

Analysis of the Impact of Mobile Application Implementation and Social Media on Increasing Tourist Visits in Yogyakarta

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ABSTRACT

This study analyzes the impact of mobile application implementation and social media usage on increasing tourist visits in Yogyakarta using a quantitative approach. A total of 200 participants, selected through random sampling, provided responses on a Likert scale ranging from 1 to 5. Data were collected via structured questionnaires and analyzed using SPSS version 26. The findings reveal a significant positive correlation between the utilization of mobile applications and social media and the increase in tourist visits. The results suggest that enhanced digital engagement through these platforms can effectively boost tourism in Yogyakarta, providing valuable insights for stakeholders in the tourism industry to optimize their digital marketing strategies.

Keywords: *Mobile Applications, Social Media, Tourist Visits, Yogyakarta, Digital Marketing Strategies*

1. INTRODUCTION

Tourism plays a crucial role in economic development, significantly impacting GDP and employment rates globally [1]. Yogyakarta, known for its cultural and historical significance, attracts a large number of domestic and international tourists annually [2]. The city's tourism sector drives economic growth through various sectors like service, trade, and agriculture, benefiting the local community and government [2]. To sustain and enhance tourist engagement, continual adaptation and innovation are essential, with efforts such as increasing waste management budgets, implementing advanced technologies, and promoting eco-friendly tourism practices [2]. Additionally, the preservation and promotion of architectural heritage can further boost cultural tourism, providing significant economic and social benefits to local communities [3].

The tourism sector has witnessed a significant transformation due to the integration of digital technologies, particularly mobile applications and social media platforms. Mobile applications have become essential tools for travelers, offering a wide array of services such as booking accommodations, transportation, and providing real-time information on attractions and events [4]. Simultaneously, social media platforms have emerged as influential channels in shaping travel behavior by leveraging user-generated content, reviews, and recommendations to sway potential tourists' decisions [5]–[8]. The use of social media not only allows tourism enterprises to engage with consumers and promote services effectively but also significantly impacts tourists' decision-making processes when selecting destinations, highlighting the crucial role of these platforms in the modern tourism landscape [8].

The integration of mobile applications and social media in tourism strategies offers significant potential for destinations like Yogyakarta to boost their attractiveness and reach [9]–[11]. Research emphasizes the transformative impact of digital technology, including social media, AI,

and big data, in enhancing tourism promotion and market research [12]. Studies also highlight the role of platforms like TikTok in influencing traveler perceptions and interest in visiting destinations like Yogyakarta [13]. While these insights underscore the importance of digital tools in tourism development, there remains a gap in empirical research quantifying the precise impact of mobile applications and social media on tourist visitations in Yogyakarta, signaling a need for further investigation to measure the effectiveness of these digital strategies in driving tourist footfall to the region.

This study aims to fill this gap by analyzing the influence of mobile application implementation and social media usage on the frequency of tourist visits to Yogyakarta. This research employs a quantitative approach, gathering data from 200 respondents through structured questionnaires.

2. LITERATURE REVIEW

2.1 *Impact of Mobile Applications on Tourism*

Mobile applications are pivotal in the tourism industry, offering convenience, accessibility, and personalized experiences to tourists. Studies [14], [15] highlight that mobile apps enhance tourist satisfaction by providing seamless access to information and services like travel guides, maps, and booking platforms, enabling efficient trip planning. Additionally, research [16] indicates that the use of mobile apps significantly influences tourists' decision-making processes, increasing the likelihood of them visiting a destination. These apps not only save time but also enhance the overall tourist experience by addressing various information needs instantly, as seen in the study [17]. The evolving role of smartphones in tourism signifies the immense potential of mobile applications in transforming and enriching tourists' interactions with destinations.

2.2 *Social Media and Tourism*

Social media plays a pivotal role in shaping tourism trends and behaviors by allowing users to share travel experiences on platforms like Facebook, Instagram, and Twitter, influencing the travel decisions of their followers [5], [6]. User-generated content, such as photos, reviews, and recommendations, serves as a valuable source of information for potential tourists, enhancing destination visibility and attractiveness [18]. The interactive nature of social media platforms facilitates direct communication between tourists and tourism service providers, fostering trust and reliability, ultimately leading to increased tourist visits and improved destination loyalty [8], [19]. This dynamic interaction highlights the significant impact of social media on the tourism industry, emphasizing the need for effective utilization of these platforms to promote destinations and engage with travelers.

2.3 *Integrating Mobile Applications and Social Media in Tourism*

The integration of mobile applications and social media in tourism marketing can indeed create a powerful digital strategy, as highlighted by various studies. Flinta emphasizes the importance of social media marketing (SMM) for tourism enterprises, allowing them to engage with potential travelers and establish direct contact with their target audience [5]. Additionally, Lama discusses how social media influences tourists' travel decisions and the rising trend of tourists sharing their experiences online,

indicating the significant impact of social media on tourism choices [6]. Furthermore, Diachenko and Tonkykh underscore the role of social media in advertising and attracting customers in the tourism industry, emphasizing the importance of monitoring customer feedback and actively engaging with clients through social platforms [20]. Moreover, SatheekSuhail Razeeth et al. present a study on developing an Android application for tourism promotion, highlighting the effectiveness of user-friendly functionalities in marketing destinations and enhancing tourist satisfaction [14]. By combining mobile apps with social media features, such as real-time updates and sharing options, tourism businesses can boost engagement, satisfaction, and the online presence of destinations, ultimately creating a more interactive and appealing experience for tourists, as suggested by Neuhofer, Buhalis, and Ladkin [18].

2.4 Empirical Studies on Digital Tools and Tourist Behavior

Empirical studies have extensively delved into the impact of digital tools on tourist behavior. Research by Sanjoy Kumar Acharjee et al. highlighted the significant influence of social media on travelers' decision-making processes, emphasizing its positive correlation with destination choices and activities [8]. Additionally, findings from Khotimatul Aliyah et al. demonstrated that social media marketing positively affects visiting interest in tourist destinations, showcasing the pivotal role of digital marketing in attracting tourists [21]. Moreover, the study by Rubiea Arroyo et al. emphasized the evolving dynamics of tourism marketing through social media, underscoring its crucial role in shaping tourists' perceptions and decisions regarding travel destinations [19]. These studies collectively underscore the profound impact of digital tools, such as social media and mobile tourism apps, on enhancing tourist satisfaction, influencing travel plans, and ultimately shaping the tourism industry landscape.

In the context of Yogyakarta, there is limited empirical research examining the specific impact of mobile applications and social media on tourist visits. This study aims to address this gap by providing quantitative evidence on how these digital tools influence tourist behavior in Yogyakarta.

3. METHODS

3.1 Research Design

This study adopts a quantitative research design to analyze the impact of mobile application implementation and social media usage on increasing tourist visits in Yogyakarta. The research aims to quantify the relationship between these digital tools and tourist behavior, providing empirical evidence to support strategic decision-making in the tourism sector. The population for this study comprises tourists who have visited Yogyakarta within the past year. A sample of 200 respondents was selected using random sampling to ensure a representative and unbiased selection of participants. This sample size is considered adequate to achieve reliable and valid results for the analysis. Data were collected using a structured questionnaire designed to gather information on the respondents' use of mobile applications and social media in relation to their tourism activities. The questionnaire included sections on demographic information, usage patterns of mobile applications and social media, and their impact on travel decisions and satisfaction. The questionnaire employed a Likert scale ranging from 1 to 5, where 1 indicated strong disagreement and 5 indicated strong

agreement. This scale was used to measure respondents' attitudes and perceptions regarding the influence of mobile applications and social media on their decision to visit Yogyakarta.

3.2 Data Analysis

The collected data were analyzed using SPSS version 26, involving several steps. Descriptive statistics were used to summarize the demographic characteristics of the respondents and their usage patterns of mobile applications and social media, with measures such as mean, standard deviation, and frequency distributions providing an overview of the data. A reliability analysis was conducted to assess the internal consistency of the questionnaire items, with Cronbach's alpha calculated to determine the reliability of the scales used in the questionnaire, where a value of 0.70 or higher was considered acceptable for this study. Correlation analysis was performed to examine the relationships between the use of mobile applications, social media, and tourist visits, with Pearson correlation coefficients calculated to determine the strength and direction of these relationships. To further explore the impact of mobile applications and social media on tourist visits, a multiple regression analysis was conducted, with the dependent variable being the frequency of tourist visits to Yogyakarta, and the independent variables being the use of mobile applications and social media, to assess the extent to which these digital tools predict the increase in tourist visits.

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

The study involved 200 respondents who had visited Yogyakarta within the past year. The demographic characteristics of the respondents are summarized in Table 1.

Table 1. Demographic Sample

Demographic Variable	Category	Frequency	Percentage
Gender	Male	100	50%
	Female	100	50%
Age	18-25	80	40%
	26-35	60	30%
	36-45	40	20%
	46 and above	20	10%
Education	High School	50	25%
	Undergraduate	100	50%
	Graduate	50	25%

The gender distribution of the respondents is evenly split, with 100 males (50%) and 100 females (50%), ensuring that the perspectives and behaviors of both male and female tourists are equally considered in the analysis and allowing for a more comprehensive understanding of how gender may influence the use of mobile applications and social media in tourism-related activities. The age distribution of the respondents is varied, with the majority falling within the younger age groups: 18-25 years (40%), 26-35 years (30%), 36-45 years (20%), and 46 and above (10%), indicating a predominance of younger tourists, particularly those aged 18-35, who constitute 70% of the sample. Younger tourists are typically more tech-savvy and more likely to use mobile applications and social media, supporting the relevance of digital tools in enhancing the tourist experience for this age group. The lower representation of older age groups may reflect different travel behaviors and preferences, which could be explored further in future studies. The educational background of the respondents includes 50 high school graduates (25%), 100 undergraduates (50%), and 50 graduates (25%), suggesting a relatively well-educated sample, which may influence their propensity to use digital tools for travel planning and decision-making. The equal representation of high school and

graduate respondents ensures that the study captures a range of educational backgrounds, allowing for an analysis of how education level impacts the use of mobile applications and social media in tourism.

The usage patterns of mobile applications and social media among the respondents are detailed in Table 2.

Table 2. Descriptive Statistics

Variable	Mean	Standard Deviation
Frequency of mobile app usage	3.85	0.76
Frequency of social media usage	4.15	0.68
Influence of mobile apps on visits	3.95	0.71
Influence of social media on visits	4.10	0.65

The descriptive statistics indicate that the respondents frequently use mobile applications and social media in relation to their tourism activities. The mean values for the frequency of mobile app usage (3.85) and social media usage (4.15) suggest that these digital tools are regularly utilized by tourists visiting Yogyakarta. Additionally, the mean values for the influence of mobile apps (3.95) and social media (4.10) on tourist visits indicate a significant perceived impact of these tools on travel decisions and behaviors.

4.2 Reliability Analysis

The reliability analysis indicated that the questionnaire items had high internal consistency. The Cronbach's alpha values for the scales used to measure the influence of mobile applications and social media were 0.822 and 0.853, respectively, both exceeding the acceptable threshold of 0.702.

4.3 Correlation Analysis

The correlation analysis revealed significant positive relationships between the use of mobile applications, social media, and the frequency of tourist visits to Yogyakarta. The Pearson correlation coefficients are presented in Table 3.

Table 3. Correlation

Variable	Mobile App Usage	Social Media Usage
Frequency of tourist visits	0.623**	0.681**

The strong positive correlations indicate that higher usage of mobile applications and social media is associated with an increased frequency of tourist visits to Yogyakarta.

4.4 Regression Analysis

To further investigate the impact of mobile applications and social media on tourist visits to Yogyakarta, a multiple regression analysis was conducted. The dependent variable was the frequency of tourist visits, while the independent variables were the use of mobile applications and social media. The results of the regression analysis are summarized in Table 4.

Table 4. Multiple Regression Analysis

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
(Constant)	1.253	0.356		3.573
Mobile App Usage	0.457	0.103	0.405	4.505
Social Media Usage	0.553	0.125	0.453	4.587

The regression model demonstrates that both mobile application usage and social media usage significantly predict the frequency of tourist visits to Yogyakarta. The constant value is 1.25, representing the baseline frequency of tourist visits when the usage of mobile applications and social media is zero. For mobile app usage, the unstandardized coefficient (B) is 0.457, indicating that each unit increase in mobile app usage results in a 0.457 unit increase in tourist visits, with a standardized coefficient (Beta) of 0.40. This relationship is statistically significant, as indicated by a t-value of 4.505 and a p-value of 0.000. For social media usage, the unstandardized coefficient (B) is 0.553, suggesting that each unit increase in social media usage results in a 0.553 unit increase in tourist visits, with a standardized coefficient (Beta) of 0.453. This relationship is also statistically significant, as indicated by a t-value of 4.587 and a p-value of 0.000.

The R-squared value of 0.54 indicates that approximately 54% of the variance in the frequency of tourist visits can be explained by the combined use of mobile applications and social media. The adjusted R-squared value of 0.53 suggests that the model is a good fit for the data, accounting for the number of predictors in the model. The F-statistic of 115.25 and its associated p-value of 0.000 indicate that the overall regression model is statistically significant.

Discussion

The findings from this study provide valuable insights into the significant impact of mobile applications and social media on increasing tourist visits to Yogyakarta. The results underscore the importance of digital engagement in shaping tourist behavior and preferences.

Impact of Mobile Applications on Tourist Visits

The regression analysis revealed that mobile application usage positively influences the frequency of tourist visits to Yogyakarta. With a standardized coefficient (Beta) of 0.40 and a statistically significant p-value, it is evident that mobile applications play a crucial role in enhancing the tourist experience. Mobile applications offer various features such as real-time information, navigation aids, booking services, and personalized recommendations, which make travel planning and execution more convenient and enjoyable for tourists.

The positive relationship between mobile app usage and tourist visits suggests that tourists who frequently use mobile applications are more likely to visit Yogyakarta. This finding aligns with previous research that highlights the role of mobile technology in improving tourist satisfaction and engagement [14]–[17]. Tourism stakeholders in Yogyakarta can leverage this insight by developing and promoting comprehensive mobile applications that cater to the needs and preferences of tourists.

Impact of Social Media on Tourist Visits

Social media usage also showed a significant positive effect on the frequency of tourist visits, with a standardized coefficient (Beta) of 0.45 and a statistically significant p-value. This indicates that social media is a powerful tool for influencing tourist behavior. Platforms like Facebook, Instagram, and Twitter enable users to share their travel experiences, photos, and reviews, which can significantly impact the travel decisions of their followers.

The high correlation between social media usage and tourist visits suggests that tourists are heavily influenced by user-generated content. This finding is consistent with the work of [5], [6], [8], [18], [19], who emphasize the role of social media in promoting destinations and creating virtual word-of-mouth effects. Tourism marketers in Yogyakarta can harness the power of social media by encouraging tourists to share their experiences online and engaging with potential visitors through targeted social media campaigns.

Implications for Tourism Stakeholders

The results of this study provide actionable insights for tourism stakeholders in Yogyakarta. To capitalize on the positive impact of mobile applications and social media, stakeholders should focus on:

1. Creating comprehensive mobile applications that offer real-time information, booking services, navigation aids, and personalized recommendations can enhance the tourist experience and increase visitations.
2. Encouraging tourists to share their experiences on social media and engaging with potential visitors through targeted campaigns can amplify the destination's online presence and attract more tourists.
3. Combining mobile applications and social media features can create a synergistic effect that maximizes the benefits of both tools. For example, mobile apps with integrated social media sharing options can enhance tourist engagement and satisfaction.
4. Continuously monitoring the effectiveness of digital marketing strategies and adapting them based on tourist feedback and emerging trends can help maintain and increase tourist visits.

CONCLUSION

This study has demonstrated the significant positive impact of mobile applications and social media on increasing tourist visits to Yogyakarta. Through quantitative analysis of data from 200 respondents, it was found that both digital tools substantially influence tourist behavior and decision-making. Mobile applications enhance the travel experience by offering convenience, real-time information, and personalized services, while social media influences tourist decisions through user-generated content and virtual word-of-mouth.

The integration of these digital tools into tourism marketing strategies has been shown to create a synergistic effect, further amplifying their individual benefits. The regression analysis revealed that approximately 54% of the variance in tourist visits can be explained by the combined use of mobile applications and social media, highlighting their critical role in driving tourism growth.

For tourism stakeholders in Yogyakarta, these findings provide actionable insights for developing and implementing effective digital marketing strategies. By leveraging mobile applications and social media, stakeholders can enhance their digital engagement, attract more tourists, and achieve sustainable growth in the tourism sector. Embracing digital transformation and continuously adapting to emerging trends will be essential for maintaining competitiveness and promoting Yogyakarta as a premier tourist destination.

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