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Integrating Digital Technology and Social Capital in Tourism Marketing Strategies

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Abstract
Purpose – This study examines how digital technology integration and social capital influence tourism income in a community-based tourism context. While digital marketing has become an essential strategy in modern tourism development, its effectiveness often depends on the strength of social relationships and community participation. This research aims to analyze the combined role of digital technology, social capital, and communication collaboration in improving tourism income in Ketapanrame Tourism Village, Mojokerto Regency, Indonesia.
Design/method/approach – This study employs a quantitative explanatory approach using a cross-sectional survey. Data were collected from tourism stakeholders in Ketapanrame Village through a structured questionnaire using a five-point Likert scale. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS to evaluate the relationships among digital technology, social capital, communication collaboration, and tourism income.
Findings – The findings reveal that social capital has the strongest positive and significant effect on tourism income, indicating that trust, community participation, and strong social networks play a crucial role in generating economic benefits from tourism activities. Digital technology significantly strengthens social capital but shows a weak and negative direct effect on tourism income, suggesting that the current use of digital technology has not yet been fully optimized to produce direct economic returns. Communication collaboration significantly supports stakeholder interaction; however, its relationship with tourism income appears negative, indicating that existing coordination mechanisms may still be inefficient or overly bureaucratic.
Implications – The results highlight the importance of strengthening community social networks alongside digital transformation initiatives in tourism villages. Policymakers and tourism managers should focus on improving digital literacy, fostering participatory governance, and developing integrated community-based digital marketing strategies to maximize tourism income and ensure sustainable tourism development.
Novelty/Originality – This study proposes an integrated techno-social tourism framework by combining the Technology Acceptance Model (TAM) and Social Capital Theory to explain tourism income generation in a rural tourism village context, an area that remains relatively underexplored in empirical tourism research.
Keywords: digital technology, social capital, community-based tourism, tourism income, digital tourism marketing.
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1. Introduction

The rapid advancement of digital technology has fundamentally transformed the tourism industry, particularly in the domain of marketing practices (Buhalis et al., 2024; Pencarelli, 2020). Conventional tourism marketing has increasingly shifted toward digital-based strategies, enabling tourism stakeholders to leverage the internet, social media, and mobile technologies to expand promotional reach, enhance destination visibility, and engage potential visitors more effectively (Veseli et al., 2025). Alongside this transformation, a new paradigm in tourism development has emerged, emphasizing sustainability, community participation, and local empowerment. In this context, community-based tourism—particularly tourism village development—has gained recognition as a strategic approach to fostering inclusive economic growth while preserving local culture and the natural environment (Aquino, 2025; Dangi & Jamal, 2016; Jackson, 2025; Jamal et al., 2019; Prasad, 2024). This paradigm has received increasing attention in developing countries, including Indonesia, where community-based tourism is viewed as a key driver of local economic development and post-pandemic recovery (Pramono & Juliana, 2025; Setiawan et al., 2025). Following the COVID-19 pandemic, the tourism sector has been prioritized as part of Indonesia's economic revitalization strategy. According to data from Statistics Indonesia (BPS), domestic tourist trips reached approximately 741 million in 2023, representing a 15.2% increase compared to the previous year (BPS-Statistics Indonesia, 2023). Despite this growth, tourism benefits have not been evenly distributed, as only a limited number of tourism villages have successfully capitalized on these opportunities through effective, participatory, and digitally driven marketing strategies.

Ketapanrame Village, located in the Trawas District of Mojokerto Regency, East Java, represents a compelling example of this challenge. The village is endowed with significant natural and cultural tourism assets, including Dlundung Waterfall, agro-tourism areas, and hiking routes to Mount Penanggungan. According to the Mojokerto Regency Office of Culture and Tourism (2024), Ketapanrame Village received more than 38,000 visitors annually; however, tourism contributed only approximately 7.8% to the village's locally generated revenue. This disparity highlights a critical gap between tourism potential and actual economic outcomes, suggesting structural limitations in the village's tourism marketing approach. One of the primary constraints is the lack of comprehensive integration of digital technology into local tourism marketing strategies. This issue is particularly salient given Indonesia's high level of digital penetration. Internet usage has reached approximately 77% of the population, with over 191 million active social media users (Murtiningrum & Pujiastuti, 2025). Nevertheless, many tourism actors in rural areas have yet to optimally utilize digital channels such as social media marketing, search engine optimization (SEO), Google Business Profiles, and online booking platforms. These conditions underscore the urgency of implementing inclusive, well-planned, and community-oriented digitalization strategies in tourism villages. However, digital technology alone is insufficient if it is not supported by strong social capital within local communities.

Social capital—defined as networks of trust, shared norms, and social cohesion—plays a critical role in facilitating collaboration among tourism stakeholders, local governments, and community members. In tourism village contexts, social capital supports technology

adoption, sustains promotional initiatives, and mitigates internal conflicts that often hinder development processes. Previous studies have demonstrated that community-based social media utilization can significantly enhance destination visibility (Rastegar & Zarezadeh, 2020; Widiantoro, 2023), while other research emphasizes the importance of social capital in fostering sustainable tourism ecosystems (Nunkoo, 2017). However, existing studies tend to examine digital technology and social capital as separate determinants (Asmoro & Cahyadi, 2022), leaving a gap in understanding their integrated effects on tourism village performance. In the Indonesian context, empirical research that quantitatively investigates the synergistic relationship between digital technology integration and social capital in shaping the economic performance of tourism villages remains limited. This gap suggests the need for a more holistic analytical framework to explain tourism village development in the digital era (Yulianti & Yani, 2025). Responding to this gap, the present study integrates the Technology Acceptance Model (TAM) to examine digital technology adoption with Social Capital Theory to capture dimensions of trust, participation, and social cohesion within tourism communities. This integrative approach aims to address a central research question: to what extent can digital technology integration, supported by strong social capital, enhance tourism-related income at the village level?

Ketapanrame Village serves as an ideal case study due to its established tourism potential, stable visitor numbers, and ongoing structural challenges, including limited digital competencies and the absence of a fully coordinated collaborative system among local tourism actors. The active involvement of village-owned enterprises (BUMDes), youth organizations (Karang Taruna), and micro, small, and medium enterprises (MSMEs) further strengthens the relevance of this setting for empirical investigation. Theoretically, this study contributes to the literature on community-based tourism marketing in developing countries by offering a quantitative, integrative model that combines digital and social dimensions. Practically, the findings are expected to provide a community-based digital marketing roadmap that can guide local governments, tourism practitioners, and development agencies in enhancing village tourism income in a sustainable manner. Accordingly, the primary objective of this study is to empirically examine the relationship between digital technology integration, social capital, and tourism income enhancement in Ketapanrame Village. The results are anticipated to generate both theoretical insights and actionable policy recommendations to improve rural tourism competitiveness and community welfare.

2. Literature Review

2.1. Digital Marketing in Tourism

Digital marketing has become a critical driver of competitiveness in the tourism industry by enhancing destination visibility, customer engagement, and market reach through data-driven advertising and communication strategies. The use of search engines, content marketing, social media platforms, and email marketing has proven effective in attracting new tourists and expanding tourism business networks (Kaur, 2017; Kumar, 2021). Digital tools such as interactive websites, promotional videos, and informative blogs function as reliable instruments for shaping destination image and influencing travel decision-making processes. Recent studies emphasize that digital transformation in tourism must be aligned with

innovation and sustainability objectives. Socratous et al (2025) highlight that technology-driven marketing strategies contribute not only to promotional effectiveness but also to long-term destination resilience. Similarly, Lesmana et al (2024) demonstrate that the integration of digital marketing with financial technologies significantly enhances revenue performance among micro, small, and medium enterprises (MSMEs), including those operating in the tourism sector. These findings indicate that digital marketing is no longer a complementary activity but a strategic necessity for tourism destinations, particularly in rural and community-based contexts.

2.2. Social Capital and Technology Adoption

Social capital refers to the networks, trust, and shared norms that facilitate cooperation and collective action within communities (Basuki et al., 2024). In tourism development, social capital plays a pivotal role in shaping how stakeholders collaborate, exchange information, and adopt innovations. Lee (2011) found that strong social networks and associative activities significantly influence technology adoption within destination marketing organizations. In particular, strong social ties enhance social support and accelerate the diffusion of technological innovations. The interaction between digital technology and social capital creates a synergistic effect that strengthens community-based tourism marketing. Digital platforms enable community members to actively participate in destination promotion and management, while social capital ensures trust, coordination, and continuity among stakeholders. This synergy is particularly relevant for tourism villages, where collective action and informal governance structures dominate. In such contexts, social capital not only facilitates technology adoption but also sustains digital marketing initiatives over time.

2.3. Community-Based Tourism (CBT)

Community-Based Tourism (CBT) is a development approach that emphasizes the active involvement of local communities in tourism planning, management, and benefit-sharing. Rooted in principles of empowerment, participation, and conservation, CBT seeks to ensure that tourism development contributes to local socio-economic well-being while preserving cultural and environmental resources. Early work by Murphy (1988) and later by Goodwin & Santilli (2009) underscores that CBT strengthens community control over tourism resources and enhances social and economic sustainability. CBT is particularly relevant in rural village settings, such as tourism villages, where social structures support informal collaboration and collective decision-making. In these contexts, natural and cultural resources are directly managed by community members, and the success of tourism initiatives depends heavily on the level of social capital and the community's capacity to adopt and utilize digital technologies. Consequently, CBT provides a conceptual foundation for understanding how digital marketing and social capital intersect in village-based tourism development.

2.4. Digital Tourism Marketing Strategies

Digital tourism marketing refers to the promotion of tourism products and destinations through internet-based channels, including social media platforms (e.g., Instagram, TikTok, Facebook), destination websites and blogs, online booking platforms, and location-based

digital tools such as Google Business Profiles and local search engine optimization (SEO). Kotler et al (2017) argue that digital marketing enables higher levels of differentiation and interactive engagement with consumers compared to traditional marketing approaches. In the context of tourism villages, visual content, digital testimonials, and community-based storytelling have been identified as particularly effective branding tools (Hays et al., 2013). Accordingly, the digital technology dimension in this study encompasses access to and adoption of digital tools, the ability to create and disseminate digital content, and the use of digital media in promotional activities. Digital transformation in tourism extends beyond promotion to include service management, reservation systems, customer communication, and digital monitoring and feedback mechanisms. Gretzel et al (2006) emphasize that digitally enabled tourism destinations leverage technology not only for marketing but also for experience innovation and data-driven decision-making. Such digitalization allows tourism villages to expand market reach and reduce promotional costs without substantial physical infrastructure investments.

2.5. Social Capital and Community Empowerment

Social capital has been conceptualized as a resource embedded within social relationships (Bourdieu, 1986). Putnam (2000) further elaborates this concept through three core dimensions: trust, norms of reciprocity, and social networks. In tourism village development, social capital influences coordination effectiveness among tourism actors, encourages voluntary community participation in promotion and service provision, and facilitates informal communication systems that accelerate the dissemination of tourism-related information. Pretty & Ward (2001) argue that without sufficient social capital, tourism village development strategies are unlikely to be sustainable, as initiatives become dependent on individuals and lack social legitimacy. From a technology perspective, the Technology Acceptance Model (TAM), introduced by Davis (1989), explains technology adoption through two key determinants: perceived usefulness and perceived ease of use. In tourism villages, perceived usefulness reflects stakeholders' beliefs that digital tools—such as social media, websites, and online platforms—can increase tourist visits and income, while perceived ease of use relates to perceptions of how easily these technologies can be learned and applied.

Extending TAM, Venkatesh et al (2023) highlight the role of social influence and facilitating conditions in shaping technology adoption, reinforcing the importance of social capital. Putnam (2000) further distinguishes between bonding social capital, which strengthens ties within homogeneous groups (e.g., local MSMEs), and bridging social capital, which connects heterogeneous groups (e.g., local communities and external tourism stakeholders). These forms of social capital explain why local development outcomes, including tourism performance, depend not only on physical and economic resources but also on the strength of social relationships. In this study, social capital is conceptualized as a key enabler of sustainable digital marketing strategies and is expected to function as a mediating or moderating factor in the relationship between digital technology utilization and tourism marketing success.

3. Methods

This study employs a quantitative, explanatory research design using a cross-sectional survey approach to examine the relationships among digital technology, social capital, communication collaboration, and tourism income within the context of a tourism village. The research is grounded in the Technology Acceptance Model and Social Capital Theory and is designed to explain how the integration of technological and social dimensions contributes to economic outcomes in community-based tourism. Ketapanrame Tourism Village in Mojokerto Regency, East Java, Indonesia, was selected as the study site due to its established tourism potential and ongoing efforts toward digital transformation, making it a suitable empirical setting for this investigation.

The study population consists of key tourism stakeholders in Ketapanrame Village, including village-owned enterprise (BUMDes) managers, tourism attraction administrators, micro, small, and medium enterprise operators, homestay owners, youth organization members, and community residents actively involved in tourism activities. A purposive sampling technique was applied to ensure that respondents possessed relevant experience in tourism operations and digital promotion. Data were collected through a structured questionnaire administered both online and in person, using a five-point Likert scale ranging from strongly disagree to strongly agree. The questionnaire items were adapted from established empirical studies and reviewed by academic experts and local practitioners to ensure content validity and contextual appropriateness.

All variables were operationalized as reflective latent constructs. Digital Technology (X1) was measured through indicators related to access to digital infrastructure, adoption of digital platforms, digital content management capability, and the use of digital media for tourism promotion. Social Capital (X2) was assessed based on levels of trust, shared norms, social networks, and community participation in tourism-related activities. Communication Collaboration (Z) captured the extent of information sharing, coordination intensity, joint decision-making, and collaborative communication among tourism stakeholders. Tourism Income (Y) was measured using perceived indicators of income growth, improvements in tourism-related business performance, and the contribution of tourism activities to household and village-level income.

The collected data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software, which is appropriate for predictive and theory-building research involving complex models and mediating variables. The analysis followed a two-stage procedure, beginning with an evaluation of the measurement model to assess indicator reliability, internal consistency, convergent validity, and discriminant validity. This was followed by an assessment of the structural model, including the estimation of path coefficients, coefficients of determination (R^2), effect sizes (f^2), predictive relevance (Q^2), and the mediating role of communication collaboration using a bootstrapping procedure with 5,000 resamples. Ethical considerations were addressed by ensuring voluntary participation, informed consent, and confidentiality of all respondent data. This methodological approach enables a rigorous examination of how digital technology and social capital jointly influence tourism income through communication collaboration in a community-based tourism setting.

4. Result and Discussion

4.1 Assessment of the Measurement (Inner) Model

The internal consistency reliability of the measurement model was assessed using Cronbach's Alpha and Composite Reliability (CR), as presented in Table 1. The results indicate that all constructs exceed the recommended threshold of 0.70 for both reliability measures, confirming satisfactory internal consistency (Hair et al., 2021). Specifically, Digital Technology demonstrates the highest level of reliability ($\alpha = 0.861$; CR = 0.877), indicating that its indicators are highly stable and consistently measure the underlying construct. Social Capital, Communication Collaboration, and Tourism Income also exhibit strong reliability, suggesting that the respective measurement items adequately capture each latent concept.

Table 1. Internal Reliability Test (Cronbach's Alpha and Composite Reliability)

Construct	Cronbach's Alpha	Composite Reliability (CR)	Interpretation
Communication Collaboration	0.776	0.797	Reliable
Social Capital	0.821	0.839	Reliable
Tourism Revenue	0.797	0.799	Reliable
Digital Technology	0.861	0.877	Highly Reliable

Convergent validity was evaluated using the Average Variance Extracted (AVE) criterion, as shown in Table 2. All constructs report AVE values greater than 0.50, indicating that each latent variable explains more than 50% of the variance of its indicators. Among the constructs, Tourism Income shows the highest AVE value (0.831), reflecting very strong convergent validity and confirming that its indicators are highly representative of the underlying economic outcome construct. Overall, the results demonstrate that the measurement model satisfies the requirements for convergent validity, with no indications of measurement deficiencies.

Table 2. Average Variance Extracted (AVE)

Construct	AVE	Criterion (> 0.50)	Interpretation
Communication Collaboration	0.816	✓	Valid
Social Capital	0.649	✓	Valid
Tourism Revenue	0.831	✓	Valid
Digital Technology	0.645	✓	Valid

From a structural equation modeling (SEM) perspective, these findings confirm that the measurement model is reliable and valid, thereby justifying progression to the evaluation of

the structural model. The validated constructs—Digital Technology, Social Capital, Communication Collaboration, and Tourism Income—can therefore be used to test the hypothesized causal relationships, in which digital technology is expected to influence social capital and communication collaboration, while social capital and communication collaboration are hypothesized to affect tourism income. Given the exploratory–predictive nature of the study and the characteristics of the data, the model is appropriately analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM).

In substantive terms, the measurement results suggest that Digital Technology (α = 0.861; AVE = 0.645) reflects a high level of digital readiness and active engagement with online platforms, supporting its role as a facilitator of efficiency and coordination among tourism stakeholders. Social Capital (α = 0.821; AVE = 0.649) captures trust, shared norms, and social networks that underpin collaborative behavior, reinforcing the importance of community bonding in supporting innovation adoption. Communication Collaboration (α = 0.776; AVE = 0.816) records the highest AVE among all constructs, indicating that collaborative communication plays a particularly strong role in integrating digital and social dimensions within the tourism ecosystem. Meanwhile, Tourism Income (α = 0.797; AVE = 0.831) exhibits the strongest convergent validity among outcome variables, emphasizing that the integration of digital capabilities, social capital, and collaborative communication is closely associated with tangible economic benefits.

Table 3. Discriminant Validity – Cross Loadings

Indicator	Communication Collaboration	Social Capital	Tourism Revenue	Digital Technology
X1.1	0.165	0.366	0.24	**0.832**
X1.2	0.235	0.375	0.257	**0.794**
X1.3	0.379	0.402	0.259	**0.895**
X1.4	0.292	0.293	0.182	**0.772**
X1.7	0.318	0.382	0.185	**0.712**
X2.1	0.248	**0.811**	0.906	0.212
X2.2	0.259	**0.871**	0.917	0.304
X2.3	0.411	**0.774**	0.541	0.555
X2.5	0.564	**0.76**	0.511	0.482
Y1.1	0.248	0.811	**0.906**	0.212
Y1.2	0.259	0.871	**0.917**	0.304
Z1.3	**0.883**	0.358	0.216	0.269
Z1.5	**0.923**	0.425	0.282	0.342

Discriminant validity was examined using cross-loadings analysis, which shows that each indicator loads highest on its intended construct compared to all other constructs. Indicators for Digital Technology (X1.1–X1.7) display loadings ranging from 0.712 to 0.895, substantially higher than their cross-loadings on other constructs. Similarly, indicators of Social Capital (X2.1–X2.5) exhibit dominant loadings between 0.760 and 0.871 on their respective construct, clearly distinguishing them from digital and communication dimensions. Indicators of Tourism Income (Y1.1–Y1.2) and Communication Collaboration (Z1.3–Z1.5) also demonstrate very high construct-specific loadings, confirming that each indicator uniquely represents its latent variable without conceptual overlap.

Table 4. Discriminant Validity – Fornell–Larcker Criterion

Construct	Communication Collaboration	Social Capital	Tourism Revenue	Digital Technology
Communication Collaboration	**0.903**			
Social Capital	0.437	**0.805**		
Tourism Revenue	0.279	0.924	**0.912**	
Digital Technology	0.342	0.454	0.284	**0.803**

Further assessment using the Fornell–Larcker criterion supports these findings. The square roots of AVE for all constructs exceed their correlations with other constructs, indicating adequate discriminant validity. Although the correlation between Social Capital and Tourism Income is notably high, this relationship is theoretically plausible in the context of community-based tourism, where trust, participation, and social networks directly translate into economic outcomes. Nonetheless, to ensure methodological rigor, future studies are encouraged to complement this assessment with the HTMT (Heterotrait–Monotrait Ratio) criterion.

Table 5. Variance Inflation Factor (VIF) and Interpretation

Indicator Code	VIF Value Range	Interpretation
X1.1 – X1.7	1.723 – 3.406	All values are below the threshold of 5, indicating no multicollinearity issues. Indicator X1.3 shows the highest VIF (3.406), but it remains within acceptable limits.
X2.1 – X2.5	1.840 – 2.186	The VIF values are low and stable, suggesting the absence of multicollinearity.
Y1.1 – Y1.2	1.782	The VIF value is low, indicating a very good level of collinearity.

Indicator Code	VIF Value Range	Interpretation
Z1.3 – Z1.5	1.671	This is the lowest VIF value in the model, indicating that the indicators are highly independent.

Finally, potential multicollinearity was evaluated using the Variance Inflation Factor (VIF). As shown in Table 5, all indicator-level VIF values fall well below the conservative threshold of 5, indicating no multicollinearity concerns. This result confirms that each indicator contributes unique information to its respective construct without excessive redundancy. Overall, the inner (measurement) model demonstrates robust reliability, convergent validity, discriminant validity, and collinearity diagnostics, providing a solid foundation for subsequent structural model analysis.

4.2Model Analysis

The proposed model comprises four principal latent constructs measured by multiple observed indicators. Digital Technology (X1) is operationalized through seven indicators (X1.1–X1.7), Social Capital (X2) is measured by five indicators (X2.1–X2.5), Communication Collaboration (Z1) is represented by two indicators (Z1.3 and Z1.5), and Tourism Income (Y1) is measured using two indicators (Y1.1 and Y1.2). The directional arrows between constructs illustrate the hypothesized structural relationships, with the associated path coefficients indicating the strength and direction of each effect. The values displayed within the blue circles represent the coefficients of determination (R^2), reflecting the proportion of variance in each endogenous construct explained by its predictors in the model.

The structural results indicate a positive and significant relationship between Digital Technology and Social Capital ($\beta = 0.437$), suggesting that increased utilization and understanding of digital technologies contribute to the strengthening of social capital within the tourism community. Digitally connected communities are better positioned to build trust, expand social networks, and foster collaborative interactions in tourism development. Furthermore, Social Capital exhibits a positive and significant effect on Communication Collaboration ($\beta = 0.437$), indicating that higher levels of trust, shared norms, and network density among tourism stakeholders enhance the effectiveness of collaborative communication. In this context, social capital functions as a form of social glue that reinforces coordination and openness in information exchange.

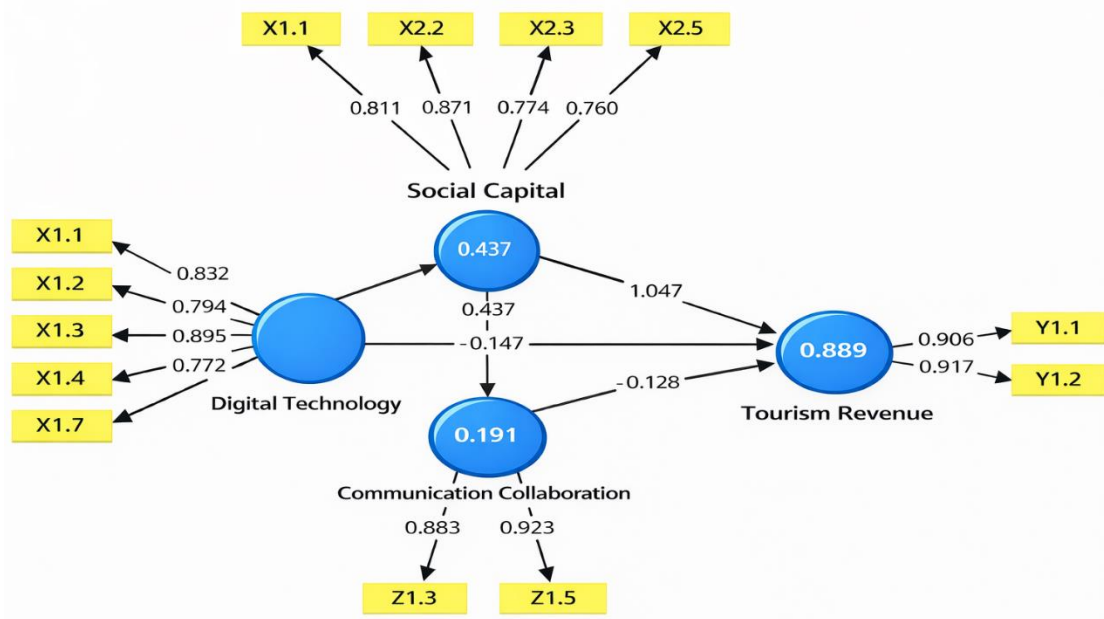

Figure 1. Model of Digital Technology, Social Capital and Communication Collaboration on Tourism Revenue

In contrast, Communication Collaboration demonstrates a negative but significant relationship with Tourism Income (β = −0.128). This finding suggests that collaborative communication practices that are overly bureaucratic, poorly structured, or insufficiently oriented toward tangible outcomes may reduce economic efficiency in the tourism sector. The result underscores the need to reconfigure communication patterns toward more efficient, action-oriented, and results-driven collaboration mechanisms. Regarding the direct economic effects, Digital Technology shows a weak yet significant negative relationship with Tourism Income (β = −0.147), indicating that digital technology adoption has not yet translated into immediate economic benefits. This outcome may reflect limited digital literacy, suboptimal online promotion strategies, or the absence of fully integrated digital systems. Conversely, Social Capital exerts a very strong and positive influence on Tourism Income (β = 1.047), identifying it as the most dominant determinant of income generation in the tourism village. Strong trust, active community participation, and robust social networks facilitate sustainable tourism-related economic activities and enhance local income outcomes.

4.3 Coefficient of Determination (R^2)

The coefficient of determination indicates the explanatory power of the structural model for each endogenous construct. Communication Collaboration yields an R^2 value of 0.191 (adjusted R^2 = 0.181), indicating that Digital Technology and Social Capital jointly explain 19.1% of the variance in collaborative communication. According to the criteria proposed by Hair et al. (2021), this value falls within the low-to-moderate range, which is considered acceptable in social and behavioral research, where outcomes are inherently complex and

influenced by multiple contextual factors. Conceptually, this finding suggests that communication collaboration among tourism stakeholders is not solely determined by digital and social factors, but is also shaped by other elements not included in the model, such as organizational culture, local leadership, governance arrangements, and varying levels of digital literacy.

Table 6. R-square Overview

Variable	R-square	Adjusted R-square
Communication Collaboration	0.191	0.181
Tourism Revenue	0.889	0.885

In contrast, Tourism Income demonstrates a remarkably high explanatory power, with an R^2 value of 0.889 (adjusted R^2 = 0.885). This result indicates that 88.9% of the variance in tourism income is collectively explained by Digital Technology, Social Capital, and Communication Collaboration. In the context of socio-economic research, R^2 values exceeding 0.75 are generally classified as substantial, reflecting a very strong predictive capability of the model. This finding underscores that digital technology does not function as a stand-alone driver of economic performance; rather, its effectiveness is contingent upon strong social capital and well-coordinated community collaboration.

From an integrative perspective, Social Capital emerges as the primary driving force, directly strengthening cooperation and generating immediate economic effects, while Digital Technology enhances outcomes when embedded within robust social networks. Communication Collaboration, although contributory, requires further refinement to ensure that it not only improves coordination but also enhances economic efficiency and productivity. Visually, the dominant positive pathway follows Digital Technology → Social Capital → Tourism Income, whereas the pathway involving Communication Collaboration highlights a critical area for improvement. Overall, these results reinforce the proposition that strengthening social networks alongside digital capabilities is fundamental to achieving successful economic transformation in community-based tourism destinations.

4.4Path Significance and Hypothesis Testing

The significance of the structural paths was assessed using path coefficients and corresponding p-values, as summarized in Table 8. The results indicate that all hypothesized relationships are statistically significant at the 95% confidence level, although their magnitudes and directions vary across constructs. The relationship between Digital Technology and Social Capital is positive and significant ($p = 0.000$), indicating that the adoption and use of digital technologies strengthen social interaction, expand networks of trust, and reinforce shared social norms within the tourism community. This finding suggests that digital connectivity facilitates social embeddedness, enabling community members to interact more frequently and collaboratively in tourism development activities.

Table 7. Path Coefficients Results

Structural Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	t-value	p-value
Communication Collaboration → Tourism Revenue	-0.128	-0.127	0.042	3.068	0.002
Social Capital → Communication Collaboration	0.437	0.43	0.12	3.649	0.000
Social Capital → Tourism Revenue	1.047	1.046	0.054	19.477	0.000
Digital Technology → Tourism Revenue	-0.147	-0.126	0.074	1.989	0.047

A strong and highly significant relationship is observed between Social Capital and Tourism Income ($p = 0.000$). Higher levels of trust, social participation, and network density within the tourism community are associated with greater income generation. This result is consistent with Social Capital Theory, particularly the work of Putnam (1993), which emphasizes that social trust and civic engagement contribute directly to economic efficiency by reducing coordination costs and facilitating collective action. The direct effect of Digital Technology on Tourism Income is statistically significant but relatively weak ($\beta = -0.147$; $p = 0.047$). The negative coefficient suggests that, at the current stage of implementation, digital technology adoption has not yet translated into immediate economic gains. This outcome may reflect limited digital literacy, fragmented online promotion, or the absence of fully integrated digital marketing systems among local tourism actors. Importantly, this finding indicates that digital technology alone is insufficient to drive economic performance without complementary social and organizational capacities.

The results further reveal a positive and significant effect of Social Capital on Communication Collaboration ($\beta = 0.437$; $p = 0.000$), demonstrating that stronger trust, shared norms, and social networks enhance the quality and effectiveness of collaborative communication among tourism stakeholders. In this context, social capital functions as social glue that promotes openness, coordination, and information sharing. This finding aligns with the theoretical perspectives of Putnam (2000), Coleman (1988), and Nahapiet and Ghoshal (1998), all of whom emphasize the role of social networks and trust in facilitating efficient communication and collective problem-solving. By contrast, Communication Collaboration exhibits a significant but negative relationship with Tourism Income ($\beta = -0.128$; $p = 0.002$). This counterintuitive result suggests that communication practices characterized by excessive bureaucracy, overlapping roles, or limited action orientation may reduce economic efficiency in the tourism sector. In such cases, frequent meetings and coordination efforts may consume

time and resources without producing concrete outcomes, leading to lower productivity and reduced income. This finding highlights the need to re-engineer collaborative communication processes toward more strategic, outcome-oriented, and digitally supported forms of coordination.

Taken together, these findings indicate that the effect of Digital Technology on Tourism Income is dual in nature. Digital technology exerts a limited and negative direct effect, while its most substantial contribution occurs indirectly through the strengthening of Social Capital and Communication Collaboration. From a theoretical perspective, the results support the notion of a "techno-social tourism ecosystem," in which technological innovations yield optimal economic benefits only when embedded within strong social networks and effective communication structures at the local level. Overall, the structural model demonstrates very high explanatory power ($R^2 = 0.889$), with all major paths reaching statistical significance at the 95% confidence level. Social Capital emerges as the key mediating force linking digital technology to tourism income, while Communication Collaboration serves as a supportive mechanism that requires strategic refinement to enhance its economic impact. These findings underscore that sustainable income growth in community-based tourism depends not merely on technological adoption, but on the quality of social relations and collaborative governance that shape how technology is used in practice.

5. Conclusion

This study demonstrates that the integration of social capital and digital technology plays a critical role in strengthening tourism marketing strategies and enhancing local economic outcomes in Ketapanrame Village. The findings reveal that social capital—reflected in trust, community participation, and strong social networks—emerges as the most influential factor in increasing tourism revenue, as it reinforces collaborative governance and supports the collective management of tourism resources. Although digital technology has a significant effect on tourism development, its direct contribution to revenue growth remains limited, indicating the need to enhance digital literacy and strengthen community capacity in managing digital-based promotional content. In this context, collaborative communication functions as an important bridging mechanism linking social capital with digital technology adoption; however, its effectiveness is still constrained by coordination challenges among stakeholders. Therefore, strengthening participatory, integrated, and outcome-oriented communication systems is essential to maximize the synergy between social capital and digital innovation. Overall, the study underscores that a strategic integration of social capital, digital technology, and effective collaborative communication constitutes a fundamental framework for sustainable tourism marketing and inclusive local economic development.

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