, differences in perception, challenges, and the proposed plan—provide a logical flow and a comprehensive picture of the students' entrepreneurial readiness.

3.1 The entrepreneurial preparedness of the BS Entrepreneurship Students

3.1.1 Knowledge

The assessment of entrepreneurial preparedness in terms of knowledge is presented in Table 1. The findings indicate that BS Entrepreneurship students are generally Knowledgeable, with an overall weighted mean of 3.98. This suggests a positive disposition among students regarding their understanding and awareness of fundamental entrepreneurial concepts and practices, which is consistent with Bird's (2019) argument that entrepreneurial competency begins with a foundation of knowledge that enables the transformation of ideas into viable ventures.

Table 1

Assessment of Entrepreneurial Preparedness as to Knowledge

	Indicators	BS Entrepreneurship Faculty Members		BS Entrepreneurship Students		Composite		Rank
		WM	VI	WM	VI	WM	VI	
1.	Recognize and evaluate the business opportunities on time if viable or not.	4.00	K	3.85	K	3.86	K	9
2.	Have the grasp and or understanding of how various industry / business sectors operate.	4.00	K	3.92	K	3.92	K	8
3.	Possess knowledge on product life cycle from conceptualization / idealization to development, to introduction and until removing from the market.	3.77	K	3.84	K	3.84	K	10
4.	Aware of the logistical value chain from sourcing of products and raw materials, production, and selling.	3.54	K	4.00	K	3.98	K	5
5.	Possess knowledge of entrepreneurs' social or corporate responsibility to the community and the environment.	3.85	K	4.05	K	4.04	K	2.5
6.	Know and understand the process of management which involve the process of dealing things or people.	3.92	K	4.18	K	4.17	K	1
7.	Knows to calculate well the resources needed to establish the business.	3.92	K	3.96	K	3.96	K	6
8.	Look for the most cost-efficient suppliers or service providers.	3.69	K	4.01	K	4.00	K	4
9.	Secure the documents and register the type of business in the corresponding department or agency intended to operate the business.	3.69	K	3.96	K	3.95	K	7
10.	Aware protection of the brand identity in the marketplace by having it registered in the Intellectual Property Office of the Philippines (IPOPHIL) as amended in the Intellectual Property code of the Philippines (R.A. 8293).	3.54	K	4.06	K	4.04	K	2.5
	Overall Weighted Mean	**3.79**	**K**	**3.98**	**K**	**3.98**	**K**	

Legend: 5 – 4.20-5.00 – Highly Knowledgeable – HK; 4 – 3.40-4.19 – Knowledgeable – K; 3 – 2.60-3.39 – Moderately Knowledgeable – MK; 2 – 1.80-2.59 – Least Knowledgeable – LK; 1 – 1.00-1.79 – Very Least Knowledgeable – VLK

Students demonstrated the highest level of knowledge in management processes, achieving a composite weighted mean of 4.17. This reflects their strong comprehension of organizational and resource management, an essential competency for business operations. According to Drucker (2014), management competence is central to entrepreneurial success, as it translates innovative ideas into structured business models. The second and third highest-ranked competencies (both 4.04) were awareness of corporate social responsibility (CSR) to the community and environment, and knowledge of brand protection, including registering trademarks with the Intellectual Property Office of the Philippines (IPOPHIL), as mandated by the Intellectual Property Code of the Philippines (R.A. 8293). This highlights a growing recognition among students that entrepreneurial success must integrate both ethical responsibility and legal compliance. Such findings align with Acs et al. (2016), who emphasized that entrepreneurship systems thrive when entrepreneurs internalize both market opportunities and institutional frameworks that shape responsible business practices.

Ranked fourth and fifth, with weighted means of 4.00 and 3.98, respectively, are students' competencies in identifying cost-efficient suppliers or service providers and understanding the logistical value chain (sourcing, production, and distribution). These competencies underscore their preparedness for supply chain decision-making, which Aldaba (2008) highlighted as a critical challenge for SMEs in a globalized economy. Meanwhile, students' knowledge of resource calculation (3.96) and securing business registration documents (3.95) reflects their awareness of formalization processes—a necessary step toward business legitimacy and competitiveness.

Lower-ranked but still significant were competencies related to understanding industry operations (3.92), identifying viable business opportunities (3.86), and knowledge of the product life cycle (3.84). These indicate that while students are equipped with foundational knowledge, they require more intensive preparation in opportunity evaluation and long-term product strategies, competencies that Mitchelmore and Rowley (2010) identified as critical yet often underdeveloped among emerging entrepreneurs. Similarly, Roxas, Cayoca-Panizales, and de Jesus (2008) argued that entrepreneurial knowledge significantly influences entrepreneurial intentions, but it must be coupled with the ability to recognize and exploit opportunities.

A comparative analysis between BS Entrepreneurship students and faculty members revealed that both groups assessed students' knowledge as Knowledgeable,

though students' self-assessment (3.98) was slightly higher than faculty evaluation (3.79). This discrepancy suggests differences in perceived readiness, likely reflecting faculty members' higher expectations based on their experience. This aligns with Man and Lau (2005), who noted that the evaluation of entrepreneurial competencies often depends on context, with more experienced evaluators emphasizing applied skills over theoretical understanding.

Overall, these findings indicate that BS Entrepreneurship students possess a foundational grasp of essential entrepreneurial knowledge, particularly in management, marketing, financial management, and business planning. Their strong awareness of CSR and intellectual property rights underscores preparedness for sustainable and ethical business practices. However, gaps remain in areas such as evaluating business viability and product life cycle management, highlighting the need for curricular enhancement.

The divergence between student and faculty perceptions further underscores the importance of bridging theory and practice through experiential learning. Strategies such as internships, simulations, mentorship programs, and project-based learning can strengthen students' applied competencies. Mitchelmore and Rowley (2010) support this by stressing that entrepreneurial competencies develop best when educational institutions combine theoretical instruction with practical exposure.

These results echo prior research emphasizing that entrepreneurial knowledge is a vital component of entrepreneurial preparedness. Saptono et al. (2020) highlighted the role of entrepreneurial education in cultivating practical skills, while Abun (2021) advocated for a holistic approach integrating knowledge, attitudes, and competencies. This means adopting a sustainable and integrative approach that balances technical expertise, ethical responsibility, and experiential learning opportunities.

Thus, future research should explore the effectiveness of specific pedagogical strategies such as case studies, community partnerships, and problem-based learning in strengthening lower-rated competencies. Doing so will ensure that BS Entrepreneurship graduates are holistically prepared for entrepreneurial success in dynamic and competitive environments both locally and globally.

3.1.2 Skills

The assessment of entrepreneurial preparedness in terms of skills, as reflected in Table 2, yielded an overall weighted mean of 4.02, categorizing the students as Skillful. Each item within this domain was rated as Skillful, albeit with varying levels of proficiency as perceived by the respondents.

Table 2

Assessment of Entrepreneurial Preparedness as to Skills

Indicators	BS Entrepreneurship Faculty Members		BS Entrepreneurship Students		Composite		Rank
	WM	**VI**	**WM**	**VI**	**WM**	**VI**	
1. Can assign / delegate task according to capabilities.	4.31	HS	4.16	S	4.16	S	1
2. Break down tasks into manageable to-do lists.	4.15	S	4.06	S	4.06	S	3
3. Can communicate well to different people of different capabilities.	4.23	HS	4.02	S	4.02	S	5
4. Can take leadership role and work as part of the team.	4.23	HS	3.94	S	3.95	S	8.5
5. Possess the ability to negotiate effectively with transparency.	4.15	S	3.98	S	3.99	S	6
6. Can prepare the production and financial plan for the business.	4.15	S	3.89	S	3.90	S	10
7. Identify and prepare marketing strategies and tactics for the business.	4.38	HS	3.95	S	3.97	S	7
8. Can perform monitoring and control to run the business efficiently and effectively.	4.08	S	3.95	S	3.95	S	8.5
9. Resourceful in many ways to achieve the timetables on set goals.	4.31	HS	4.03	S	4.04	S	4
10. Develops skills and talent based on entrepreneurial interest.	4.23	HS	4.12	S	4.12	S	2
Overall Weighted Mean	**4.22**	**HS**	**4.01**	**S**	**4.02**	**S**	

Legend: 5 – 4.20-5.00 – Highly Skillful – HS; 4 – 3.40-4.19 – Skillful – S; 3 – 2.60-3.39 – Moderately Skillful – MS; 2 – 1.80-2.59 – Least Skillful – LS; 1 – 1.00-1.79 – Very Least Skillful – VLS

The highest-rated skill was *"Can assign/delegate tasks according to capabilities"* (4.16), which demonstrates the students' ability to optimize human resources by aligning responsibilities with individual strengths. This finding is highly relevant since effective task delegation is a recognized hallmark of entrepreneurial leadership and team efficiency (Man, Lau, & Chan, 2002). Similarly, *"Develops skills and talent based on*

entrepreneurial interest" (4.12) reflects students' propensity to enhance competencies aligned with personal motivation, echoing Cooney's (2012) view that skill development rooted in entrepreneurial passion fosters growth-oriented ventures.

Other skills, such as *breaking down tasks into manageable to-do lists* (4.06), *resourcefulness in achieving timetables and set goals* (4.04), and *effective communication with diverse individuals* (4.02), show that students possess a foundation in organizational management, adaptability, and interpersonal communication—competencies consistently associated with entrepreneurial performance (Morris et al., 2013). These results confirm Rakib, Azis, and Azis's (2022) findings that entrepreneurial readiness among students is largely determined by their ability to manage resources effectively and sustain motivation through communication and planning.

Meanwhile, lower-rated but still "Skillful" areas included *negotiation skills with transparency* (3.99), *identifying and preparing marketing strategies* (3.97), *leadership and teamwork* (3.95), *monitoring and controlling business operations* (3.95), and *preparation of production and financial plans* (3.90). These competencies, though adequate, reflect domains where students need more exposure and practical reinforcement. The relative weakness in negotiation and financial planning resonates with Lackéus's (2015) assertion that while entrepreneurial education instills general competencies, students often require more targeted training in strategic and financial skills to strengthen entrepreneurial preparedness.

Interestingly, the study revealed a divergence between faculty and student perceptions. Faculty rated students as Highly Skillful (4.22), while students' self-assessment was slightly lower (4.01). This discrepancy suggests that while educators recognize strong potential, students themselves may lack confidence or practical experience in applying their skills. Neck and Greene (2011) argue that entrepreneurship education should bridge this gap through experiential approaches, such as business simulations, case studies, and mentorship, enabling students to internalize their capabilities.

The findings also align with Rauch and Hulsink (2015), who highlight that entrepreneurship education significantly influences actual entrepreneurial behavior when it strengthens intention and self-efficacy. By reinforcing skills in negotiation, marketing, and financial planning through hands-on activities, students can transition from theoretical knowledge to confident application.

Moreover, sustainable entrepreneurship requires competencies that balance opportunity exploitation with responsible business practices. Cohen and Winn (2007) and Dean and McMullen (2007) emphasize that entrepreneurial action must address market imperfections and environmental considerations. In this context, Filipino BS Entrepreneurship students' skills in task delegation, communication, and resourcefulness provide a strong base, but integrating sustainability-focused training—such as eco-friendly production planning or socially responsible negotiation—would better prepare them for modern entrepreneurial challenges. As Shepherd and Patzelt (2011) assert, sustainable entrepreneurship thrives when competencies are developed not only for profitability but also for long-term social and environmental value creation.

Overall, the results demonstrate that BS Entrepreneurship students exhibit commendable preparedness in essential entrepreneurial skills, particularly in delegation, adaptability, and resource utilization. However, areas such as negotiation, financial planning, and strategic marketing require further strengthening. These findings advocate for strategic curricular enhancements, including sustainability-oriented training, experiential learning, and mentorship, to foster a holistic set of entrepreneurial competencies. Such initiatives will not only enhance individual readiness but also promote sustainable business implementation planning, aligning with both national development goals and global entrepreneurship education standards.

3.1.3 Attitude

As presented in Table 3, the entrepreneurial preparedness of BS Entrepreneurship students was evaluated in terms of attitude, yielding an overall weighted mean of 4.15, which falls under the category of Evident. Among the assessed indicators, four items were rated as Highly Evident. The highest-ranked dimension was the students' passion for engaging in activities they find interesting (4.33). This was followed by their positive outlook in achieving entrepreneurial goals despite challenges (4.24). Resilience and perseverance in overcoming setbacks, as well as flexibility in adapting and modifying approaches to achieve desired outcomes, both tied for third place (4.23).

Table 3

Assessment of Entrepreneurial Preparedness as to Attitude

	Indicators	BS Entrepreneurship Faculty Members		BS Entrepreneurship Students		Composite		Rank
		WM	**VI**	**WM**	**VI**	**WM**	**VI**	
1.	Have a strong perseverance through all the ups and downs in the given situation to achieve entrepreneurial goals.	4.38	HE	4.23	HE	4.23	HE	3.5
2.	Passionate about what he / she does or on anything her / his mind gotten interest of.	4.54	HE	4.32	HE	4.33	HE	1
3.	Flexible or always show some flexibility in things just to reach the desired situation. Willing to modify the route toward their established goal.	4.38	HE	4.22	HE	4.23	HE	3.5
4.	Brave by not allowing their feeling of fear to become a hindrance to success. Brave to utilize their failure or fear of failure to push themselves to work.	4.08	E	4.08	E	4.08	E	7.5
5.	Possess work ethics. Always working, establishing new ideas, creating new products, designing new process, and looking for new talents to enjoin the business or team.	4.54	HE	4.12	E	4.14	E	6
6.	Develops a high level of confidence that that is utilized for entrepreneurial competition, creativity, and innovation.	4.31	HE	3.97	E	3.99	E	10
7.	Manifests avid dedication in allotting time and energy to entrepreneurial activities for purpose of being proactive and current business-wise.	4.38	HE	4.06	E	4.08	E	7.5
8.	Adopts initiatives to continuously improve the products and services to establish market dominance and superiority.	4.46	HE	4.04	E	4.06	E	9
9.	Exerts effort for a greater length of time, persist through setbacks and develop better plans and strategies for entrepreneurial task.	4.38	HE	4.14	E	4.15	E	5
10.	Exhibits a positive attitude towards achieving the goals despite the difficulties encountered in business execution.	4.69	HE	4.22	HE	4.24	HE	2
	Overall Weighted Mean	**4.41**	**HE**	**4.14**	**E**	**4.15**	**E**	

Legend: 5 – 4.20-5.00 – Highly Evident – HE; 4 – 3.40-4.19 – Evident – E; 3 – 2.60-3.39 – Moderately Evident – ME; 2 – 1.80-2.59 – Least Evident – LE; 1 – 1.00-1.79 – Very Least Evident – VLE

Six other items were rated as Evident. These included persistence in exerting sustained effort and developing strategic plans (4.15), strong work ethics through continuous idea generation and innovation (4.14), courage in overcoming fear and channeling failures into productive efforts (4.08), and dedication to entrepreneurial tasks (4.08). A desire for continuous improvement in products and services to gain market competitiveness was also observed (4.06). However, the lowest-rated indicator, albeit still Evident, was confidence in entrepreneurial competition, creativity, and innovation (3.99).

Interestingly, perspectives varied between the two respondent groups. Faculty members rated students' entrepreneurial attitudes as Highly Evident (4.41), whereas students' self-ratings were slightly lower (4.14, Evident). This discrepancy highlights a potential gap in self-awareness among students, suggesting that while faculty recognize strong entrepreneurial attitudes, students may undervalue their own competencies. Bridging this gap through feedback mechanisms, mentorship, and reflective practices may strengthen entrepreneurial self-efficacy.

These findings underscore the importance of attitudinal factors in entrepreneurial preparedness. Research has consistently emphasized that entrepreneurial attitudes—particularly passion, resilience, and adaptability—are essential for sustaining innovation and long-term business viability (Cardon et al., 2009). Passion, in particular, has been shown to inspire persistence and creativity, which in turn enhances entrepreneurial performance (Bacq & Alt, 2018). Furthermore, Fayolle and Liñán (2014) argue that entrepreneurial intentions are significantly shaped by attitudes, serving as a crucial predictor of entrepreneurial behavior.

The present study's findings also resonate with Nabi et al. (2017), who stress that entrepreneurship education must go beyond technical knowledge by cultivating students' attitudes, passion, and resilience to prepare them for real-world challenges. This dimension is particularly significant, given that the Philippine entrepreneurial landscape is characterized by uncertainty, resource constraints, and high market competition (Aldaba, 2012). Students who maintain positive entrepreneurial attitudes are better positioned to navigate such challenges and identify sustainable opportunities.

However, the relatively lower score in confidence related to entrepreneurial competition and creativity suggests a gap in soft skills and innovation-driven competencies. Similar observations were made by Mejri and Zouaoui (2020), who found that entrepreneurial competencies such as creativity, critical thinking, and adaptability

directly influence the growth potential of small enterprises. Likewise, Sakid et al. (2022) emphasize that entrepreneurial competencies—including risk management, opportunity recognition, and creative problem-solving—are strongly correlated with SME performance in developing economies.

Many graduates struggle with confidence and creativity when entering entrepreneurial ventures, as Cecilia (2022) observed, pointing to a lack of experiential training and opportunities to apply entrepreneurial skills. To address this, the integration of experiential learning strategies such as simulation-based training, industry immersion, and mentorship programs is crucial. These pedagogical interventions can bridge the gap between theoretical knowledge and entrepreneurial practice, thereby reinforcing students' self-efficacy, creativity, and competitiveness.

Overall, the findings demonstrate that BS Entrepreneurship students exhibit a strong foundation of entrepreneurial attitudes, particularly in passion, resilience, and adaptability. Nonetheless, areas such as confidence in creativity and market competitiveness require strengthening. By embedding strategic interventions such as mentorship, collaborative innovation projects, and entrepreneurship incubators into the curriculum, higher education institutions can further cultivate sustainable entrepreneurial competencies—preparing graduates not only to start businesses but also to sustain and grow them in competitive markets.

3.2 The significant difference in the entrepreneurial preparedness of BS Entrepreneurship as assessed by two groups of respondentes

As revealed in Table 4, the analysis of entrepreneurial preparedness among BS Entrepreneurship students provides significant insights into their readiness for business implementation. The computed t-values for knowledge (0.21661), skills (0.23366), and attitude (0.29626) were all below the critical t-value of 1.645 at a 0.05 level of significance with 343 degrees of freedom. This indicates that there is no statistically significant difference in the perception of entrepreneurial preparedness between BS Entrepreneurship faculty members and students. Consequently, the null hypothesis cannot be rejected, suggesting that both groups perceive the students' entrepreneurial preparedness in a similar manner.

Table 4

Comparative Assessment of the Entrepreneurial Preparedness

	Indicators	BS Entrepreneurship Faculty Members		BS Entrepreneurship Students		t-value	Decision	Interpretation
		WM	SD	WM	SD			
1.	Knowledge	3.79	0.025	3.98	0.014	0.21661	Accept H_o	Not Significant
2.	Skills	4.22	0.009	4.01	0.007	0.23366	Accept H_o	Not Significant
3.	Attitude	4.41	0.019	4.14	0.014	0.29626	Accept H_o	Not Significant

Legend: 343 degrees of freedom @ 0.05 level of significance with a critical value of 1.645

This finding is consistent with the study by Diegoli et al. (2018), which reported that teachers' business experience does not significantly influence students' overall entrepreneurial disposition. Despite the absence of a direct correlation between faculty business experience and student entrepreneurial preparedness, an observable general increase in students' entrepreneurial attitudes was noted across the cohort, regardless of the teachers' business backgrounds.

The implications of this result are noteworthy. It suggests that both faculty members and students share a comparable understanding of the students' readiness for entrepreneurial activities, reflecting a consensus on the effectiveness of the current business education program. This alignment in perception indicates that the competencies developed among students are generally regarded as adequate, highlighting a mutual sense of satisfaction regarding the level of entrepreneurial preparedness attained.

3.3 Challenges encountered by the BS Entrepreneurship students on the entrepreneurial preparedness on their entrepreneurial competencies

The responses of BS Entrepreneurship students revealed several recurring challenges that hinder their entrepreneurial preparedness. These challenges, shaped by personal experiences and contextual realities, reflect the multifaceted barriers that aspiring entrepreneurs encounter in developing sustainable entrepreneurial competencies. The findings are organized into key themes:

1. **Financial Constraints and Resource Limitations.** A dominant challenge among respondents was the difficulty of accumulating sufficient financial

resources and accessing capital to initiate business ventures. Many students reported that despite having innovative ideas, limited savings and minimal access to external funding restricted their ability to progress beyond the conceptual stage. This echoes the findings of Fatoki (2014), who argued that financial institutions often set stringent requirements for start-up loans, creating barriers for novice entrepreneurs. Limited financial literacy and the lack of accessible funding mechanisms for student-led start-ups exacerbate these difficulties. Dublino (2024) also emphasized that financial hurdles remain one of the greatest obstacles for young entrepreneurs globally, particularly those with little to no collateral or credit history.

2. **Gaps in Business Knowledge and Managerial Competence.** Another critical challenge identified was the lack of adequate knowledge in core business areas such as financial management, marketing, and strategic planning. Several students admitted to struggling with the preparation of comprehensive business plans, including the development of realistic sales forecasts, staffing strategies, and market analyses. This aligns with Shepherd, Patzelt, and Haynie (2010), who highlighted that deficiencies in entrepreneurial mindset and organizational learning perpetuate managerial inefficiencies. Ensley, Hmieleski, and Pearce (2006) further assert that the success of new ventures is heavily influenced by the leadership capacity and managerial competence of founding teams. In the Philippine higher education setting, while theoretical training is present, the limited exposure to experiential and applied learning often results in gaps when students attempt to translate classroom knowledge into practical business execution.
3. **Motivational and Psychological Barriers.** The responses also highlighted motivational and psychological constraints, including fear of failure, lack of confidence, and difficulty in sustaining focus amid risk and uncertainty. Some students admitted that entrepreneurial risk-taking often felt overwhelming, discouraging them from pursuing business ventures wholeheartedly. This reflects Kickul and Lyons' (2020) perspective that entrepreneurship is not only a technical or financial pursuit but also a psychological and values-driven journey requiring resilience and mission-oriented motivation. Cultural attitudes toward

financial security and familial expectations may reinforce students' hesitation to engage in entrepreneurial risks, thereby impacting entrepreneurial persistence.

4. **Teamwork, Communication, and Value Alignment.** Respondents further identified difficulties in forming cohesive entrepreneurial teams, particularly in aligning values, establishing trust, and managing conflicts within groups. Effective communication and collaboration were noted as persistent challenges, especially when working with peers of diverse personalities and skill sets. This supports the argument of Ensley, Hmieleski, and Pearce (2006), who emphasized the dual importance of vertical and shared leadership in entrepreneurial teams. Without strong leadership and a culture of open communication, start-up teams risk fragmentation, indecisiveness, and weak execution of strategies.
5. **Lack of Passion, Work Ethic, and Experiential Learning.** Some students acknowledged that a lack of entrepreneurial passion and inconsistent work ethics hindered their progress. While classroom-based training offered theoretical foundations, many felt unprepared for real-world business dynamics due to limited experiential exposure. Isac et al. (2023) argue that extracurricular and experiential learning activities—such as industry immersion, internships, and incubation programs—are essential for cultivating entrepreneurial drive and values. In the Philippine context, integrating entrepreneurship curricula with hands-on experiences, mentorship, and collaboration with local industries could bridge the gap between theory and practice.

Overall, the results demonstrate that the entrepreneurial preparedness of BS Entrepreneurship students is challenged by interrelated financial, managerial, psychological, and interpersonal factors. These barriers reflect the broader realities of entrepreneurship, where access to resources, entrepreneurial culture, and institutional support play a pivotal role. Addressing these challenges requires a holistic educational approach that integrates financial literacy, leadership development, resilience-building, and experiential learning opportunities.

Universities and colleges offering entrepreneurship programs should therefore design strategic interventions such as student start-up incubators, partnerships with local industries, and mentorship programs with experienced entrepreneurs. By fostering both technical and non-technical competencies—ranging from financial management to resilience and teamwork—higher education institutions can strengthen students'

entrepreneurial preparedness and enhance their capacity to contribute to sustainable business development.

Fundamentally, entrepreneurial preparedness goes beyond the mastery of technical skills; it involves the cultivation of resilience, creativity, collaboration, and mission-driven leadership. Strengthening these competencies among students is essential in promoting sustainable entrepreneurial practices that are adaptable to the evolving business landscape.

3.4 Proposed sustainable approach to business implementation plan

The study's findings, as shown in Table 5, led to the development of a sustainable action plan to enhance the entrepreneurial competencies of BS Entrepreneurship students in terms of knowledge, skills, attitudes, and identified challenges. Aligned with the Entrepreneurship curriculum, the plan targets the weakest areas through structured activities with clear responsibilities, budget provisions, timelines, and measurable outcomes.

By directly linking interventions to course objectives and fostering active engagement, the plan bridges theory and practice, ensuring that students gain practical readiness for business plan implementation. Built-in monitoring and evaluation mechanisms further support continuous improvement, equipping students with sustainable competencies essential for real-world entrepreneurial success.

Table 5

Proposed Sustainable Business Implementation Plan Matrix

Key Result Area	Objectives	Strategies	Activities	Person Involved	Budget	Time Frame	Success Indicator
	To enhance students' knowledge and understanding of the product life cycle and its role in sustainable business practices.	Life Cycle Management (LCM) Awareness Simulation Exercises	Seminar on Life Cycle Management and Sustainability Interactive Group Discussions Product Life Cycle Exposure Orientation Workshops	Faculty Members Students	₱ 1,500	1st Quarter, Week 7	At least 90% of students demonstrate awareness and understanding of the product life cycle based on pre- and post-activity assessments.

Knowledge	To recognize and critically evaluate sustainable and viable business opportunities relevant to community needs.	Sustainable Business Opportunity Assessment (SBOA)	Segment Businesses by Sustainability and Type Conduct a Seminar on Sustainable Business Opportunity Assessment (SBOA) Market Analysis Workshop Community Immersion and Feedback Gathering	Faculty Members Students Resource Speaker Community Partners Administrators	₱ 5,000	1st Quarter, Week 4	At least 85% of students have identified and evaluated sustainable business opportunities with potential to address community needs and contribute to local economic development.
	To deepen the understanding of how diverse business sectors operate, fostering practical insights into entrepreneurial practices and sustainability.	Local Business Tour (LBT) Business Sector Analysis Workshop	Pre-Tour Orientation Educational Tour on a Selected Business Locality Post-Tour Workshop	Faculty Members Students Business Owners Community Partners Administrators	₱ 5,000	1st Quarter, Week 2	At least 80% of students actively participate in the local business tour, effectively demonstrating an enhanced understanding of sustainable business practices through post-tour assessments and presenting well-defined recommendations for incorporating sustainability into their business implementation plans.
	To demonstrate an understanding of securing documents where the business will operate.	Business Permits and Licensing Application (BPLA)	Conduct a short visit to the Business Permits and Licensing Office to gather information on the required documents for business operation and secure a comprehensive list of documents needed for business operation.	Faculty Members Students Local Government Unit Community Partners Administrators	₱ 5,000	1st Quarter, Week 7	At least 95% of the students are capable of applying for business permits independently.
	To effectively calculate the resources needed to establish the business.	Business Card Contest (BCC)	Collect business cards from potential suppliers and build rapport with potential suppliers to raise awareness about the business opportunity.	Faculty Members Students Business Owners		2nd Quarter, Week 1	At least 90% of the students have successfully collected business cards from potential suppliers, demonstrating their ability to identify and

							engage resources effectively.
	To enhance skills in production planning and financial planning preparation.	Production Operation Local Tour (POLT) Focus Group Discussion (FGD)	Coordinate and conduct a local tour in a nearby community business focusing on production operations (e.g., manufacturing, food processing). Invite a seasoned bookkeeper/accountant to conduct a workshop on effective financial planning preparation and discuss strategies, tools, and case studies. Conduct a post-activity reflection session to assess key learnings and practical applications for entrepreneurial practice.	Faculty Members Students Local Business Bookkeeper Community Partners Administrators	₱ 5,000	2nd Quarter, Week 4	At least 80% of the students participated in the local production operation tour, successful completion of a basic financial plan during the workshop, and positive feedback from post-activity evaluations, reflecting high satisfaction with the skills enhancement activities.
Skills	To demonstrate an in-depth understanding of leadership's role in sustainable business operations and its impact on long-term success.	Collaborative Learning through Focus Group Discussions (FGD) Integration of Real-World Leadership Experiences	Invite local business managers and entrepreneurs to lead discussions and workshops on leadership in sustainable businesses. Conduct structured Q&A sessions where students identify leadership challenges and solutions. Facilitate simulation exercises where students act as leaders in mock business implementation scenarios to test their decision-making skills.	Faculty Members Students Local Business Managers Entrepreneurs Community Partners Administrators	₱ 5,000	2nd Quarter, Week 2	At least 95% of the students demonstrate enhanced leadership confidence and decision-making skills throughout all phases of business implementation, presenting actionable leadership plans that effectively integrate sustainable practices.
	To develop and implement systematic monitoring and control mechanisms to ensure efficient and effective business operations.	Social Media Monitoring Tool (SMMT)	Conduct training sessions on how to create and use Social Media Monitoring Tools (SMMT). Guide students in developing customized monitoring tools using social media platforms (e.g., Facebook, Instagram, X, TikTok).	Faculty Members Students	₱ 1,500	2nd Quarter, Week 6	At least 95% of the students successfully developed and utilized a Social Media Monitoring Tool to track and analyze key business performance indicators (KPIs), including

			Integrate SMMT in student business projects to track metrics such as engagement, reach, and customer feedback.				engagement, customer feedback, and sales trends.
	To enhance students' skills in identifying and implementing effective marketing strategies for sustainable business growth.	Brand Awareness Niche (BAN)	Identify and research content influences the relevant business niche. Develop a formal collaboration plan outlining objectives, deliverables, and partnership expectations. Conduct a workshop on branding and content marketing with the identified influencers. Implement a pilot marketing campaign leveraging the influencer's reach to promote student businesses.	Faculty Members Students Resource Speaker Community Partners Administrators	₱ 5,000	1st Quarter, Weeks 7 – 9	At least 80% of the student teams successfully collaborate with identified influencers, leading to increased brand visibility through measurable audience engagement (likes, shares, and comments) and a notable rise in sales or inquiries for their businesses.
	To elevate the ability to negotiate with transparency and integrity.	Negotiation Conference Simulation Workshops	Facilitate participation in national and local conferences featuring successful business leaders emphasizing negotiation skills. Organize mock negotiation sessions where students engage in role-playing exercises to simulate real-world business deals. Analyze case studies of successful negotiation strategies used in sustainable business ventures.	Faculty Members Students Business Owners	₱ 5,000	1st Quarter, Week 2	At least 90% of the students reported increased confidence in negotiating deals that are mutually beneficial to all parties, as measured through a post-assessment survey, were asked to simulate transparent and ethical business deals during mock negotiation sessions, demonstrating their ability to apply negotiation skills with integrity and professionalism.
	To enhance the level of confidence in	Food Bazaars Participation	Expose students to organized food bazaars to gain first-hand	Faculty Members	₱ 5,000	1st Quarter, Week 4	At least 85% of the students actively

	utilizing entrepreneurial competition, creativity, and innovation.	Entrepreneurial Competition Entrepreneurial Club	experience with products innovated by different entrepreneurs. Encourage participation in competitions that promote creativity and innovation. Organize an entrepreneurial club or organization to enhance the confidence of budding entrepreneurs in doing business.	Students Local Businesses Community Partners Administrators			participated in the food bazaar event, demonstrating improved confidence in entrepreneurial skills following the competition and show increased engagement in the club's activities, indicating heightened confidence and participation in entrepreneurial pursuits.
Attitude	To foster a proactive mindset among students towards continuous improvement and innovation in products and services to achieve market leadership.	Trendy Product Development (TPD)	Seminar Workshop Prototype Testing Weekly Chart on Product Improvement	Faculty Members Students Resource Speaker	₱ 5,000	1st Quarter, Week 5	100% of the students achieve measurable improvements in their product designs and concepts through innovation.
	To manifest dedication to entrepreneurial activities with the purpose of being proactive.	Livelihood Program	Identify the extension program needed by the community. Meet with the stakeholders of the community to organize livelihood programs.	Faculty Members Students Community Partners Administrators	₱ 5,000	1st Quarter, Week 2	At least 90% of the stakeholders can build a Corporate Social Responsibility (CSR) initiative for the community, fostering sustainable economic development.
	To cultivate a resilient attitude among students by transforming failures into successes	Personality Awareness Seminar Business Improvisation Activities	A seminar workshop designed to enhance self-awareness, emotional intelligence, and personal resilience among students. Conduct practical exercises challenge students to think creatively and adapt to unexpected business scenarios.	Faculty Members Students Resource Speaker	₱ 5,000	1st Quarter, Week 2	At least 95% of the students demonstrate improved resilience and a positive attitude by successfully navigating business challenges, as evidenced by feedback surveys and assessments.
	To amplify work ethics to establish	Documentary Film	Watch documentary films that promote an in-depth understanding	Faculty Members	₱ 5,000	1st Quarter, Week 3	At least 95% of the students develop an

	innovative ideas successfully.	Field Observation	of work ethics in organizations. Participate in field observations with chosen firms to see how work ethics are implemented and contribute to the establishment of innovative ideas.	Students Business Owners Community Partners Administrators			innovative and creative culture within the organization.
Problems Encountered on the Entrepreneurial Preparedness	To strategize effective ways of saving money as capital in business.	Savings Account Application with Digital Integration	Organize workshops to educate students on the importance of savings, financial management, and budgeting for business capital and provide guidance on selecting the right type of savings account based on business needs. Facilitate the process of opening a savings account for business purposes, offer assistance with required documentation, such as identification, proof of enrollment, and business plans, and monitor the progress and support students throughout the application process. Utilize digital platforms to allow students to apply for savings accounts online and implement tools to track and manage the funds effectively	Faculty Members Students Parents / Guardian		1st Quarter, Week 5	At least 95% of the students have successfully applied for a savings account dedicated to business capital
	To enhance basic knowledge and understanding of the management process with the necessary skills to effectively run a business.	Managerial Skills Appraisal (MSA)	A series of interactive sessions designed to introduce key business management concepts, problem-solving techniques, and best practices Facilitated discussions focusing on real-world case studies and scenarios to identify and address common	Faculty Members Students Resource Speaker Community Partners Administrators	₱ 5,000	2nd Quarter, Weeks 1 – 2	At least 95% of the students demonstrate effective processes in running the business, as measured by their ability to apply learned skills to manage business operations successfully.

			entrepreneurial challenges				
	To enhance students' skills in developing a viable and sustainable business plan to prepare for real-world business challenges.	Business Plan Simulation (BPS) Sustainable Business Model Development (SBMD)	Organize a series of workshops and simulations to practice creating and refining a business plan and use case studies and scenarios relevant to local market conditions to simulate real business challenges. Guide students in designing business models that prioritize sustainability, resource efficiency, and environmental responsibility and use tools such as SWOT analysis and PESTEL framework to assess sustainability factors.	Faculty Members Students	₱ 1,500	1st Quarter, Weeks 3 – 9	At least 95% of the students develop a cost-effective, sustainable, and well-prepared business plan, applying the knowledge gained from the simulation to real-world business challenges.
	To sustain motivation and focus on facing dynamic business threats and risks.	Field Observation and Interview	Visit and observe local businesses facing challenges related to dynamic threats and risks. Interview business owners to understand the strategies they use to maintain motivation and focus during adversities.	Faculty Members Students Business Owners Community Partners Administrators	₱ 5,000	1st Quarter, Week 2	At least 95% of the students stayed motivated and focused amidst the adversities faced in the business.
	To address and overcome feelings of fear or anxiety associated with entrepreneurship and the fear of failure.	Gratitude Journal Mindset Training	Document achievements, challenges, and reflections on overcoming fear and anxiety in entrepreneurial journeys. Reflect on journal entries to connect personal growth with business readiness.	Faculty Members Students		1st Quarter, Week 2	At least 95% of the students complete and reflect in their gratitude journals, demonstrating their readiness to meet customer needs and expectations effectively.

4 CONCLUSION

This study examined the entrepreneurial preparedness of BS Entrepreneurship students, focusing on a sustainable and strategic approach to business plan implementation. The findings provide critical insights into students' entrepreneurial

competencies, challenges, and the impact of targeted interventions designed to strengthen their readiness for sustainable business ventures. The study concludes the following:

1. **High Level of Entrepreneurial Preparedness:** Students demonstrated strong readiness in essential competencies such as opportunity recognition, strategic planning, and implementation, reflecting the strengths of the current curriculum. However, areas such as negotiation, financial management, and innovation remain opportunities for continuous development.
2. **Alignment of Teacher and Student Assessments:** Both faculty and students shared consistent evaluations of entrepreneurial preparedness, confirming a common understanding of the skills and attitudes necessary for success in entrepreneurial practice.
3. **Addressable Challenges in Entrepreneurial Readiness:** While challenges such as limited financial resources, psychological pressures, and teamwork issues were identified, these are manageable and can be mitigated through enhanced institutional support, experiential learning, and access to mentorship.
4. **Sustainability-Oriented Intervention Plan:** A targeted intervention plan was designed to strengthen entrepreneurial preparedness, integrating sustainability-focused strategies such as mentorship programs, experiential learning modules, and workshops promoting responsible and innovative practices. This framework contributes not only to individual student success but also to the achievement of national development goals and the United Nations Sustainable Development Goals (SDGs).

In conclusion, strengthening entrepreneurial preparedness among BS Entrepreneurship students is both an academic and societal imperative. By embedding sustainability, innovation, and resilience into entrepreneurship education, higher education institutions can cultivate graduates who are not only business-ready but also capable of driving inclusive and sustainable economic growth.

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Authors' Contribution

Both authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

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