

Needs Analysis for the Development of a Project-Based Tourism Business Learning Model ROTUA

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Abstract. This research aims to conduct a needs analysis for developing a project-based ROTUA (Remodeling, Observation, Training, Utility, Assessment) learning model for tourism business education. Using the Borg & Gall R&D model, the study involved 74 students, 2 lecturers, and 5 practitioners from the Office Administration Education program. Data was collected via questionnaires and interviews. Results revealed a significant theory-practice gap, with 83.1% of students demanding an entrepreneurial mindset, digital content, more practice, field lectures, and practitioner instructors. This highlights the urgent need for an innovative learning model that integrates self-reflection, mindset cultivation, observation, theoretical understanding, and practical application. The proposed ROTUA model, structured around a real tourism business project, is designed to systematically build competencies from market analysis and product design to marketing and assessment, ultimately preparing graduates to become competent and resilient tourism entrepreneurs.

Keywords: Needs Analysis, ROTUA Model, Mindset Development, Project-Based Learning.

1. Introduction

Indonesia is a country with a large population. According to data released by the Central Statistics Agency (Badan Pusat Statistik - BPS) on June 30, 2024, the population was 282,477,584 people. This number will continue to increase until 2036, which will be the period of demographic bonus. The demographic bonus presents both an opportunity and a challenge. Currently, the largest demographic segment consists of the productive-age population (15 to 64 years), numbering 196,558,195 people or 69.68% of the total. The large size of the productive-age population has a positive impact as it can accelerate development by serving as productive human resources. Conversely, it will become a problem if not managed properly, as it could increase the number of unemployed individuals [1]. Data from the Central Statistics Agency (BPS) shows that the highest

Open Unemployment Rate (Tingkat Pengangguran Terbuka - TPT) is found in the 15 to 24-year age group. The TPT data for this age group over the last five years is presented in Table 1.

Table 1. Open Unemployment Rate (TPT) for the Last 5 Years (2020-2024) for Ages 15-24

Year	Age 15-19	Age 20-24	Total TPT Age 15-24 (%)
2020	24,34	18,71	43.05%
2021	23,91	16,79	40.70%
2022	29,08	15,64	44.72%
2023	25,77	18,71	44.48%
2024	22,34	15,34	37.68%

Source: BPS, processed

From the data in Table 1, it can be observed that the Open Unemployment Rate (TPT) for the productive age group of 15 to 24 years has decreased each year. However, it remains in the high category at 37.68 percent of the total unemployed. This means that the unemployment rate among high school and university graduates is still high. This is caused by the tendency of graduates to orient themselves towards becoming private employees, civil servants (PNS), members of the Indonesian National Armed Forces (TNI), or members of the Indonesian National Police (POLRI). It is very rare for university graduates to prepare themselves to become entrepreneurs. The more detailed results of the questionnaire administered to 74 student respondents (N = number of respondents) are presented in Table 2.

Table 2. Number of Unemployed University Graduates for the Last 5 Years (2020-2024)

Year	Total Open Unemployment	Number of Unemployed Graduates	Unemployed University Graduates (%)
2020	9.767.754	1.286.464	13,17
2021	9.102.052	1.064.681	11,69
2022	8.425.931	832.975	9,88
2023	7.855.075	959.870	12.21
2024	7.465.599	1.012.905	13.56

Source: BPS, processed

The mindset of graduates still holds the assumption that becoming an employee, soldier, or police officer carries more prestige than becoming an entrepreneur [2]. This view is inseparable from the upbringing by parents, other family members, and society, who always hope that educating their

children will enable them to become employees, soldiers, or police officers. Similarly, public perception still views these three professions as more respectable in society compared to being an entrepreneur. The desire for university graduates to become entrepreneurs is still low. This condition hinders the progress of development towards becoming a developed nation, as developed countries on average have 14% of their population as entrepreneurs, while Indonesia has only reached 3,35-3,57 percent [3].

On the other hand, opportunities to become entrepreneurs are wide open, in line with the development of information technology, social media, and the growth of the creative economy. The opening of new job fields can absorb many job seekers to reduce the unemployment rate. To address high unemployment, the government has adopted a policy focused on developing productive, creative, and reliable human resources to become agents of economic development and job creators for themselves and for others [2]. Various policies are implemented to realize human resource development, one of which is through education. Education serves as a structured effort to produce young entrepreneurs who have the ability to utilize local potential and advancements in information technology as economic resources [4]. The government recognizes that becoming an entrepreneur is not an easy or instant matter, but rather a behavior that must be cultivated from an early age through education [5]. The concrete manifestation of this government awareness is embedded in every existing curriculum, positioning entrepreneurship as a field of study in both school and university curricula.

The low desire of graduates to become entrepreneurs is caused by their low entrepreneurial competence [6]. Graduates are unable to identify business opportunities within the rapidly growing tourism industry and the high public desire for travel activities. Therefore, it is deemed necessary to enhance students' entrepreneurial competencies in the tourism business. Learning should be designed with realistic simulations so that students become accustomed to innovating and gain real-world experience, supplemented by the internalization of entrepreneurial values. This is because learning should not only be theoretical but should also involve the practice of being an entrepreneur [7]. The importance of developing innovative learning models becomes apparent when considering the complex reality of the tourism industry. A BPS report in 2023 showed that 65% of tourism businesses are traditional with low competitiveness, while on the other hand, there is the utilization of digital platforms and changing consumer behavior. These two conditions demand a learning approach that not only teaches business concepts but also equips students with the skills to conduct market observation, adaptability, and resilience in facing failure.

The characteristics of Generation Z add another dimension to the urgency of developing innovative learning models, highlighting a gap between the learning expectations of Generation Z and the teaching methods commonly used in the classroom. Surveys reveal that the majority of current students are highly responsive to technology-based, visual, and experiential learning [8]. Given this reality, there is an urgent need to develop a tourism business learning model that emphasizes not

only theoretical understanding but also provides real business experience from an early stage. Efforts to produce graduates who are ready to embark on entrepreneurship in the tourism business are carried out through learning activities that accustom students to practicing the creation of products for the tourism market to meet tourist needs. The ability and courage to create products according to market needs are taught through project-based learning [9]. The project-based learning model provides space for students to learn through experience and collaborate to complete tasks. Well-designed projects serve as an effective means to motivate students to develop skills and understanding related to the subject matter. Students are involved in learning activities from determining the project to designing and implementing the plan they have developed [10]. The project-based learning model is an integrated process of education and training, where students are given contextual learning experiences from planning, implementation, evaluation, to marketing the product. The goal is to prepare students with work competencies related to technical skills and collaboration abilities, following the steps of project-based learning [9].

Cultivating an entrepreneurial spirit is necessary to strengthen the learning experience, which begins with fostering and reinforcing an entrepreneurial mindset to support the project-based learning model. This approach will be able to motivate students to become entrepreneurs. Using project-based learning as a teaching scenario, combined with strengthening the entrepreneurial mindset, will be able to motivate students to become young entrepreneurs through collaborative learning that provides motivation. The support of a collaborative learning model that habituates students to have the courage to create and produce, as well as the sensitivity to see product and market potential, becomes very important. Strengthening the entrepreneurial mindset and enhancing student skills will accustom students to dare to create creatively, innovatively, and adaptively according to societal needs [5]. Strengthening the entrepreneurial mindset is achieved by habituating students to work hard, be dedicated, and have the courage to try.

Therefore, it is necessary to develop a comprehensive learning model that balances the readiness to become an entrepreneur, conceptual understanding, the ability to design products, and the courage to enter and compete in the tourism business market. Students must possess higher-order thinking skills to be able to connect, manipulate, and transform existing knowledge and experiences to think critically and creatively in making decisions and solving problems in new situations [11]. The development of the Remodeling, Observation, Training, Utility, Assessment (ROTUA) learning model, based on tourism business projects—specifically for travel and tour businesses—is crucial because learning that focuses on strengthening mindset and business practice is highly needed. The project-based ROTUA model will build a resilient entrepreneurial mindset that is also responsive to changes in the dynamics of the tourism industry.

The sequence of steps in the developed learning model is as follows:

1. Remodeling of students' perspectives.
2. Observation, where students are trained to conduct market analysis of travel trends, consumer behavior, and competitors, including research on specific market segment needs and visits to successful travel agencies.
3. Training in skills for creating tour packages, digital marketing, and public speaking.
4. Maximizing Utility through marketing efforts so that the public can enjoy the products created.
5. Assessment of the entire series of learning activities conducted to measure project implementation, product design capability, and product marketing ability.

Therefore, a needs analysis is essential for the development of this learning model. This will ensure that the developed Project-Based ROTUA Learning Model for Tourism Business is truly aligned with the needs of instructional implementation in higher education, particularly in the Tourism Business and Travel & Tourism Management courses.

2. Research Method

This study employs the Borg & Gall Research and Development (R&D) model, focusing exclusively on its initial step: research and information gathering through a needs analysis for the product to be developed. The research was conducted in the Office Administration Education Study Program, Faculty of Economics, Universitas Negeri Medan, during the Odd Semester of 2025/2026. The subjects comprised 74 students enrolled in the Tourism Business course, 2 lecturers, and 3 tourism business practitioners, selected using a saturated sampling technique. This study is limited to a needs analysis derived from (1) students taking the Tourism Business course, (2) lecturers teaching the course, and (3) tourism business practitioners. The needs analysis stage, aimed at identifying development requirements, was carried out through interviews with lecturers and practitioners, and questionnaires administered to students. Data analysis was performed descriptively by tabulating and illustrating the questionnaire results, with documentary data also being described descriptively.

3. Results and Discussion

This study is an-educational research that examines the needs analysis for developing a learning model. The results of the needs analysis, conducted through student questionnaires and interviews with lecturers and tourism business practitioners, are as follows:

3.1. Material Analysis

From the lecturers' perspective, the course material combines theory and the practice of developing business plans. However, the practical component is still focused solely on creating the business plan and does not extend to marketing efforts. Consequently, student work remains an academic exercise rather than evolving into market-ready products. Learning activities typically jump straight into subject matter, with minimal emphasis on developing an entrepreneurial mindset for the tourism industry or exploring the business opportunities within it.

Students reported that the theoretical material is adequate but expressed a strong desire for an increased proportion of practical activities. They specifically requested more content related to digitalization, field lectures and visits, and the inclusion of practitioner lecturers to share real-world experiences. Tourism business practitioners emphasized two key points: 1) Classroom activities should actively motivate students to become actors in the tourism sector, as its rapid growth demands more entrepreneurs. 2) There is a critical need to align the curriculum with the actual needs of the tourism industry to ensure graduates are truly job-ready.

3.2. Analysis of Student Needs

The subsequent stage analyzed students' needs regarding the proposed project-based ROTUA learning model. An initial questionnaire was distributed via Google Form to gauge students' post-graduation aspirations, interest in entrepreneurship, understanding of entrepreneurial activities, and expectations for the Tourism Business course concerning both content and teaching methods. The detailed results are presented in Table 3.

Table 3. Needs Analysis Questionnaire Results

Question	Yes		No	
	n	%	n	%
Do you have the desire to become an entrepreneur?	35	47,30	39	52,70
Do you enjoy learning about tourism business?	64	86,49	10	13,51
Is the balance of theory and practice in lectures appropriate?	65	87,84	9	12,16
Is there a need to add field lectures?	70	94,59	4	5,41
Is there a need to increase the number of practitioner lecturers?	60	81,08	14	18,92
Is there a need to add digital-based materials?	58	78,38	16	21,62
Are you brave enough to market your work to the public?	55	74,32	9	25,68
Do you want the proportion of practical lectures to be increased?	60	81,08	14	18,92
Do you know that working as an entrepreneur can open job opportunities for yourself and others?	74	100	0	0
Do you need the development of a learning model that can grow your interest and ability to become an entrepreneur?	74	100	0	0
Total	615		125	
Average/Percentage	0.831		83,1%	

The data shows a strong consensus (83.1% average) among students for enhancing the practical and entrepreneurial aspects of their education. While only 47.3% initially desire to be entrepreneurs, there is unanimous agreement (100%) on the need for a learning model that cultivates this interest and skill. Key demands include more field lectures (94.6%), practical work (81.1%), practitioner lecturers (81.1%), and digital content (78.4%). Data from Table 3 shows that students desire more practical hours, field lectures, digital-based materials, and practitioner lecturers. They also responded positively to developing an innovative learning model that could foster their interest and enhance their ability to create products in the tourism business sector.

3.3. Discussion

Based on the needs analysis results, it is evident that developing the project-based ROTUA learning model is crucial for building a resilient entrepreneurial mindset that is simultaneously responsive to the dynamics of the tourism industry. This learning model emphasizes a comprehensive cycle that begins with self-reflection and mindset cultivation, followed by observation, theoretical understanding, and culminating in practical application. This approach aims to produce graduates who not only master entrepreneurial concepts but also possess the courage and capability to implement them in real tourism businesses. The model is also developed to support higher education policies and address students' entrepreneurial needs, particularly as Indonesian universities face significant challenges in preparing competent graduates in entrepreneurship. A holistic alternative approach is required—one that can bridge the theory-practice gap, engage students in real business projects, and foster habits of critical reflection and adaptation to industry changes. The ROTUA Learning Model is anticipated as a critical solution to address fundamental weaknesses in conventional entrepreneurship education, especially within the context of Generation Z students who will encounter an increasingly complex tourism industry. It responds to this challenge by creating graduates who are not only technically skilled but also equipped with lifelong learning abilities, critical thinking, and adaptability—competencies highly demanded in the creative economy. Therefore, the ROTUA learning model is not merely a pedagogical alternative but a strategic necessity to ensure that higher education can genuinely produce competent, resilient, and relevant tourism entrepreneurs who meet contemporary demands. This transformation must be implemented promptly, given the rapid industry changes and high business failure rates in the tourism sector, which require holistic and evidence-based learning solutions.

4. Conclusion

The results of the needs analysis, conducted through interviews with tourism business course lecturers and tourism practitioners, as well as the distribution of questionnaires to students currently enrolled in tourism business courses, can be concluded as follows: The results of the content analysis

conducted with lecturers, students, and business practitioners conclude that the course material, which still focuses on business plan preparation, is now being directed towards mindset development, aligning course content with industry needs, and digitalization. The needs analysis results indicate that students desire the addition of digital-based materials and more practitioner-lecturers. There is a need to develop a **ROTUA learning model** based on tourism business projects to create comprehensive learning activities, starting from self-reflection and mindset cultivation, observation, theoretical understanding, to practical application.

References

- [1] Susilowati, C. Ismail, T. Barinta, D. D. Abanan, M. Z. R., Aini, M. F.: Strategi Pengembangan Kreativitas Dan Pengenalan,” vol. 6, pp. 171–176, (2024)
- [2] Simanullang, R. Manullang, R. Sitanggang. G.: Development of Production-Based MPDW Teaching Materials to Increase Students’ Entrepreneurship Competency in Office Administration Education, Faculty of Economics Universitas Negeri Medan. pp. 102–111, (2020)
- [3] Israel, G. E. M: *VERSA GEM 2024 / 2025 Global Report Entrepreneurship Reality Check*. (2025).
- [4] Solang, J. Takaendengan, A. M. E. Sendow, D. C. Hetty, T. Kondo, I.: Penerapan Model Pembelajaran Project Based Learning Jambura Journal of Educational Management. no. 4, pp. 186–195, (2023)
- [5] Lewenussa, R. Suaidy, H.: Pengaruh Pola Pikir (Mindset) Kewirausahaan Terhadap Motivasi Dan Keterampilan Wirausaha Mahasiswa Program Studi Manajemen Universitas Muhammadiyah Sorong,” *Sentralisasi*, vol. 8, no. 1, p. 1, (2019)
- [6] Deliana, M. Simanjorang, F. Adlina, H.: Journal Business Entrepreneurship : Entrepreneurship & Creative Industry The Effect of Entrepreneurship Education on Entrepreneurial Intention by Entrepreneurial Self-Efficacy,” vol. 04, no. 01, pp. 41–48 (2025).
- [7] Sutanto, E. M. Lau, E., Ezra, A.: Entrepreneurial Performance: Lesson Learnt of Indonesia. vol. 23, no. 2, pp. 1–16, (2021).
- [8] Vissa, B. Wu, B.: Working Paper Entrepreneurship in Emerging Economies. (2021)
- [9] Guo, P. Saab, N., Post, L. S. Admiraal, W.: A review of project-based learning in higher education : Student outcomes and measures,” *Int. J. Educ. Res.*, vol. 102, no. May, p. 101586, (2020).
- [10] Kamaruddin, I. Suarni, E. Rambe, S. Sakti, B. P., Rachman, R. S., Kurniadi. P.: Penerapan Model Pembelajaran Berbasis Proyek dalam Pendidikan. Tinjauan Literatur. *J. Rev. Pendidik. dan Pengajaran*, vol. 6, no. 4, pp. 2742–2747, (2023)
- [11] Amelia. A.: Enhancing Critical Thinking Skills Through Project-Based Learning Image-Assisted in Elementary School. *Int. J. Teach.*, vol. 2, no. 1, pp. 42–54 (2024)