Integrated Educational Tourism System as Internet + Adoption at Politeknik Negeri Jember

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Abstract. The tourism sector holds significant economic value, aligning with the overarching goal of transforming Politeknik Negeri Jember into a Public Service Agency (BLU). As a government entity, BLU is tasked with taking exceptional measures in their respective fields to contribute to the advancement of national economic growth. However, the tourism sector, encompassing educational tourism, faces challenges, particularly in the realm of sustainable tourism development. Therefore, future research efforts should prioritize the implementation of sustainable tourism practices, such as reducing carbon footprint through online transactions and minimizing paper usage. Additionally, fostering an Internet+ ecosystem can enhance tourism operations, making them more effective and efficient, ultimately supporting the blue economy. The test results indicate that the system developed by the research has achieved a Black Box value of 100% and a UAT value of 97%. These findings suggest that the Integrated Educational Tourism research will be able to offer an adaptive and precise educational tourism experience for visitors to Politeknik Negeri Jember.

Keywords: tourism, educational tourism, internat+, blu

1 Introduction

Educational tourism is a combination of Research Learning (RBL) and travel which is useful for educational tourists to broaden their horizons [1]. Educational tourism has great implications for students and the goals of learning. This type of tourism can be in the form of natural tourism or artificial tourism. Educational tourism requires active participation from each participant to "co-create the desired experiences", this is to produce impactful learning [1]. Politeknik Negeri Jember has great potential in the context of educational tourism, this is marked by the Teaching factory (Tefa) at Politeknik Negeri Jember (Green House, Bakery and Canning, Seed, and others) which has great potential for further development as tourism education.

The tourism sector has high economic value [2], this is in line with the development direction of the Politeknik Negeri Jember into a Public Service Agency (BLU). As a government agent, BLU is required to take extraordinary steps in their respective fields, so that they are expected to contribute to encouraging national economic growth [3]. this is in line with the development direction of the Politeknik Negeri Jember into a Public Service Agency (BLU). As a government agent, BLU is required to take extraordinary steps in their respective fields, so that they are expected to contribute to encouraging national economic growth [4]. The World Tourism Organization (WTO) states that sustainable tourism is "tourism taking full account of its current and future economic, social and environmental impacts, that addresses the needs of many different parties including visitors, the industry, the environment, and host communities" [5], This is also supported by the Indonesian government in the form of regulations [6] regarding the management of sustainable tourism destinations (Sustainability Management). This has encouraged various kinds of research that use a multi-disciplinary approach, one of which is research conducted by [6] This is also supported by the Indonesian government in the form of regulations [6] regarding the management of sustainable tourism destinations (Sustainability Management). This has encouraged various kinds of research that use a multi-disciplinary approach, one of which is research conducted by [4][7][8] which uses an information technology approach to produce integrated, low-carbon, eco-tourism, and green tourism. This research aims to develop an integrated system of sustainable educational tourism based on Internet+[8] and green tourism [4] as well as TEFA within the Politeknik Negeri Jember's environment. This research aims to solve the problem by developing a system that can accommodate these needs.

The research presented in this study adopts the perspective that tourism involves a series of activities undertaken by individuals to experience various attractions conveniently. In response to this, the Integrated Educational Tourism research aims to develop a comprehensive application/system that caters to this concept. This system will cover the management of offers, bookings, scheduling, and execution of educational tours at Politeknik Negeri Jember. In terms of the implementation of educational tourism, the system will incorporate a cashless payment system and will be integrated with various products developed by Politeknik Negeri Jember, such as electric cars. The ultimate goal of the Integrated Educational Tourism research is to create a flexible and targeted educational tourism platform for every visitor to the Politeknik Negeri Jember Educational Tourism.

2 Research Method

The implementation method carried out by this research, "Integrated Educational Tourism," is a crucial aspect of the study. As depicted in Figure 1, the method begins with an extensive literature study, which forms the foundation for the research. This is followed by data collection and analysis, leading to the formulation of conclusions and suggestions. The primary goal of this implementation method is to ensure that the research can produce high-accuracy research products with broad useful aspects. By following a systematic approach, the study aims to provide valuable insights and recommendations that can contribute to the advancement of educational tourism. The method is designed to be thorough, taking into account various factors and perspectives to ensure the reliability and validity of the research findings. Through this method, the research endeavors to make a meaningful and impactful contribution to the field of educational tourism.
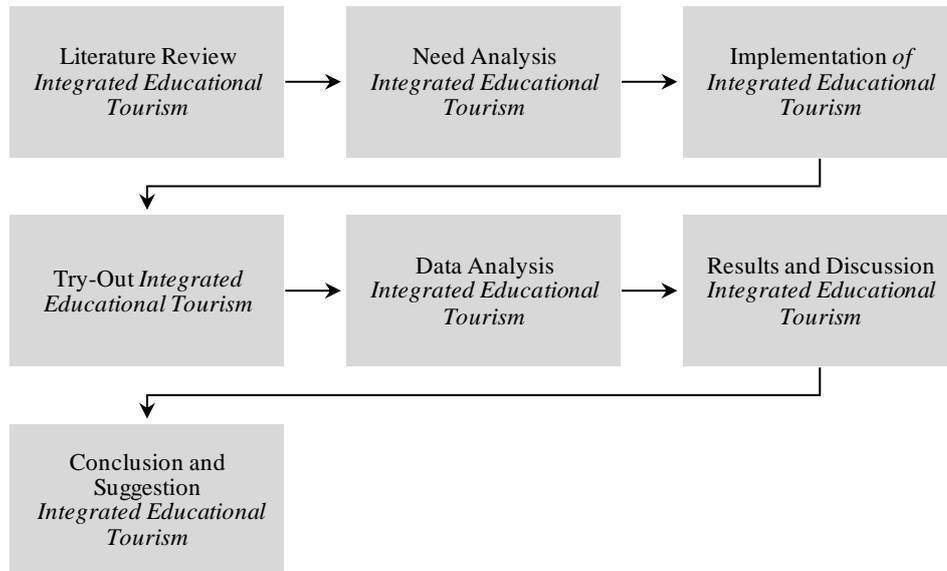
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│  Literature Review  │     │   Need Analysis     │     │ Implementation of   │
│ Integrated          │ ──> │ Integrated          │ ──> │ Integrated          │
│ Educational         │     │ Educational         │     │ Educational         │
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│  Try-Out Integrated │     │   Data Analysis     │     │ Results and         │
│  Educational        │ ──> │ Integrated          │ ──> │ Discussion          │
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│ Conclusion and      │
│ Suggestion          │
│ Integrated          │
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Fig. 1. Research Method

The research on Integrated Educational Tourism commenced with a thorough literature review to ensure that it aligns with the current state of the art in the field. This step was crucial to ensure that the methods and approaches used in the research are contextually appropriate. The ultimate goal of this research is to not only bring benefits to Politeknik Negeri Jember but also to contribute to the advancement of scientific knowledge in the field of Integrated Educational Tourism. The next phase of the research involved conducting a comprehensive Needs Analysis for Integrated Educational Tourism. This stage holds significant importance as it will ensure that all the system needs are accurately identified and represented by the features that will be developed as part of this research. This meticulous approach laid the groundwork for a comprehensive and effective research study and contributed to the overall success and impact of the research outcomes.

The results of the needs analysis stage were continued with the implementation of Integrated Educational Tourism. In the first year, the research carried out the development of a Web-based system. The use of this Web platform was to facilitate the use of applications that will be used by many Integrated Educational Tourism stakeholders at the Politeknik Negeri Jember. The implementation in question consisted of the implementation of business processes and the implementation of AI which was embedded into the system.

The testing stage was a crucial phase in the development of any system, as it ensured that the system met the required standards and was in line with expert opinion. In the case of the Integrated Educational Tourism system, this stage involved carrying out trials using a ground truth approach to determine the level of accuracy of the system. The data obtained from the tests was then processed, starting with pre-processing to eliminate anomalous data, before testing for accuracy. The accuracy of the system was then compared with manual calculations to verify its ground-level accuracy. The results obtained at this stage were analyzed to identify the factors

that influence the accuracy values obtained. The research concluded with a discussion of the findings, including conclusions drawn from the analysis, and suggestions for further research. This final stage was critical in ensuring that the system was fully functional and met the required standards.
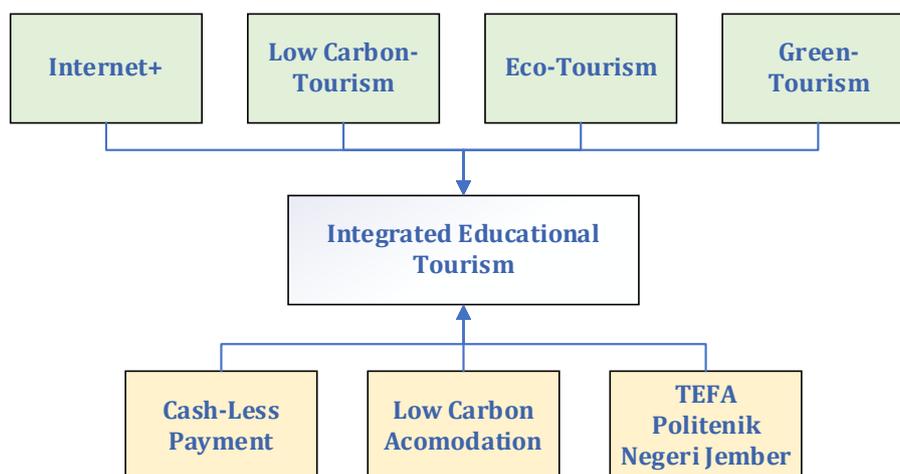
3   Results and Discussion

Fig 2. Integrated Educational Tourism Design

The implementation of the design depicted in Figure 2 results in the creation of the system illustrated in Figure 3. This system represents a response to the growing demand for an application that leverages information technology to facilitate integrated, low-carbon, eco-tourism, and green tourism. The present research endeavors to cultivate an integrated system of sustainable educational tourism underpinned by Internet+ technology. By harnessing the power of digital connectivity and innovative solutions, this initiative seeks to not only promote environmentally conscious travel practices but also to enhance the educational and experiential aspects of tourism. The overarching goal is to create a platform that not only minimizes the ecological footprint of tourism activities but also fosters a deeper understanding and appreciation of sustainable practices among tourists and local communities alike. Through the convergence of technology and sustainability, this endeavor aims to pave the way for a more harmonious and responsible approach to tourism in the digital age. [8] and *green tourism* [4] as well as Tefa within the Politeknik Negeri Jember environment.

The implementation of Internet+ and green tourism in unity with the learning and training processes at Tefa Politeknik Negeri Jember represents a novel approach to higher education. This innovative strategy aligns with the Tri-Dharma of Higher Education, which emphasizes the importance of education, research, and community service. By integrating Internet+ and green tourism into the curriculum, Tefa Politeknik Negeri Jember is not only preparing students for the demands of the modern workforce but also contributing to the sustainable development of the local community. This approach reflects the university's commitment to disseminating

research results and knowledge to the broader society, thereby fulfilling its role as a responsible institution of higher learning. As a result, students are not only gaining valuable skills and knowledge but also contributing to the greater good through their education and training. This innovative approach sets a precedent for other institutions to follow, demonstrating the potential for higher education to have a positive impact on both individuals and communities.
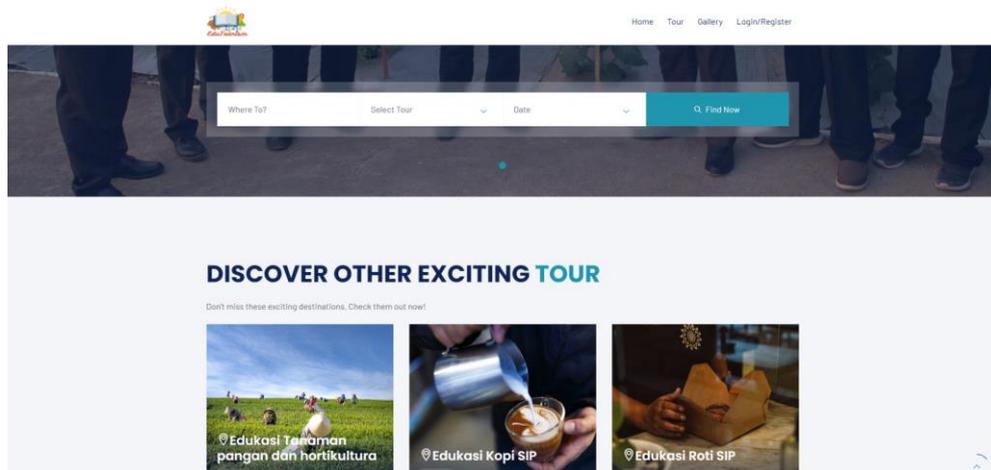

Fig 3. Aplication User Intrerface

Table 1. BlackBox Result

Number	Fitur	Status
1	Login	Pass
2	Register	Pass
3	Search	Pass
…	…	…
24	Checkout	Pass
25	Payment	Pass

Table 2. UAT Result

Number	Respondents	Result
1	Fatur	100%
2	Alma	97%
3	Andru	100%
…	…	…
99	Firda	100%
100	Muhammad	100%

The outcomes of the BlackBox testing conducted for 25 features inherent to the system have indicated an overall positive status, as evidenced by the results presented in Table 1, which demonstrate a 100% success rate. Concurrently, the User Acceptance Testing (UAT), designed to assess the application's user-friendliness, is detailed in Table 2. The findings reveal an average score of 97%, signifying that a mere 3% of respondents encountered usability issues while the vast majority, comprising 97%, reported no such difficulties. These results collectively underscore the robustness and user-friendly nature of the system, thereby affirming its operational efficacy and suitability for end-users. This research also supported the results of studies conducted by [9], [10], [11], [12], and [13].

4 Conclusion

The research conducted aligns with the RIR Politeknik Negeri Jember 2021-2025, Program Studi Manajemen Informatika, Teknologi Piranti TIK dan Pendukung TIK. The test results demonstrate that the system developed through this research exhibits a Black Box value of 100% and a UAT value of 97%. These findings indicate that the Integrated Educational Tourism research has the potential to offer an adaptive and precise educational tourism experience for all visitors to the Politeknik Negeri Jember Educational Tourism. It is anticipated that this research will contribute significantly to the enhancement of educational tourism at the institution.

Acknowledgments

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