Transparency and Trust in Minahasa Tourism Advertising using Blockchain

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Abstract

Tourism plays a vital role in driving economic growth, and Minahasa holds strong potential to optimize this sector. However, challenges remain in digital advertising, particularly regarding transparency and consumer trust. This study investigates the impact of blockchain technology on transparency, trust, and the effectiveness of digital advertising in Minahasa's tourism industry. A quantitative explanatory design was employed using Partial Least Squares Structural Equation Modeling (SEM-PLS), with data collected from 150–250 respondents through purposive and snowball sampling techniques.The findings reveal that blockchain significantly influences all key variables. It enhances advertising transparency (T-statistic = 36.738, p = 0.000), strengthens consumer trust (T-statistic = 33.164, p = 0.000), and improves advertising effectiveness (T-statistic = 28.400, p = 0.000). These results highlight blockchain's capacity to provide immutable records, ensure data authenticity, and optimize ad performance through verifiable real-time information. This study confirms that blockchain can serve as a strategic tool to promote transparent, trustworthy, and effective digital advertising in tourism. The findings provide practical insights for tourism stakeholders and contribute to academic discussions on technology-driven marketing innovation.

Keywords— Blockchain, Transparency, Trust, Effectiveness of Digital Advertising, Minahasa Tourism

1. INTRODUCTION

Tourism plays a vital role in human life, particularly in social and economic development [1]. As a sector that contributes significantly to national revenue, the tourism industry holds a strategic position in promoting economic growth and employment [2]. Indonesia possesses vast tourism potential supported by diverse natural attractions and cultural heritage, which continues to expand through increasing investments in tourism-related sectors [3][4]. This growth has positioned tourism as one of the main drivers of the national economy, boosting export income, creating jobs, and fostering entrepreneurship [5]. The Minahasa region, in particular, holds strong potential to optimize its tourism sector and enhance regional income [6]. Data from the Central Statistics Agency (BPS) show that the number of international visitors to Minahasa reached 4,097 in December 2024, reflecting a 4.60% increase compared to the previous year [7]. Similarly, the occupancy rate of star-rated hotels rose to 41.71%, an increase of 2.81 percentage points from the previous month [8]. However, the average length of stay (ALOS) slightly declined to 1.62 days, indicating that further efforts are required to encourage tourists to extend their visits [9]. These data demonstrate that while Minahasa's tourism performance is improving, marketing strategies remain crucial for enhancing visitor retention and regional competitiveness [10].

In the era of digital transformation, tourism marketing increasingly relies on online platforms to reach global audiences [11]. Nevertheless, issues such as misleading advertisements, lack of transparency, and declining consumer trust continue to pose challenges for tourism stakeholders [12][13]. Many digital advertisements fail to reflect actual experiences, causing dissatisfaction among visitors and reducing brand credibility [14]. This situation highlights the importance of adopting more transparent and reliable digital marketing systems that can ensure accountability and consumer confidence [15]. One of the emerging technologies capable of addressing these challenges is blockchain, which offers decentralized, transparent, and immutable data management [16][17]. Blockchain enables permanent recording and verification of advertising transactions, thereby reducing fraudulent activities and enhancing trust between advertisers and consumers [18]. Through the use of smart contracts, payments can be automatically triggered only when verified engagement criteria such as real user views or clicks are achieved, ensuring advertising effectiveness [19]. Moreover, blockchain technology empowers users to manage their personal data securely in compliance with privacy regulations such as the General Data Protection Regulation (GDPR) [20].

Although blockchain has been widely adopted across various industries, its application in the tourism sector particularly within local contexts like Minahasa remains limited [21]. Therefore, this study aims to investigate the impact of blockchain technology on transparency, trust, and the effectiveness of digital advertising in the Minahasa tourism industry. The findings are expected to provide theoretical contributions and practical recommendations for tourism stakeholders to develop more transparent, trustworthy, and efficient digital marketing strategies [22][23].

1.1. Blockchain Technology

Blockchain technology is a digital record-keeping system that enables transactions to be recorded in a decentralized manner, without the need for intermediaries such as banks or other financial institutions[24][25]. It functions as a distributed digital ledger, where each transaction is validated by a network of decentralized computers, ensuring both data security and transparency [26].

One of the key features of blockchain is its ability to address the issue of double spendinga common problem in digital transactions. Through a decentralized validation mechanism, blockchain guarantees that each digital asset can only be used once, thereby enhancing the overall security of electronic transactions [27]. In the context of digital marketing, blockchain facilitates transparent tracking of advertising transactions, reduces the potential for fraud, and helps build greater trust between advertisers and consumers [28].

1.2. Transparency

Transparency refers to the principle of openness in decision-making processes and the management of resources, both in business and government sectors [29]. It fosters trust by ensuring that relevant information is easily accessible and comprehensible to all stakeholders [30].

In the digital marketing industry, transparency plays a crucial role in building customer trust. Consumers are increasingly demanding greater clarity regarding product information, including marketing claims, customer reviews, and company policies related to privacy and data security [31]. Blockchain can contribute to enhancing transparency in marketing by permanently recording ad interactions. This allows consumers to independently verify the authenticity of marketing campaigns they encounter, thereby increasing accountability and trust [32].

1.3. Trust

Trust is a fundamental element in the relationship between businesses and consumers, particularly in digital environments where transactions occur without face-to-face interactions [33]. Trust involves the belief in the integrity and competence of the other party to fulfill their commitments [34]. In digital marketing, trust can be influenced by various factors, including the quality of information provided, corporate transparency, and consumers' previous experiences [35]. Users tend to place greater trust in digital platforms that offer robust security systems and have clear policies regarding the protection of personal data [36]. The implementation of blockchain technology in digital advertising has the potential to enhance consumer trust by providing a secure and tamper-proof system. This reduces concerns related to misleading advertisements or the spread of false information [37].

1.4. Digital Advertising Effectiveness

Digital advertising effectiveness refers to the extent to which a marketing campaign achieves its objectives, such as increasing brand awareness, generating consumer interest, and influencing purchasing decisions [38]. The AIDA model (Attention, Interest, Desire, Action) is commonly used to evaluate advertising effectiveness by assessing how well an advertisement captures attention, builds interest, creates desire, and encourages action [39]. Among these stages, the attention factor is considered the most influential in determining ad performance on social media, followed by interest, desire, and action [40]. The quality of the advertising message plays a critical role in the success of a campaign, while visual appeal and frequency of exposure tend to have a smaller impact on customer conversion rates [41].

Additionally, personalization and accurate audience targeting have become essential in boosting digital advertising performance. By utilizing data analytics, advertisers can tailor ad content based on user preferences and behavioral patterns, thus increasing relevance and engagement levels [42]. Blockchain technology has the potential to enhance the effectiveness of digital advertising by ensuring the authenticity of audience data used for ad targeting. This prevents manipulation by third parties and promotes more accurate and reliable marketing outcomes [43].

1.5. The Tourism Industry in Minahasa

Tourism represents one of the primary sectors in Minahasa's regional economy, with key attractions such as Bunaken National Park drawing visitors from around the world [44]. According to data from Statistics Indonesia (BPS), the occupancy rate of star-rated hotels in Minahasa reached 42.18% in May 2024 an increase compared to the previous month [7]. Although the number of international arrivals through Sam Ratulangi Airport saw a slight decline of 0.70% in the same month, interest in the region's tourist destinations remains strong [7].

Local authorities continue to implement various initiatives aimed at enhancing the region's tourism appeal, including infrastructure development, promotional campaigns, and efforts to improve service quality for tourists [45]. In today's digital era, technology-driven marketing strategies play an increasingly important role in boosting destination competitiveness. Integrating blockchain technology into tourism marketing offers the potential to create a more transparent and trustworthy ecosystem, where information about destinations, pricing, and services can be easily verified by potential travelers [46]. Consequently, the implementation of this technology can help strengthen tourist trust and loyalty, while reinforcing Minahasa's position as one of Indonesia's leading tourism destinations [47].

1.6. Hypothesis

Blockchain technology (X_1) has no significant effect on transparency (Y_1), trust (Y_2), and the effectiveness of digital advertising (Y_3) in Minahasa's tourism industry. Alternative Hypothesis (H_1): Blockchain technology (X_1) has a significant effect on transparency (Y_1), trust (Y_2), and the effectiveness of digital advertising (Y_3) in Minahasa's tourism industry.

2. RESEARCH METHODS

2.1. Research Design

This study employs a quantitative explanatory approach using Partial Least Squares–Structural Equation Modeling (SEM-PLS) to analyze causal relationships among blockchain technology, transparency, trust, and digital advertising effectiveness in Minahasa's tourism industry. The SEM-PLS technique was chosen because it can effectively handle small to medium sample sizes and complex models [48].

Figure 1. Research Method Flowchart

Figure 1 illustrates the overall research procedure, starting from the research design, sampling techniques, data collection methods, and ending with data analysis using the SEM-PLS approach.

2.2. Population, Sample and Instruments

The research population consisted of tourism MSME actors and tourists who have used blockchain-based tourism services in Minahasa. Respondents were selected using purposive and snowball sampling techniques to ensure relevant experience [49]. A sample size of 150–250 respondents was determined using the "10-times rule" to meet statistical power requirements [50]. The blockchain technology variable was measured using items from Kurniawan & Ginting [51]. The transparency variable adopted measurement items from Ludmilla & Abdillah [52]. The trust variable was assessed based on items developed by Pratiwi & Nuryana [53]. The advertising effectiveness variable was measured using items from Hesti & Rimayanti [54].

The questionnaire consisted of two sections: (1) respondent demographics and (2) research variables measured using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Instrument reliability and validity were verified using Cronbach's Alpha and Average Variance Extracted (AVE) to ensure internal consistency and construct validity.

2.3. Data Collection Methods

Data were gathered through online surveys (Google Forms shared via tourism communities and social media) and on-site surveys distributed at major tourism destinations. Collaboration with tourism influencers and the local tourism office helped increase response rates and data accuracy.

2.4. Data Analysis

Data analysis employed SmartPLS software following the procedures recommended by Hair et al [55]. Descriptive Analysis to describe respondent characteristics (age, gender, experience). Measurement Model (Outer Model) assessing reliability (Cronbach's Alpha, Composite Reliability), convergent validity (AVE > 0.5), and discriminant validity (Fornell–

Larcker criteria) [56][57]. Structural Model (Inner Model) testing hypotheses using path coefficients and bootstrapping with a significance level of 5% ($t \geq 1.96$, $p < 0.05$) [58]. Model predictive accuracy was evaluated through R^2 values, categorized as substantial (≥0.75), moderate (0.50–0.75), or weak (<0.50) [59].

3. RESULT AND DISCUSSION

3.1. Respondent Charateristics

Table 1. Respondent Demograpics

Variable	Level	N	%
Gender	Male	115	46.2 %
	Female	134	53.8 %
Age	18-25 years	72	28.9 %
	26-35 years	98	39.4 %
	36-45 years	54	21.7 %
	45 > years	25	10.0 %
Educational Background	High School/Vocational	58	23.3 %
	Undergraduate (Bachelor's)	156	62.7 %
	Postgraduate (Master's/Above)	35	14.0 %
Blockchain Experience	Have Used or Familiar	189	75.9 %
	Never Used	60	24.1 %
Residence	Tondano	70	28.1 %
	Kakas	54	21.7 %
	Langoawan	48	19.3 %
	Tombariri	44	17.7 %
	Other Areas	33	13.2 %

The demographic profile presented in Table 1 summarizes key characteristics of the 249 participants involved in this study. Female respondents slightly outnumbered males (53.8%), and most participants were between 26 and 35 years old, indicating that the sample generally represents a young and tech-savvy demographic. In terms of education, the majority held a bachelor's degree, followed by postgraduate and high-school graduates, suggesting that respondents possess a sufficient understanding of digital and technological concepts relevant to the research topic. Table 1 also shows that most respondents (75.9%) reported prior awareness or experience with blockchain technology, confirming the appropriateness of the sample for this study. Geographically, the majority of participants were residents of the four main areas in Minahasa, Tondano, Kakas, Langowan, and Tombariri representing a balanced distribution of the regional tourism population.

3.2. Measurement Model

Figure 2 presents the results of the measurement model, indicating that all indicators used in this study are statistically valid and meet the recommended factor loading threshold of ≥ 0.70. The constructs of Blockchain Technology, Transparency, Trust, and Effectiveness each demonstrate strong indicator reliability, with loading values ranging from 0.773 to 0.892. Specifically, the indicators for Blockchain Technology load between 0.773 and 0.869, those for Transparency between 0.821 and 0.856, for Trust between 0.820 and 0.867, and for Effectiveness between 0.824 and 0.892. These results confirm that all measurement items adequately represent their corresponding latent variables. As shown in Figure 2, the measurement model is both valid and reliable, providing a robust foundation for the subsequent structural model analysis that examines the relationships among Blockchain Technology, Transparency, Trust, and Effectiveness.

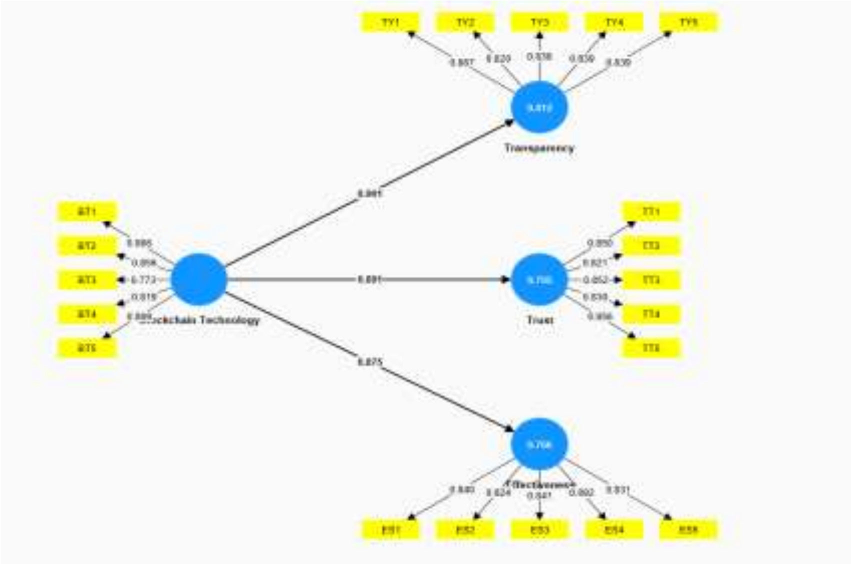

Figure 2. Measurement Model

Table 2 presents the results of the measurement model, confirming that all indicators used in this study meet the statistical criteria for validity, with factor loadings exceeding the recommended threshold of 0.70. The constructs of Blockchain Technology, Transparency, Trust, and Advertising Effectiveness each exhibit strong associations between their indicators and corresponding latent variables. Specifically, the loading values for Blockchain Technology range from 0.773 to 0.869, for Transparency from 0.821 to 0.856, for Trust from 0.820 to 0.867, and for Advertising Effectiveness from 0.824 to 0.892. These consistently high loading values indicate that all indicators accurately reflect their respective constructs. Table 2 therefore demonstrates that the measurement model is both valid and structurally robust, providing a reliable foundation for conducting subsequent structural model analysis.

Table 2. Measurement Model Test Result (Factor Loading)

Variables	Indicators	Factor Loading
Blockchain Technology	BT1	0.866
	BT2	0.856
	BT3	0.773
	BT4	0.819
	BT5	0.869
Effectiveness	ES1	0.840
	ES2	0.824
	ES3	0.841
	ES4	0.892
	ES5	0.831
Transparency	TT1	0.850
	TT2	0.821
	TT3	0.852
	TT4	0.830
	TT5	0.856
Trust	TY1	0.867
	TY2	0.820
	TY3	0.838
	TY4	0.839
	TY5	0.839

Table 3 presents the results of the discriminant validity assessment using the Fornell–

Larcker criterion and cross-loading analysis. Discriminant validity is considered sufficient when the square root of the Average Variance Extracted (AVE) for each construct is greater than its correlations with other constructs. The results confirm that all constructs in this study satisfy this requirement. Specifically, the square roots of the AVE values for Blockchain Technology (0.901), Effectiveness (0.928), Transparency (0.923), and Trust (0.842) are all higher than their inter-construct correlations, demonstrating that each construct is empirically distinct from the others. As shown in Table 3, these findings verify that the constructs accurately represent separate theoretical concepts within the model.

Overall, the results indicate that each construct has a square root of AVE greater than its correlations with other variables, confirming that the Fornell–Larcker criterion is fully met. Therefore, the measurement model achieves adequate discriminant validity and can be considered valid in distinguishing among the latent variables of Blockchain Technology, Transparency, Trust, and Effectiveness.

Table 3. Fornell-Larcker Criterion

		1	2	3	4
1	Blockchain Technology	0.901			
2	Effectiveness	0.891	0.98		
3	Transparency	0.875	0.923	0.923	
4	Trust	0.837	0.846	0.841	0.842

Each indicator satisfies the validity requirements, as it shows stronger correlations with its associated construct than with any other constructs in the model. Furthermore, the cross-loading analysis reveals that the loading of each item is higher on its designated construct than on any others, as presented in Table 4. These results suggest that the indicators consistently capture the constructs they are intended to measure, thereby supporting the overall validity of the measurement model.

Tabel 4. Cross Loading

	Blockchain Technology	Effectiveness	Transparency	Trust
BT1	0.866	0.729	0.743	0.771
BT2	0.856	0.763	0.757	0.750
BT3	0.773	0.674	0.720	0.688
BT4	0.819	0.748	0.768	0.755
BT5	0.869	0.748	0.784	0.764
ES1	0.757	0.840	0.771	0.772
ES2	0.723	0.824	0.804	0.753
ES3	0.738	0.841	0.747	0.771
ES4	0.796	0.892	0.846	0.833
ES5	0.681	0.831	0.755	0.772
TT1	0.741	0.790	0.801	0.850
TT2	0.779	0.791	0.809	0.821
TT3	0.738	0.773	0.758	0.852
TT4	0.749	0.761	0.770	0.830
TT5	0.743	0.767	0.745	0.856
TY1	0.790	0.776	0.867	0.781
TY2	0.745	0.771	0.820	0.762
TY3	0.772	0.773	0.838	0.768
TY4	0.740	0.814	0.839	0.791
TY5	0.740	0.769	0.839	0.778

Discriminant validity was further confirmed through cross-loading analysis. Discriminant validity is considered adequate when each indicator demonstrates a higher loading on its own construct than on any other constructs in the model. The results of this study meet this condition. Indicators measuring Blockchain Technology (BT1–BT5) showed stronger loadings on their intended construct, ranging from 0.773 to 0.869, compared to their loadings on Effectiveness, Transparency, and Trust. Similarly, all indicators for Effectiveness (ES1–ES5) had the highest values on their respective construct, with loadings between 0.824 and 0.892. Transparency indicators (TT1–TT5) exhibited loadings from 0.745 to 0.856, while Trust indicators (TY1–TY5) ranged from 0.820 to 0.867. These findings confirm that each item clearly represents the construct it was designed to measure, validating the measurement model and fulfilling the cross-loading criterion for discriminant validity.

Table 5 presents the results of the reliability and convergent validity assessment for all constructs used in this study. To establish construct reliability and validity, several key indicators were evaluated, including Cronbach's Alpha, rho_A, Composite Reliability (CR), and Average Variance Extracted (AVE). A construct is considered reliable when Cronbach's Alpha and CR values exceed 0.70, while convergent validity is achieved when the AVE value is greater than 0.50. The results in Table 5 demonstrate that all four constructs satisfy these criteria. For instance, Blockchain Technology shows strong reliability and convergent validity with a Cronbach's Alpha of 0.893, CR of 0.921, and AVE of 0.701. Effectiveness also exhibits robust measurement quality, achieving a Cronbach's Alpha of 0.900, CR of 0.926, and AVE of 0.716. Similarly, Transparency presents consistent reliability with a Cronbach's Alpha of 0.896, CR of 0.923, and AVE of 0.707. Finally, Trust demonstrates strong reliability and validity, reflected in a Cronbach's Alpha of 0.897, CR of 0.924, and AVE of 0.709. Taken together, the results in Table 5 confirm that all constructs in this study exhibit satisfactory reliability and convergent validity, ensuring the suitability of these measurement models for further structural analysis.

Table 5. Result of the Reliability Testing

	Cronbach's Alpha	**rho_A**	**Composite Reliability**	**Average Variance Extracted (AVE)**	**Description**
Blockchain Technology	0.893	0.894	0.921	0.701	Reliable
Effectiveness	0.900	0.903	0.926	0.716	Reliable
Transparency	0.896	0.897	0.923	0.707	Reliable
Trust	0.897	0.897	0.924	0.709	Reliable

As presented in Table 5, all indicators exceed the recommended minimum thresholds. The reliability assessment reveals that each construct has a Cronbach's alpha value greater than 0.70, composite reliability above 0.70, and an AVE exceeding 0.50. These results indicate that all variables used in this study demonstrate strong internal consistency and acceptable levels of convergent validity.

Table 6. R-Square

	R-square
Effectiveness	0.766
Transparency	0.812
Trust	0.795

Table 6 presents the R-square (R^2) values for the dependent constructs in this study, providing an indication of the model's explanatory power. The R^2 value reflects how well the independent variables account for the variance in each dependent variable. The results demonstrate that the model has strong predictive capability across all constructs. As shown in Table 6, Effectiveness has an R^2 value of 0.766, indicating that 76.6% of its variance is explained by the independent variables included in the model. Transparency exhibits an even higher R^2 value of 0.812, suggesting that the model accounts for 81.2% of the variation in this construct.

Meanwhile, Trust shows a strong R^2 value of 0.795, meaning that nearly 80% of changes in trust are predicted by the model.

Table 7. F-Square

	Blockchain Technology	Effectiveness	Transparency	Trust
Blockchain Technology		3.277	4.325	3.867
Effectiveness				
Transparency				
Trust				

Table 7 presents the Variance Inflation Factor (VIF) values used to assess potential multicollinearity among the constructs in the model. VIF values below 5 are generally considered acceptable, indicating that multicollinearity is not a concern and that the independent variables do not exhibit excessive correlation. As shown in Table 7, the VIF value for Blockchain Technology is 3.277 when predicting Effectiveness, 4.325 when predicting Transparency, and 3.867 when predicting Trust. Since all these values fall below the recommended threshold of 5, the results confirm that multicollinearity is not present in the model. These findings indicate that the independent variables are sufficiently distinct and do not interfere with one another, thereby supporting the structural soundness of the model.

3.3. Structural Model (Inner Model)

Once the measurement model had been tested for both validity and reliability, and all indicators were confirmed to meet the required standards, I proceeded to the structural model assessment. This phase focuses on evaluating the hypotheses developed in the study. To carry out this analysis, I employed the PLS bootstrapping technique using the SmartPLS software to determine the significance of each path coefficient. The outcomes of the structural model evaluation are presented in Figure 3 and the accompanying table 8.

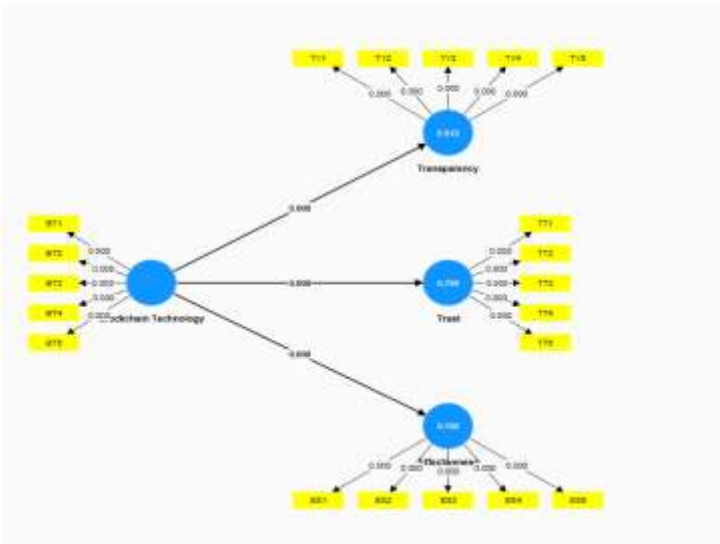

Figure 3. Result of the Structural Models PLS Bootstrapping

Table 8. Result of the Hypothesis Testing Structural Models

	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Significant?
Blockchain Technology -> Effectiveness	0.874	0.031	28.400	0.000	YES
Blockchain Technology -> Transparency	0.900	0.025	36.738	0.000	YES
Blockchain Technology -> Trust	0.890	0.027	33.164	0.000	YES

3.4. Discussion

In examining the structural model, it becomes evident that blockchain technology has begun to shape the dynamics of digital advertising within the Minahasa tourism industry in a meaningful way. One of the most striking outcomes is its strong association with advertising transparency. The immutable and decentralized nature of blockchain ensures that every transaction recorded in the system can be verified and traced. This feature greatly minimizes the likelihood of data manipulation or hidden costs that often occur in digital campaigns. For businesses operating in the tourism sector, such transparency means they can better track how their advertising budgets are spent and evaluate whether the exposure received aligns with the investment made.

Consequently, the credibility of advertising activities improves, encouraging both businesses and audiences to rely on verifiable data rather than unsubstantiated claims. Another essential outcome of this study concerns the role of blockchain in reinforcing consumer trust toward digital advertising. In an environment where online information can easily be manipulated, trust becomes an invaluable asset. Blockchain offers mechanisms that secure data consistency and authenticity through cryptographic validation and decentralized verification. The absence of centralized intermediaries not only enhances the sense of fairness but also prevents misuse of advertising data. Consumers interacting with blockchain-based ads are thus more confident that the information they receive is accurate and not fabricated. Within the context of tourism, this sense of reliability is particularly crucial travelers often make purchasing decisions based on digital reviews, visual content, and promotional messages. When those materials are supported by blockchain verification, trust naturally increases, creating a more positive relationship between advertisers and potential tourists. The study identifies a significant link between blockchain technology and the overall effectiveness of digital advertising. The technology allows for accurate tracking of advertising performance and audience engagement by filtering out fraudulent impressions or automated bot traffic. Smart contracts embedded in blockchain systems ensure that payments and performance metrics are executed only when specific conditions are met, which promotes both efficiency and fairness. This automated validation system enables advertisers to allocate resources more strategically, while ensuring that their campaigns reach genuine audiences. For tourism players in Minahasa, such precision translates into more targeted promotions, cost savings, and improved marketing returns. Beyond operational advantages, blockchain also brings a new level of accountability, where every stakeholder from advertisers to platform operators shares a common, verifiable record of activity.

The implications of these findings extend to both theory and practice. Theoretically, this research highlights the transformative potential of blockchain as a technological foundation that can enhance transparency, foster trust, and improve advertising effectiveness in the tourism industry. It contributes to the growing academic discourse on how decentralized technologies reshape marketing communication and consumer behavior. Practically, the results underline the importance for tourism stakeholders especially local businesses and destination managers to consider blockchain integration in their marketing strategies. Implementing blockchain-based systems could not only strengthen accountability and data accuracy but also provide a competitive edge in promoting Minahasa's tourism destinations in the digital era. Despite these contributions, the study is not without limitations. The analysis focuses solely on Minahasa, which may limit the general applicability of the findings to other regions or sectors. Moreover, the level of blockchain adoption among local tourism actors is still relatively new, suggesting that the results reflect an early-stage implementation phase. Future research could expand this work by comparing multiple regions, exploring longitudinal data, or integrating moderating variables such as technological readiness, digital literacy, or organizational capability. Such extensions would provide a more comprehensive understanding of how blockchain technology can sustainably influence transparency, trust, and effectiveness in broader tourism marketing ecosystems.

4. CONCLUSION

From the findings, it’s clear that blockchain technology has a strong influence on improving transparency, trust, and the overall impact of digital advertising in the Minahasa tourism industry. Its secure and decentralized nature makes the flow of advertising information more reliable, helping consumers feel more confident about what they see online. Blockchain also enhances the efficiency of digital advertising by allowing for real-time validation and reducing the risk of manipulation or misinformation. This makes marketing efforts not only more trustworthy but also more targeted and effective. Adopting blockchain within digital marketing strategies offers a promising approach for tourism businesses, especially in strengthening consumer trust, promoting openness in communication, and boosting the success of advertising campaigns.

Considering the findings of this study, it is suggested that tourism businesses, especially those involved in digital marketing, start exploring the use of blockchain technology to improve advertising outcomes. Its ability to ensure data integrity and transparency can help strengthen consumer trust, which is essential in the tourism sector. Marketers are also encouraged to utilize blockchain-based platforms that support real-time data verification, allowing campaigns to be more accurate and effective. For future studies, it would be valuable to test this model in other regions or industries to see how blockchain influences digital marketing in different contexts.

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