

Smart Tourism Implementation And Destination Competitiveness: Evidence From Labuan Bajo

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ABSTRACT

Tourism is a strategic sector that contributes to economic growth. However, tourist destinations in Indonesia, including Labuan Bajo, face challenges in managing information, accessibility, and visitor experiences due to limited adoption of digital technology. The uneven implementation of Smart Tourism may reduce destination competitiveness compared with global destinations. This study aims to analyze the implementation of Smart Tourism and its influence on destination competitiveness in Labuan Bajo. A quantitative approach with a correlational cross-sectional design was employed in the tourism area of Labuan Bajo, West Manggarai Regency, East Nusa Tenggara. A total of 120 domestic and foreign tourists were selected using purposive sampling. Data were collected through structured questionnaires using a five-point Likert scale, supported by interviews and observations. Data were analyzed using univariate statistics, Pearson correlation, and simple linear regression. The results showed that 68.3% of respondents rated Smart Tourism implementation as good, 24.2% as moderate, and 7.5% as poor. Pearson correlation indicated a positive and significant relationship between Smart Tourism implementation and destination competitiveness ($r=0.612$; $p<0.001$). Regression analysis showed that Smart Tourism explained 37.4% of the variance in destination competitiveness ($R^2=0.374$). Strengthening digital infrastructure, tourism information services, and stakeholder digital literacy is essential for sustainable tourism development.



INTRODUCTION

The global tourism industry is undergoing a fundamental transformation along with the acceleration of digitalization in various sectors of life. The World Travel and Tourism Council noted that the travel and tourism sector continues to show significant post-pandemic recovery and contributes greatly to the world economy through job creation and foreign exchange. This condition encourages industry players to adopt information technology as the main instrument in improving the efficiency of Service and tourist experience. Digital transformation is no longer an additional option, but a fundamental necessity for destinations that want to survive in the competition of the international tourism market. This paradigm shift then gave birth to a new concept in Destination Management known as smart tourism (Ahmed. S, 2025).

Smart tourism is a tourism destination management concept that integrates information and communication technology into all aspects of the tourist experience, from the planning stage, visits, to post-visit evaluation. This concept emphasizes the creation of a tourism ecosystem that is interconnected between tourists, destination managers, and local communities through the use of big data, the internet of things, and location-based applications. The implementation of smart tourism in a city is considered necessary to consider the mutual relationship between citizens and tourists through collaborative partnerships that are inclusive so that the benefits of technology can be felt equally. Thus, smart tourism is oriented not only to the interests of tourists, but also to the social sustainability of local communities (Kirana, Z. A, 2025).

Various studies show that the implementation of smart tourism has a real impact on the efficiency of resource management of tourist destinations. Digital technologies such as online booking systems, digital payments, interactive maps, and self-check-in kiosks are proven to improve travelers ' comfort while speeding up the service process on the ground. Such efficiency in turn contributes to improving the overall quality of the tourist experience so that tourists tend to give a positive assessment of the destinations visited. In addition, the application of this technology is also considered to be able to maximize the competitiveness of destinations through various innovations and digital practices adopted by managers (Borahima, B., et al , 2024; Winarni, R., 2025).

In the national context, Indonesia as a country with great tourism potential also encourages the implementation of the smart tourism concept in various superior destinations. The government through the Ministry of Tourism and creative economy has designated a number of areas as Super Priority tourism destinations in order to accelerate the recovery and development of the national tourism sector after the pandemic. This policy is directed to strengthen infrastructure, connectivity, and the use of digital technology as part of a strategy to increase Indonesia's Tourism Competitiveness in the international arena. Central Statistics Agency Data recorded foreign tourist visits to Indonesia in December 2024 reached 1.24 million visits, an increase of 8.72 percent compared to the same period the previous year, which indicates that the recovery of the national tourism sector is going quite well (Central Statistics Agency, 2025).

However, the implementation of smart tourism in Indonesia still faces significant structural challenges. The digital divide between major destinations in big cities and destinations in remote areas is still a problem that has not been resolved thoroughly. Limited digital infrastructure, lack of internet access in some areas, and low capacity of human resources in managing technology are the main obstacles in realizing a smart tourism ecosystem. These conditions cause the benefits of Tourism digitalization have not been optimally felt by all destinations, especially destinations in eastern Indonesia (Borahima et al., 2024).

Various recent studies in a number of cities in Indonesia further strengthen the urgency of developing smart tourism. Research on the factors that influence the development of smart tourism in Yogyakarta city shows that the success of its implementation is highly dependent on the maturity of the system, governance, and collaboration among stakeholders. Pentahelix's approach involving the government, academics, business actors, the community, and the media has proven to increase the legitimacy and sustainability of smart tourism programs in urban tourist destinations. The findings suggest that the success of smart tourism is not only determined by the availability of technology, but also by the collaborative governance that supports its implementation (Cahyani & Djunaedi, 2026).

Similar concepts are also applied to other city-scale destinations in Indonesia. The smart tourism city roadmap study in Blitar City uses the integration of strategic analysis framework and found that smart tourism policy strategies can increase tourist attraction, including foreign tourists, if supported by systematic and participatory planning. Meanwhile, the implementation of smart tourism in Semarang shows that the integration of digital technology in the management of urban tourist destinations can facilitate access to information for tourists while improving the efficiency of tourism resource management. Both studies show that smart tourism has developed as a destination management strategy in various cities in Indonesia (Firtanto, 2024; Damayanti et al., 2020).

In addition to urban destinations, the application of smart tourism is starting to develop in community-based destinations and conservation areas. Research on the implementation of smart tourism in Lon beach tourism village Malang shows that the use of technology can improve the ease of tourist access to information about facilities, transportation, and tourist activities. The study also confirms that technology can support environmental conservation and improve the well-being of local communities through community involvement in the sustainable management of destinations. This finding reinforces that smart tourism is relevant to various destination typologies, not limited to urban areas.

The development of smart tourism Research also includes its relationship with digital marketing strategies. Evaluation of the effectiveness of advertising in tourist destinations shows that the use of technology in promotional activities can increase the competitiveness of destinations compared to conventional marketing strategies. Studies on paid media strategies also show that paid digital marketing is more effective in reaching target markets than conventional mass media because it allows the dissemination of information to a wider market with a certain cost allocation. In addition, social media has been proven to affect tourist interest, so that the integration of technology in marketing becomes one of the important parts in the implementation of smart tourism (Yayli, 2025; Shiratina, Ramli, & Hanifah, 2022).

Based on this description, previous research on smart tourism in Indonesia showed a consistent pattern but at the same time revealed clear gaps. First, in terms of research locus, the existing studies so far have concentrated on urban destinations (Yogyakarta, Blitar, Semarang) and small-scale community-based destinations (Lon beach tourism village Malang), while Super-Priority Destinations with archipelago characteristics and high pressure on foreign tourist visits such as Labuan Bajo have not been the object of specific smart tourism studies. Second, in terms of methodological approach, the majority of these studies (Cahyani & Djunaedi, 2026; Firtanto, 2024; Damayanti et al., 2020) uses a descriptive-qualitative approach that stops at mapping pentahelix's governance and collaboration success factors, without statistically testing how large and significant the contribution of smart tourism implementation is to the competitiveness of



destinations. As a result, the relationship between the two variables smart tourism and destination competitiveness is still assumed and has not been measured empirically-quantitatively, especially in destinations with scale and complexity such as Labuan Bajo.

This research gap is the basis of the urgency of this study, with the formulation of the problem: to what extent does the application of smart tourism significantly affect the competitiveness of destinations in Labuan Bajo as a Super priority tourist destination? This study offers empirical novelty in the form of quantitative measurement of the relationship between smart tourism and destination competitiveness in the context of Super Priority Destinations with archipelagic character a context that has never been statistically tested in the previous smart tourism Indonesia literature, which has been dominated by qualitative studies on urban or rural tourism destinations. With a quantitative approach, this study is expected to produce an objective numerical picture of the strength of these relationships, as well as providing practical contributions in the form of recommendations for digitizing tourism policies that are more measurable and evidence-based (evidence-based) for local governments, destination managers, and local tourism businesses in Labuan Bajo.

At the regional level, West Nusa Tenggara province is one example of the implementation of digital marketing integration with the concept of sustainable smart tourism which is directed to strengthen tourism competitiveness through sustainability-based promotion. This success shows that the eastern part of Indonesia has the potential to adopt the concept of smart tourism if supported by management strategies that are in accordance with the characteristics of the destination. This condition is relevant to compare with the province of East Nusa Tenggara, especially Labuan Bajo.

METHODS

This study aims to analyze the application of Smart Tourism as an innovation in the tourism industry and its influence on increasing the competitiveness of tourist destinations in Labuan Bajo, West Manggarai regency, East Nusa Tenggara. This study uses a quantitative approach with cross-sectional descriptive correlational design, which is a research design that measures the independent variable and the dependent variable simultaneously at one time period without providing intervention to the subject. The study was conducted in the tourism area of Labuan Bajo, West Manggarai Regency, East Nusa Tenggara. A total of 120 respondents, including domestic travelers, foreign tourists, were selected using purposive sampling. The selection of respondents was based on the consideration that the three groups have direct involvement in tourism activities and are relevant in assessing the implementation of Smart Tourism. Tourists are chosen because they are direct users of various digital-based tourism services, while business actors are chosen because they act as providers and users of digital technology in supporting tourism services and activities. Respondents were selected based on inclusion criteria, namely domestic or foreign tourists who are or have been doing tourism activities in Labuan Bajo, business actors who are directly involved in tourism activities, have experience or knowledge of digital-based tourism services, and are willing to participate in research. The sample size of 120 respondents was determined by considering the need for correlational analysis and simple linear regression, limited research time, and access to the study population. The exclusion criteria included respondents who filled out the questionnaire incompletely or withdrew from the study before the entire data collection process was completed.

Data collection techniques were conducted using structured questionnaires with a Likert scale of 1-5, ranging from strongly disagree to strongly agree. The questionnaire instrument was prepared based on two main variables, namely the application of Smart Tourism as an independent variable which includes digital information accessibility indicators, internet connectivity, online booking systems, and digital payments, as well as the competitiveness of tourist destinations as a dependent variable which includes service quality, tourist satisfaction, destination image, and re-visit interest. The instrument has been tested for validity using Pearson product Moment correlation test and reliability using Cronbach's Alpha test. The collected Data were analyzed through two stages, namely univariate analysis using frequency and percentage distribution to describe the characteristics of respondents and the level of application of Smart Tourism and the competitiveness of tourist destinations, and bivariate analysis using Pearson correlation test to determine the relationship between the application of Smart Tourism and the competitiveness of tourist destinations and simple linear regression to test the effect of Smart Tourism application on the competitiveness of destinations. This study has met the rules of research ethics by providing an explanation to each respondent about the purpose, benefits, and procedures of the study before filling out the questionnaire. Respondents gave their consent through informed consent as proof of willingness to participate voluntarily. The confidentiality of the respondent's identity and personal data is fully maintained by the researcher and the data is only used for academic purposes. The respondent also has the right to refuse or withdraw from the study at any time without any consequences.

RESULTS

1. Characteristics of Respondents

Table 1. Characteristics of Respondents (n = 120)

Characteristics	Categories	Frequency (n)	Percentage (%)
Gender	Female	58	48,3
	Women	62	51,7
Age	17-25 years old	34	28,3
	26-35 years old	41	34,2
	36-45 years old	28	23,3
	> 45 years old	17	14,2
Categories Of Tourists	Domestic Travelers	64	53,3
	Foreign Tourists	56	46,7
Last Education	High school/equivalent	31	25,8
	Diploma / Bachelor	71	59,2
	Post graduate	18	15,0
Visit Status	First Visit	79	65,8
	Repeated Visits	41	34,2

The results in table 1 showed that the study respondents were dominated by women (51.7%) with the largest age group in the range of 26-35 years (34.2%), which indicates that Labuan Bajo is much in demand by tourists of productive age. Based on the category of tourists, domestic



tourists are the largest group (53.3%) compared to foreign tourists (46.7%), so the data obtained is representative enough to describe the perception of both segments of the tourist market towards the implementation of Smart Tourism in Labuan Bajo. The majority of respondents have a diploma/bachelor's education background (59.2%), which indicates a relatively adequate level of literacy to understand and assess the application of digital technology in tourism services. In addition, the majority of respondents are first-time tourists (65.8%), which shows that the assessment of Smart Tourism implementation is largely based on first-hand experience without being influenced by previous visit expectations.

2. Frequency Distribution of Smart Tourism Implementation and Competitiveness of Tourist Destinations

Tabel 2. Frequency Distribution of Smart Tourism Implementation and Competitiveness of Tourist Destinations (n = 120)

Variable	Categories	Frequency (n)	Percentage (%)
Implementation Of Smart Tourism	Good	82	68,3
	Enough	29	24,2
	Less	9	7,5
Competitiveness Of Tourist Destinations	High	75	62,5
	Medium	34	28,3
	Low	11	9,2

The results of Table 2 show that most respondents rate the implementation of Smart Tourism in Labuan Bajo to be in the good category (68.3%), while only a small percentage rate it less (7.5%). This indicates that the application of digital technology in tourism services in Labuan Bajo, such as digital information access, online booking systems, and internet connectivity, in general, has been quite beneficial for tourists and businesses. In the destination competitiveness variable, the majority of respondents assessed the competitiveness of Labuan Bajo to be in the high category (62.5%), which shows a positive perception of service quality, destination image, and tourist satisfaction. However, there are still 9.2% of respondents who rate the competitiveness of destinations as low, which indicates that there is room for improvement in certain aspects, especially related to the equitable distribution of digital infrastructure throughout tourist points.

3. Implementation of Smart Tourism as a Tourism Industry Innovation to Improve the Competitiveness of Tourist Destinations

Table 3. Descriptive Statistics and Pearson Correlation Test Results (n = 120)

Variable	Mean	Std. Deviation	Min	Maks	r (Pearson)	Sig. (2-tailed)
Implementation Of Smart Tourism	38,72	5,146	22	50	0,612**	0,000
Competitiveness Of Tourist Destinations	41,05	4,893	24	50		

Table 3 shows that the average score of Smart Tourism implementation is 38.72 (SD = 5.146) and the competitiveness of tourist destinations is 41.05 (SD = 4.893), both of which are in the

category of a maximum score of 50, with a relatively small standard deviation so that the perception of respondents tends to be homogeneous. Pearson correlation test results showed a value of $r = 0.612$ with a significance value of $p = 0.000$ ($p < 0.01$), which means there is a positive and significant relationship between the implementation of Smart Tourism with the competitiveness of tourist destinations in Labuan Bajo. The strength of the relationship is in the strong category, which means that the better the implementation of Smart Tourism perceived by tourists, the higher the perception of the competitiveness of the destination.

Table 4. Simple Linear Regression Test Results

Test Components	Value
Model Summary	
R	0,612
R Square	0,374
Adjusted R Square	0,369
Std. Error of the Estimate	3,885
ANOVA test (F)	
Sum of Squares (Regression)	1.061,411
Sum of Squares (Residual)	1.780,839
df (Regression, Residual)	1, 118
F count	70,318
Sig.	0,000
Regression Coefficients	
Constant (a)	18,742 (Sig. = 0,000)
Regression coefficient (b) – Smart Tourism	0,589 (Sig. = 0,000)
Standardized Beta	0,612
t count	8,386
95% CI coefficient b	0,450 – 0,728

Table 4 shows the R Square value of 0.374, which means that the implementation of Smart Tourism contributes 37.4% to the variation in the competitiveness of tourist destinations in Labuan Bajo, while the remaining 62.6% is influenced by other factors outside the model, such as transportation accessibility, local government policies, and destination security. The results of ANOVA test showed a calculated F value of 70.318 with significance $p = 0.000$ ($p < 0.05$), which proves that the overall regression model is significant and feasible (fit) is used to predict the relationship between variables. The value of regression coefficient (b) of 0.589 with $t = 8.386$ and $p = 0.000$ indicates that the implementation of Smart Tourism has a positive and significant effect on the competitiveness of tourist destinations.

DISCUSSION

1. Frequency Distribution of Smart Tourism Implementation and Competitiveness of Tourist Destinations

The results showed that the majority of respondents rate the implementation of Smart Tourism in Labuan Bajo is in the good category (68.3%), while the sufficient category is 24.2% and



the less category is only 7.5%. This distribution illustrates that efforts to digitize tourism services in Labuan Bajo, such as online booking systems and the provision of digital information, have been sufficiently benefited by the majority of tourists who responded to the study.

The high assessment in this good category is inseparable from the characteristics of respondents dominated by the productive age group of 26-35 years (34.2%) and the level of diploma/bachelor education (59.2%) as shown in Table 1. These age groups and education levels generally have relatively adequate digital literacy so they are better able to take advantage of and objectively assess the technological features provided by destinations, such as booking applications and digital information. This condition is in line with the results of digital literacy improvement activities in the travel conscious group which found that understanding the use of social media and information technology contributes to the ability of individuals to critically assess the quality of digital services in the context of Tourism (Darubekti, Hanum, Suryaningsih, & Waryenti, 2022).

The high percentage of good categories in the implementation of Smart Tourism is also in line with the findings of research on smart tourism-based access and amenity management systems, which show that the implementation of location-based applications, online booking systems, and digital payments are proven to improve destination management efficiency and tourist comfort, especially in destinations with national priority status such as Labuan Bajo. The study also confirms that priority destinations tend to receive greater digital infrastructure investment support than other destinations outside priority areas, so that the maturity level of technology implementation is relatively better (Borahima, Setianto, Pratiwi, & Saifuddin, 2024).

In the variable competitiveness of tourist destinations, the results showed that the majority of respondents assessed the competitiveness of Labuan Bajo is in the high category (62.5%), followed by the middle category (28.3%) and low category (9.2%). This high rating is consistent with Labuan Bajo's status as one of the five National Super Priority Destinations, which has historically built a strong image based on the uniqueness of natural attractions such as Komodo National Park. This finding is in line with the study of de Souza Bispo et al. (2020) on the effectiveness of destination advertising and technology adoption on tourism competitiveness, which shows that the utilization of technology does contribute to competitiveness, but the uniqueness of attractions and authentic experiences remain the dominant factors that shape the perception of tourists. In other words, technology acts as an enabling factor that strengthens competitiveness that has been built on the foundation of natural attractiveness, not as a single factor determining the competitiveness of destinations.

The high competitiveness assessment also needs to be read together with the visit status data in Table 1, where the majority of respondents are tourists who have visited Labuan Bajo for the first time (65.8%). This high proportion of first visits indicates that a positive assessment of a destination's competitiveness is most likely formed from a first impression of the natural beauty and uniqueness of the attraction, a pattern that is conceptually consistent with the destination marketing literature that places the first visit experience as a strong determinant of the destination's image (Shiratina et al., 2022). This characteristic differentiates the study's findings from studies on destinations with higher repeat visits rates, where competitiveness is shaped more by consistency in service quality than by first impressions alone.

On the other hand, the existence of 9.2% of respondents who assess the competitiveness of destinations in the low category remains an important note for destination managers. This distribution pattern is consistent with the constraints of internet connectivity and the lack of

multilingual information that has been identified in the implementation of Smart Tourism, indicating a link between groups of respondents who rated the two variables low. These findings reinforce the argument that the competitiveness of destinations is not solely determined by the richness of natural resources, but also influenced by the quality of the digital experience of tourists throughout the visit cycle from the planning stage, while in the destination, to post-visit as emphasized in the framework of smart tourism ecosystem (Gretzel et al., 2015).

Overall, the compatibility of the distribution pattern between the High assessment of Smart Tourism and the high assessment of destination competitiveness provides an initial indication that the two variables are interrelated, as will be further tested statistically in the bivariate analysis. Theoretically, these findings provide additional empirical support for the smart tourism ecosystem concept that emphasizes the importance of inclusive collaboration between citizens, managers, and tourists in strengthening the image and sustainability of destinations (Chung et al., 2021). The theoretical contribution of this study lies in the extension of the context of testing the concept to destinations characterized by super priority Islands a typology of destinations that is structurally different from urban destinations that are more widely studied in the previous smart tourism Indonesia literature (Cahyani & Djunaedi, 2026; Firtanto, 2024; Damayanti et al., 2020) thus enriching the understanding of how geographical factors contribute to moderating the relationship between smart tourism and destination competitiveness.

However, the existence of 9.2% of respondents who assess the competitiveness of destinations in the low category still needs to be an important note for destination managers. As the researchers assumed, this low category most likely came from respondents who experienced technical obstacles during the visit, such as limited internet networks or lack of multilingual information, so this assessment gap indicates that the competitiveness of destinations is not solely determined by natural beauty, but also strongly influenced by the quality of the digital experience felt by tourists from the planning stage to post-visit.

The linkage between the High assessment of the implementation of Smart Tourism and the high assessment of the competitiveness of destinations in the univariate results is conceptually in line with the view that smart tourism which applies the principle of inclusive collaboration between citizens, managers, and tourists plays an important role in strengthening the image and sustainability of tourist destinations. The pattern of distribution suitability between these two variables also reinforces the researchers' assumption that the implementation of Smart Tourism has the potential to be an important predictor of the competitiveness of tourist destinations, as will be further evidenced statistically in the discussion of the results of bivariate analysis (Chung et al., 2021).

In general, the results of the univariate analysis in this study illustrate that Labuan Bajo has been on the right track in integrating digital technology into the management of its tourist destinations, although there are still aspects that need to be improved, especially the equitable distribution of digital infrastructure in more remote areas. As the assumption of researchers, the characteristics of respondents who are dominated by productive age groups and upper middle Education also explain why the assessment of both variables tend to be objective and proportional, so that the findings at this univariate stage become an important basis for understanding the pattern of the relationship between the implementation of Smart Tourism and the competitiveness of Labuan Bajo tourist destinations which will be further proven statistically in the next discussion.



2. Implementation of Smart Tourism as a Tourism Industry Innovation to Improve the Competitiveness of Tourist Destinations

Pearson correlation test results showed a correlation coefficient of $r = 0.612$ with a significance value of $p = 0.000$ ($p < 0.01$), which means there is a positive and significant relationship between the implementation of Smart Tourism with the competitiveness of tourist destinations in Labuan Bajo. The strength of the relationship is in the strong category, which means that the better the implementation of Smart Tourism perceived by tourists, the higher their perception of the competitiveness of the destination.

These findings are in line with the view that the digital transformation of tourism plays an important role in shaping the competitive advantage of destinations in the midst of global market competition, as the ability of destination managers to adopt digital technology directly affects the capacity of destinations to compete and adapt to changing tourist demand that increasingly relies on data-based services and digital connectivity (Ku, 2024).

The strength of the strong relationship in this study is also in line with the results of research on the effect of digital tourism on tourist interest, which shows that the provision of cutting-edge technology facilities in a destination plays an important role in attracting interest while increasing the number of visitors, so that the consistent application of digital technology is proven to contribute positively to the attractiveness and competitive advantage of tourist destinations (Stevenson & Ardiansyah, 2024).

The results of a simple linear regression test showed the value of the constant (a) of 18.742 with significance $p = 0.000$. This constant value indicates that without the implementation of Smart Tourism at all, the competitiveness of Labuan Bajo tourist destinations is predicted to remain at a base score of 18.742. This fairly high constant value indicates that the competitiveness of Labuan Bajo tourist destinations does not entirely depend on digital technology factors alone, but is also influenced by other basic factors such as the uniqueness of the natural attractions of Komodo National Park which has become a major attraction since before the era of digitalization of Tourism developed rapidly.

The value of regression coefficient (b) of 0.589 with t count = 8.386 and significance $p = 0.000$ indicates that the implementation of Smart Tourism has a positive and significant effect on the competitiveness of tourist destinations. That is, every increase in one unit of Smart Tourism implementation score will increase the competitiveness score of tourist destinations by 0.589 units, so that the regression equation formed is $\hat{Y} = 18.742 + 0.589 X$.

The amount of regression coefficient in this study is relatively higher than the research on the effect of tourism product innovation on tourist satisfaction which results in the regression equation $Y' = 28.422 + 0.529 X$ with a coefficient of determination of 26.6%. This difference in coefficient indicates that in the context of national priority destinations such as Labuan Bajo, the implementation of digital technology provides relatively greater leverage on the competitiveness of destinations than just conventional tourism product innovation, possibly because tourists in international destinations have higher technological expectations (Kurniawan, 2025, in a study of the effect of tourism product innovation on tourist satisfaction).

The coefficient of determination (R^2) value of 0.374 indicates that the implementation of Smart Tourism contributes 37.4% to increasing the competitiveness of Labuan Bajo tourist destinations, while the remaining 62.6% is influenced by other factors outside the variables of this study. This contribution of 37.4% is quite large for Social Research Involving Human Behavior and

perception, considering that the competitiveness of destinations is a multidimensional construct that is usually also influenced by non-technological factors.

Some of the 62.6% variation not explained by Smart Tourism implementation is most likely due to electronic word of mouth marketing communication, which has been shown to have a significant effect on tourist interest in visiting a destination regardless of the quality of the digital infrastructure available at the location, because reviews and recommendations from other tourists also form an initial perception of the competitiveness of the destination before the tourist actually visits (Aprilia & Kusumawati, 2021).

The ANOVA test results showed a calculated F value of 70.318 with significance $p = 0.000$ ($p < 0.05$), which proves that the regression model built between the implementation of Smart Tourism to the overall competitiveness of tourist destinations is statistically significant. The calculated F value that far exceeds the significance threshold confirms that the regression model used in this study is feasible (fit) to predict the relationship between the two variables and is not a mere coincidence.

The significance of the regression model in this study also strengthens the conceptual framework regarding the transformation of digital services in tourism, which shows that the integration of technology-based applications into Tourism Services is systematically able to improve the quality of tourist experiences while strengthening the competitive position of destinations amid increasingly fierce interdestination competition (Subawa & Nadya Leonita, 2024).

As the assumption of researchers, the strong relationship between the implementation of Smart Tourism and the competitiveness of Labuan Bajo tourist destinations can not be separated from the characteristics of the Labuan Bajo tourist market dominated by tourists of productive age and higher education as discussed in the univariate analysis, so that these tourist groups tend to be more sensitive in assessing and comparing the quality of digital services of a destination with other international destinations they have visited. This condition makes the implementation of Smart Tourism as one of the main differentiating variables that shape their perception of Labuan Bajo's competitive advantage compared to similar destinations.

As a follow-up assumption, the 37.4% contribution of Smart Tourism implementation to the competitiveness of destinations can also be interpreted to mean that increased investment in aspects of Tourism digitalization, such as the expansion of the internet network at remote tourist points and the provision of multilingual information systems, has the potential to have a significant and measurable impact on improving Labuan Bajo's overall competitiveness, without having to wait for major changes in non-technological factors that are relatively more difficult for destination managers to control in the short term.

Overall, the results of bivariate analysis in this study prove that the implementation of Smart Tourism has a positive and significant relationship and influence on the competitiveness of Labuan Bajo tourist destinations, both in terms of correlation strength, the magnitude of the regression coefficient, and the significance of the overall model. These findings reinforce the urgency for local governments and destination managers to continue to develop and level the implementation of digital technology throughout the Labuan Bajo tourist area, given its proven significant contribution to strengthening the competitiveness of destinations in national and international tourism competition.



CONCLUSIONS

This study found that the implementation of Smart Tourism in Labuan Bajo is positively and significantly associated with destination competitiveness, directly answering the core research question: the Smart Tourism dimensions applied in Labuan Bajo show a meaningful relationship with the competitiveness perceived by respondents. However, given the cross-sectional, perception-based survey design, this finding should be interpreted strictly as a statistical association rather than a cause-and-effect relationship. Improvements in Smart Tourism cannot be concluded to directly cause higher competitiveness, since a portion of the variation in competitiveness is explained by factors outside the model, such as service quality, accessibility, price, and attraction quality. The study is further limited by its single point-in-time data collection and reliance on respondents' subjective perceptions, meaning the results do not capture change over time and should be understood within the context of the specific variables, respondents, and location studied.

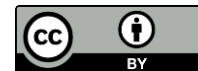
To illustrate how recommendations should map onto these findings: if the weakest indicator concerns access to tourism information, the priority is developing an integrated information system; if it concerns digital connectivity, the priority is expanding internet coverage at tourist sites with limited access; and if it concerns local businesses' technological capacity, the priority is digital literacy training focused on their operational needs. By targeting these specific indicators rather than offering broad recommendations, Smart Tourism development in Labuan Bajo as a Super Priority Destination can be more targeted, efficient, and directly responsive to the empirical weaknesses identified in the data.

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