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Need Analysis of Development Eco-Edupreneurship Model for University Entrepreneurship Course in Society 5.0 Era

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Abstract*—In the era of the Industrial Revolution 4.0 and the transition to Society 5.0, entrepreneurship education in higher education faces significant challenges to remain relevant in preparing students to face the complexities of the Society 5.0 Era, where business innovation is not only measured by profit, but also by its positive impact on society and the environment. This preliminary study aims to analyze the need to develop a holistic and sustainable entrepreneurship learning model, namely the ECO-Edupreneurship model. Using a qualitative approach, data was collected through surveys and interviews with lecturers and students in entrepreneurship courses. The study revealed a significant gap in holistic business management skills, with students focusing on short-term projects, such as completing final assignments, without considering the sustainability of business operations, financial management, strategic marketing, and ethical human resource management. Lecturers also faced challenges integrating environmental and social issues into their learning. Fragmented business management skills resulted in students struggling to manage their businesses holistically, making less effective decisions, and lacking innovation and adaptation to market dynamics and sustainability issues. These findings provide a strong foundation for designing the ECO-Edupreneurship learning model which integrates the Triple Bottom Line (Profit, People, dan Planet) principle into every phase of learning. This model is expected to provide a solution to equip students with skills relevant to the challenges of Society 5.0. This needs analysis is expected to provide a strong theoretical and empirical foundation for creating a valid, practical, and effective learning framework.

Keywords—Needs Analysis, Entrepreneurship Education, Learning Model, Eco-Edupreneurship, Holistic Business Management, Sustainable Entrepreneurship.

I. INTRODUCTION

Globalization and technological advancements have fundamentally transformed the economic landscape, making it urgent for every country to strengthen its entrepreneurial ecosystem. In Indonesia, entrepreneurship is a key pillar of the National Long-Term Development Plan (RPJPN) toward Indonesia Vision 2045. The government targets a national entrepreneurship ratio of at least 12% of the total population, an ambitious target considering the current ratio is around 3.35% [1]. This gap underscores the crucial role of educational institutions, particularly universities, in acting as incubators that produce innovative and competitive entrepreneurs.

Historically, entrepreneurship education has evolved through various pedagogical approaches. The most frequently discussed classic models are the "about," "for," and "through" models of entrepreneurship [2]–[4]. While each model has its advantages, they also present limitations. The "about" model of entrepreneurship is effective in transferring theoretical knowledge, but falls short in developing practical skills. In contrast, the "for" and "through" model of entrepreneurship, which is more oriented toward practice and experience, often lacks integration with the increasingly pressing sustainability issues of Society 5.0 [5]–[7]. This gap produces graduates who may be proficient in short-term business ideas but lack the skills needed for holistic business management, such as sustainable financial management, strategic marketing, and efficient long-term operations. As a result, many entrepreneurs fail to sustain their businesses, ultimately hindering economic growth and job creation.

In addition to the "about," "for," and "through" typology, the literature also identifies other models that focus on activity-based pedagogy, such as experiential learning and project-based learning [2], [8]. These models emphasize the importance of students' direct engagement in real-world scenarios or business simulations to develop practical skills and an entrepreneurial mindset. However, their implementation is often isolated from the sustainability context. Although they successfully bridge the gap between theory and practice, their primary focus remains on creating economic value (profit) without explicitly integrating social and environmental impacts [9].

Furthermore, various studies show that existing entrepreneurship education programs tend to be fragmented, with elements such as knowledge, attitudes, and skills taught separately [10]. This approach fails to equip students with a systemic understanding of how all elements of a business interact. As a result, graduates struggle to make comprehensive and strategic decisions. This is exacerbated by evaluation models that often focus solely on the end result (business products), rather than on the holistic and sustainable learning process.

In response to this challenge, this study aims to conduct a needs analysis as a first step in developing an Eco-Edupreneurship learning model. This model is based on the premise that entrepreneurship education must go beyond a

mere focus on profit and systematically integrate sustainability aspects within the Triple Bottom Line (Profit, People, Planet) framework from the beginning of the learning process [11], [12]. Through this research, we seek to provide a theoretical contribution by presenting a new conceptual framework, as well as a practical contribution by developing a valid, practical, and relevant model for entrepreneurship courses in higher education. The results of this needs analysis will serve as the foundation for the design and development of the Eco-Edupreneurship Learning Model, which is expected to produce entrepreneurs who are not only competitive, but also innovative, ethical, and responsible towards the environment and society in the Society 5.0 Era.

II. RESEARCH METHOD

This research adopted a Research and Development (R&D) approach using the Plomp model [13]. This model was chosen because it is highly relevant for developing educational products, in this case, learning models, that are valid, practical, and effective. The research stages focused on the initial phase, namely preliminary research and needs analysis. The research procedures are presented in Table 1.

TABLE 1. RESEARCH STAGES AND EXPECTED RESULTS

Research Stages	Procedure	Expected results
1.Preliminary Study	1) Literature review on entrepreneurship learning models, learning theories (conceptual, experiential, and project-based), and the concept of sustainable entrepreneurship. 2) Analysis of entrepreneurship course curricula. 3) Initial interviews with lecturers and students to identify initial learning challenges.	Data and information regarding objective conditions in the field which form the basis for the need to develop new learning models.
2.Needs Analysis	1) Preparation of research instruments (questionnaires and interview guidelines) based on the results of the preliminary study. 2) Collection of quantitative data through questionnaires and qualitative data through structured interviews. 3) Data analysis to identify gaps in skills, knowledge, and perceptions of students and lecturers regarding entrepreneurship learning.	A detailed description of the problems and needs that form a strong foundation for designing the Eco-Edupreneurship model.

This research was conducted at Universitas Islam Darul ulum Lamongan, a study program that offers an entrepreneurship course. Subjects were selected using purposive sampling, including lecturers teaching entrepreneurship courses and students who had or were currently taking the course. This selection was made to obtain rich and in-depth data from individuals with direct experience.

The research instruments used were: 1) Questionnaires: Used to collect quantitative data related to student and lecturer perceptions, problems, and needs. 2) Structured Interviews: Used to dig up in-depth qualitative information, including the challenges, obstacles, and expectations of research subjects regarding the ideal learning model.

The instrument validity test was conducted using the Pearson product-moment correlation method. The validity of each statement item was measured by comparing the calculated r-value with the table r-value at a significance level of 5% (α=0.05). Based on the number of trial respondents (N=30), the table r-value was 0.361. A statement item was declared valid if the calculated r-value was greater than the table r-value [14]. From the validity test results, it was found that out of 20 statement items, 18 were declared valid because they had a calculated r-value greater than the table r-value as shown in Table 2. Two invalid statement items were then corrected or eliminated before the questionnaire was used in the main study.

TABLE 2. VALIDITY TEST RESULT

No	Questionnaire Statement	r-value	Valid/ Invalid
A1	I understand how to prepare financial reports for long-term business sustainability.	0.452	Valid
A2	I am able to design comprehensive marketing strategies.	0.511	Valid
A3	I can integrate social and environmental aspects into business ideas.	0.325	Invalid
A4	I understand the importance of ethical human resource management.	0.489	Valid
A5	I feel that the current entrepreneurship course curriculum is adequate.	0.550	Valid
A6	I can identify business risks and opportunities in the digital era.	0.612	Valid
A7	I can manage daily business operations efficiently.	0.405	Valid
A8	I can do market analysis to determine target customers.	0.587	Valid
A9	I can make business decisions that balance profit and social impact.	0.634	Valid
A10	I understand the concept of Triple Bottom Line (TBL) in business.	0.501	Valid
A11	I like working in a team.	0.288	Invalid
A12	I have high motivation to become an entrepreneur.	0.422	Valid
A13	I can put together an attractive business proposal.	0.591	Valid
A14	I understand the importance of innovation for business sustainability.	0.654	Valid
A15	I can make socially responsible decisions.	0.533	Valid
A16	I actively follow the latest business trends on social media.	0.446	Valid
A17	I have a unique and creative business idea.	0.578	Valid
A18	I can build networks with potential investors.	0.689	Valid
A19	I understand the ethics of running a business.	0.477	Valid
A20	I feel this course is relevant to my career goals.	0.490	Valid

Instrument reliability testing was conducted using the Cronbach's Alpha coefficient method. Reliability indicates the instrument's consistency in measuring variables. The 45.3criterion used is that if the Cronbach's Alpha value is >

0.70, the instrument is considered reliable [15]. Based on the results of the Cronbach's Alpha test, the questionnaire was 0.865, which is greater than 0.70 as shown in Table 3. Thus, the questionnaire instrument was declared reliable and consistent for use in this study. The results of the validity and reliability tests confirm that the instrument used met the requirements and was suitable for collecting research data related to the analysis of the development needs of the Eco-Edupreneurship learning model.

TABLE 3. RELIABILITY TEST RESULT

Research Variables	Number of Valid Items	Cronbach's Alpha Value	Description
Holistic Business Management Skills and Integration of Sustainability Aspects	18	0.865	Reliable

Quantitative data obtained from the questionnaire was analyzed using descriptive statistics to present the data in the form of percentages. This analysis provides an overview of the existing conditions. Meanwhile, qualitative data from interviews was analyzed using thematic analysis techniques. This analysis included: (1) transcription of interview data; (2) coding of key findings; (3) categorizing the codes into themes; and (4) synthesizing the findings to identify specific needs that the Eco-Edupreneurship model must address.

The results of this entire data analysis process will provide a strong foundation for designing the learning model, which will then be further developed in subsequent phases of the comprehensive R&D research.

III. Results and Discussion

The questionnaire was distributed to 150 students from 18 majors including: accounting = 10, management = 10, mathematics = 8, mathematics education = 8, Indonesian language education = 8, English language education = 8, political science = 7, government science = 7, law = 7, agrotechnology = 8, Islamic religious education = 9, Early Childhood Islamic Education = 8, primary madrasah teacher education = 9, Arabic language education = 8, sharia economics = 8, architecture = 8, civil engineering = 8, and informatics = 8. This questionnaire aims to measure their perceptions of mastery of holistic business management skills and integration of sustainability aspects into entrepreneurship courses.

Data analysis shows that comprehensive managerial skills have not been well internalized. For example, only 18.7% of respondents agreed or strongly agreed that they were capable of designing a comprehensive marketing strategy. This figure is reinforced by a similar finding, where only 14.7% of students felt capable of efficiently managing daily business operations. This gap indicates that current entrepreneurship education tends to focus on ideation rather than implementation and sustainable management.

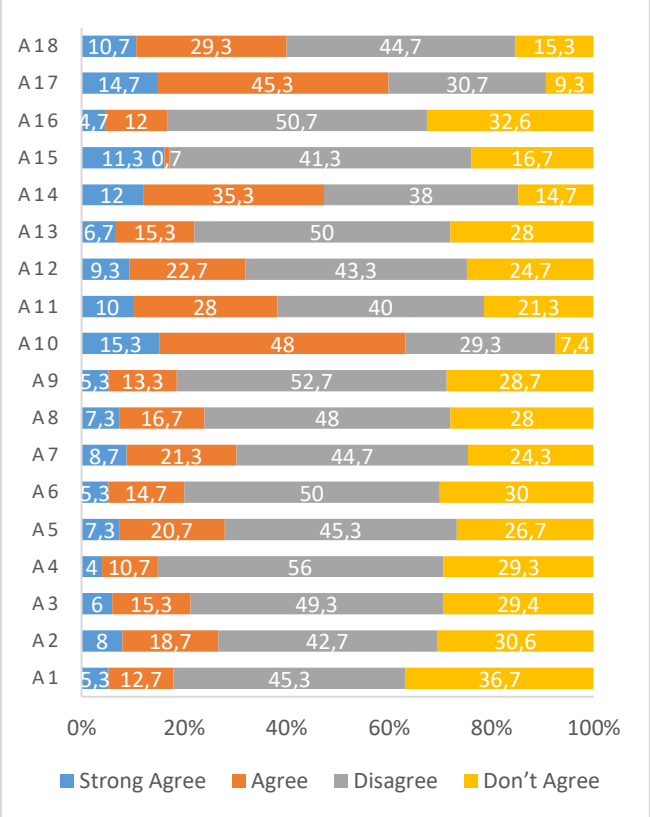

Fig 1. Student Perceptions of Mastery of Holistic Business Management Skills

The data in Figure 1 clearly confirms that the majority of students either disagreed or disagreed with statements related to holistic business management skills and the integration of sustainability aspects. These figures indicate a significant gap between what is taught and what students perceive.

Structured interviews were conducted with lecturers teaching entrepreneurship courses. The findings from these interviews reinforced the quantitative data from the questionnaire and provided in-depth qualitative context. The following is an excerpt from one interview that represents the main findings:

- LA : "When asked to develop a business idea project, these students excel. But when asked, 'What if the business loses money in the third month? How do you maintain operations? How do you ensure employee well-being?', they are confused. Their focus is still limited to 'selling products and making a profit,' without considering long-term sustainability. Moreover, when it comes to the impact of waste or social waste, that is rarely a core topic."
- LB: "Current entrepreneurship courses... focus more on business ideas. They make a proposal, make a presentation, and that's it. However, the real challenges lie in operations and sustainability. For example, how to manage finances after six months, or how to ensure the product doesn't harm the environment."
- SA: "I feel unprepared to start a real business. The assignment is to create a business plan, but we aren't taught the details, such as how to deal with competition, manage

permits, or how a business can be profitable without harming the environment."

- SB: "As an Indonesian language student, I thought relevant businesses would be something like writing services or creative content providers. However, our entrepreneurship course felt too general. I didn't find any examples of how these businesses could be managed professionally, let alone ones related to writing ethics or social responsibility within the literacy community."

This excerpt highlights students' weaknesses in strategic and holistic thinking and confirms that sustainability aspects are still considered secondary, rather than a fundamental part of business. Both types of data, both quantitative and qualitative, consistently support the argument for the urgency of developing an Eco-Edupreneurship model.

Based on data collected from the preliminary study and needs analysis, this research identified significant gaps that served as the primary rationale for developing the Eco-Edupreneurship learning model. These findings are divided into two main aspects: weaknesses in holistic business management skills and weak integration of sustainability aspects.

A. Holistic Business Management Skills Gap

Questionnaire data from 150 students clearly confirms this gap. Student perceptions show a high level of disagreement regarding the mastery of holistic business management skills. Only 18% of students strongly agree or agree that they are capable of designing a comprehensive marketing strategy. This figure contrasts sharply with the proportion who disagree or disagree (over 73%), indicating that students feel inadequately equipped in strategic marketing aspects. Similarly, only 20% of students feel capable of efficiently managing daily business operations, while 80% choose to disagree or disagree. Furthermore, only 18% feel capable of preparing financial reports for long-term business sustainability, reflecting a lack of understanding of the importance of sustainable financial management. Quantitatively, this demonstrates that students have limited mastery of essential skills that encompass various business functions, such as marketing, operations, and finance.

The findings from the questionnaire were reinforced by qualitative data from interviews with lecturers and students. Lecturers emphasized that the current curriculum focuses "more on business ideas," where students "make a proposal, present, and then that's it." This leaves students without practical experience in facing "real challenges" beyond planning, such as "managing finances after six months" or addressing operational issues. Students also feel the impact of this fragmented approach. They feel "ill-prepared to start a real business" because they "aren't taught the details" of dealing with competition, managing permits, and other practical aspects. The skills they acquire are fragmented and not integrated into a holistic framework.

The needs analysis results indicate that students tend to focus on short-term projects such as completing a business idea or final project, and lack a grasp of long-term business operations. This finding is supported by qualitative data from interviews with lecturers teaching entrepreneurship courses. Both lecturers and students confirm that existing curricula focus too much on the early stages of business (ideas and proposals). Critical skills such as operational management, long-term financial planning, and comprehensive marketing strategies are often not taught in depth.

Lecturers observed that students often struggle to manage various aspects of a business in an integrated manner, such as:

1. Sustainable Financial Management: Students lack an understanding of the importance of financial planning and management for long-term business sustainability.
2. Strategic Marketing: Existing marketing knowledge and practices still focus on instant promotions, rather than long-term strategies that build brand and customer loyalty.
3. Human Resources and Operations Management: Students lack the skills to manage human resources ethically and design efficient daily operations.

The gap in holistic business management skills leaves graduates vulnerable to business failure during the operational phase. They may possess innovative ideas, but lack the skills to manage those businesses holistically and sustainably. This gap aligns with research highlighting the need for learning models that focus on systemic thinking to solve complex problems and avoid unforeseen consequences [16].

This finding reinforces the urgency of developing an Eco-Edupreneurship Learning Model. This model is expected to address this fragmentation by providing an integrated framework, where aspects of business management (finance, operations, and marketing) are taught holistically. This way, students will be better prepared not only to start a business but also to manage it to remain competitive and sustainable in the long term.

B. Less Integration of Sustainability Aspects

Questionnaire data from 150 students clearly indicates that their understanding and preparedness for sustainability issues remains very low. Only 13.3% of students stated that they Strongly Agree or Agree that they understand the Triple Bottom Line (TBL) concept in business. 52.7% of students stated that they Disagree with their understanding of the TBL concept, indicating that this material was not conveyed effectively or was not considered a core part of the learning process. Only 15.3% of students felt capable of making socially responsible decisions, while 50% chose to Disagree. Quantitatively, this demonstrate that the current curriculum has failed to instill a holistic understanding of how businesses must not only generate profits but also have a positive impact on society (People) and the environment (Planet).

Interviews with lecturers and students provided deeper context. From the lecturers' perspective, social and environmental aspects are often "just extra material, not core." This leads students to view these issues as an additional burden, rather than an opportunity for business innovation. Lecturers also acknowledged that students often "don't see them as an integral part of the business model," resulting in business decisions that ignore potential future social or environmental issues. From the student perspective, particularly from non-business disciplines, there is a specific

need for context. Students, such as those from Indonesian Language and Architecture programs, expressed interest in entrepreneurship relevant to their fields (e.g., creative content services or green design), but felt that "our entrepreneurship courses feel too general." They needed concrete examples of how professional ethics and social responsibility can be integrated into their businesses. This indicates that existing learning models fail to bridge the gap between general business theory and relevant and sustainable applications across disciplines.

The analysis reveals that the weak integration of sustainability aspects in entrepreneurship education produces graduates who tend to have a short-term mindset and focus solely on financial gain. They are ill-prepared to face the challenges of modern business, where consumers and stakeholders increasingly demand transparency and socio-environmental responsibility. Discussions about the social and environmental impacts of a business are often merely supplementary material, rather than the core of the business model itself. This indicates that current entrepreneurship education is not fully aligned with the demands of the 5.0 Society Era, where entrepreneurs are expected to be responsible agents of change. These findings reinforce the urgency of developing an Eco-Edupreneurship Learning Model, which systematically integrates the Triple Bottom Line concept and facilitates contextual learning across disciplines. This model is expected to produce entrepreneurs who are not only economically competitive but also aware of the social and environmental impacts of every business decision they make.

C. The Urgency of Developing an Eco-Edupreneurship Model

The findings of this study strongly indicate an urgent need to develop a new entrepreneurship learning model that can address these weaknesses. This model is not only holistic but also explicitly integrates sustainability aspects.

1. Bridging the Knowledge and Skills Gap

Questionnaire and interview data clearly demonstrate that the current learning model fails to equip students with holistic business management skills. Quantitative data from the questionnaires indicates that the majority of students feel unprepared in vital aspects such as marketing strategy (73%), operational management (80%), and financial planning (82%). Qualitative findings confirm that students feel ill-prepared to manage a business beyond the ideation phase. This creates a gap between the theory taught and actual business practices. The Eco-Edupreneurship model is proposed as a solution to this fragmentation. This model will provide an integrated framework in which students learn to plan, implement, and manage a business holistically.

2. Integrating Sustainability Aspects into Core Learning

The findings of this study also highlight that sustainability issues (social and environmental) are often considered "additional" rather than an integral part of the business model. Survey results showing that only 13.3% of students understand the Triple Bottom Line (TBL) concept are concrete evidence of this failure. Interviews revealed that students from various disciplines expressed a need for contextualization. They needed concrete examples of how businesses in their fields can implement ethics, social responsibility, and sustainability.

3. Preparing Entrepreneurs for the Society 5.0 Era

The urgency of developing this model is further strengthened by the dynamics of the Society 5.0 Era. In this era, businesses can no longer operate in isolation from social and environmental challenges. Society demands businesses that are responsible, transparent, and capable of making a positive impact.

Therefore, the development of the Eco-Edupreneurship Model is not merely a curriculum improvement, but rather a transformation of the educational paradigm. This model aims to produce graduates who are not only ready to compete economically but also possess socio-environmental awareness and responsibility. This will prepare them to become agents of change capable of creating innovative and sustainable solutions for the future.

IV. Conclusions and Suggestions

Based on the needs analysis conducted, this study concludes that there are significant gaps in entrepreneurship education practices in higher education. These gaps encompass two main areas: first, students' weak holistic business management skills, which tend to focus on short-term gains and neglect sustainable business operations. Second, the inadequate integration of sustainability principles and the Triple Bottom Line (TBL) into existing curricula. These findings are supported by quantitative data from questionnaires and qualitative data from interviews, which consistently indicate that students and lecturers perceive an urgent need for a new learning model.

Thus, this study successfully identified a strong rationale and urgency for developing an Eco-Edupreneurship Learning Model. This model is designed as an innovative solution to bridge these gaps, focusing on equipping students with the skills to plan, implement, and evaluate businesses that not only seek profit (Profit) but also have a positive impact on society (People) and the environment (Planet).

Based on the findings and conclusions of this study, several suggestions can be put forward for future research and development: 1) Further Model Development: This research only covers the needs analysis phase. Therefore, it is recommended to continue the R&D research into the product development phase, namely the detailed design of the syntax and components of the Eco-Edupreneurship learning model. 2) Validation and Effectiveness Testing: Once the model is designed, expert validation testing and field implementation trials are necessary to measure the model's practicality and effectiveness in improving students' holistic business management skills. 3) Comparative Study: A comparative study between the Eco-Edupreneurship learning model and conventional entrepreneurship learning models is recommended. This can provide stronger empirical evidence regarding the superiority of the developed model.

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